Low-income homeownership: Benefits, barriers and predictors for families in rural areas

Andrea Lynn Bentzinger
Iowa State University

Follow this and additional works at: https://lib.dr.iastate.edu/etd

Part of the Family, Life Course, and Society Commons

Recommended Citation
Bentzinger, Andrea Lynn, "Low-income homeownership: Benefits, barriers and predictors for families in rural areas" (2009). Graduate Theses and Dissertations. 10588.
https://lib.dr.iastate.edu/etd/10588

This Thesis is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
Low-income homeownership: Benefits, barriers and predictors for families in rural areas

by

Andrea Lynn Bentzinger

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Major: Human Development and Family Studies

Program of Study Committee:
Christine C. Cook, Major Professor
Dianne C. Draper
K.A.S. Wickrama

Iowa State University
Ames, Iowa
2009

Copyright © Andrea Lynn Bentzinger, 2009. All rights reserved.
# TABLE OF CONTENTS

LIST OF TABLES iv

ABSTRACT v

CHAPTER 1. GENERAL INTRODUCTION 1
  Introduction 1
  Thesis Organization 4
  References 5

CHAPTER 2. LOW-INCOME HOMEOWNERSHIP: A CRITICAL REVIEW OF THE LITERATURE 8
  Abstract 8
  Introduction 8
  Literature Review 13
  Conclusions 36
  References 39

CHAPTER 3. ON THE PATH TO HOMEOWNERSHIP: LOW-INCOME OWNERS AND RENTERS IN RURAL COMMUNITIES 47
  Abstract 47
  Introduction 47
  Conceptual Framework 49
  Literature Review 52
  Method 61
  Results 67
  Discussion 72
  References 77

CHAPTER 4. GENERAL CONCLUSIONS 89
  General Discussion 89
  Recommendations 91

APPENDIX A. THEORY OF FAMILY HOUSING ADJUSTMENT 93

APPENDIX B. A FRAMEWORK OF ASSET-ACCUMULATION STAGES AND STRATEGIES 94

APPENDIX C. FOOD SECURITY MODULE QUESTIONS 95

APPENDIX D. VARIABLE NAMES AND DESCRIPTIONS 97

APPENDIX E. CORRELATION MATRIX OF PREDICTOR VARIABLES 99
LIST OF TABLES

Table 3.1. Demographic Characteristics of Mothers by Housing Tenure Status 84
Table 3.2. Housing Characteristics by Tenure Status 85
Table 3.3. Health Characteristics by Tenure Status 86
Table 3.4. Logistical Binomial Regression Analysis Summary for Variables Predicting Homeownership for Low-Income Families in Rural Areas 97
Table 3.5. Logistical Binomial Regression Analysis Summary for Variables Predicting Homeownership for Low-Income Families in Rural Areas—Partner Data Included 88
ABSTRACT

The present study examined homeownership among rural, low-income families. Previous literature was examined to understand the financial, psychological and social benefits of and barriers to homeownership among this population. Although most low-income families appear to prefer to own their homes, limitations can prevent them from buying their ‘dream home’ and risks can diminish the positive effects of homeownership. Recent public policy has attempted to extend opportunities for homeownership to households heretofore under served. Attaining and sustaining homeownership among low-income families has become an important area of research. In addition to a review of previous literature, this research examined the role of family socio-demographic, economic, housing and housing market characteristics and health characteristics in predicting tenure status among low-income, rural families. Quantitative data were utilized from a multi-state longitudinal study of the effects of welfare reform on rural low-income families, North Central Regional research project #NC1011. Logistical binomial regression analyses revealed that for low-income families in rural areas seven variables were significantly related to tenure status; e.g. participant education level, partner status, Latino, family monthly income, family food security score, utility costs and county housing wage. A second analysis revealed that those with partners had five significant variables; education level, monthly income, food security score, monthly utilities, and county housing wage. Taken together, the review of literature demonstrates the importance of homeownership while the analyses contribute to understanding low-income households’ tenure status.
CHAPTER 1. GENERAL INTRODUCTION

Introduction

According to the Federal government home owning is beneficial to people of all backgrounds and incomes. Increasing homeownership rates has been a main goal of the United States government and housing policy for many years (Cortes, Herbert, Wilson, & Clay, 2007; Eggers, 2001; Schwartz, 2006). Many incentives have been offered to first-time homebuyers; tax deductions are offered, down payments are sometimes waived for households that qualify, and there has been an increase in the number of programs to assist low-income families to achieve homeownership. As a result of these policies, favorable economic conditions, less rigid mortgage underwriting standards and low-interest rates on home loans there has been an increase in low-income and minority homeownership in the United States over the last decade (Eggers, 2001). More recently however, there has been a severe downturn in the housing market and there has been a sharp increase in the number of households experiencing foreclosure and defaulting on loans.

Both the increases in homeownership rates and the increases in foreclosures have created the need for research examining issues surrounding low-income homebuyers. Many researchers have looked at the benefits of homeownership including, asset accumulation (Boehm and Schlottmann, 2008; Sherraden, 1991), increased life satisfaction (Rohe & Stegman, 1994), better physical and mental health for household members (Evans, Wells, & Moch, 2003; Hartig & Lawrence, 2003) and better outcomes for children (Aaronson, 2000; Galster, Marcotte, Mandell, Wolman, & Augustine, 2007; Haurin, Parcel, & Haurin, 2002). Others have taken a different approach by investigating the barriers to homeownership and describing limitations and problems associated with home owning for this population (Shlay,
Low credit scores (Rosenthal, 2002), unexpected and responsibility for maintenance costs (Harding, Miceli, & Sirmans, 2000; Herbert & Belsky, 2008), lack of affordable housing stock (Collins, Crowe, & Carliner, 2002), and discrimination and availability of suitable neighborhoods (Harkness & Newman, 2002; Shlay, 2006) have been discussed in prior investigations as factors that make home ownership difficult to attain for low-income families. Much of the previous discussion has focused on identifying the possible outcomes of homeownership for a low-income population and less attention has been given to what factors may predict homeownership particularly for low-income, rural families which could have important implications for policy.

Low-income families are often faced with more complex choices than their higher-income counterparts when it comes to housing. Tenure status, whether a home is owned or rented, of families is one of those choices that is constrained by income and is an important concern among housing advocates, service providers, and policy makers. Tenure status is a choice that is made by the individual and the family, but for low-income families their options are more limited than households with higher incomes. It is important for researchers, policymakers, housing advocates, and others who work with low-income populations to gain as much knowledge as they can about the issue of homeownership. Furthermore, some researchers continue to dispute the fact that homeownership is really the best housing situation for low-income families, especially given the current housing and economic crises facing the United States (Shlay, 2006).

Recently it has become more important to inspect the differences between rural and urban low-income owners and renters. Rural families have unique challenges compared to their urban counterparts and these differences must be taken into consideration. These
differences include the age and deterioration of the available housing stock, limited newly constructed houses, low paying local jobs and/or long commutes to good paying employment, which all impact rural families’ housing tenure choices (Housing Assistance Council [HAC], 2000, 2002, 2007). Most research completed on low-income homeownership has not had a focus on those families living in rural areas specifically.

An important contribution of the following research was to examine what past researchers have found in the area of homeownership for low-income families, to summarize those findings and consider the need for additional research. Another implication of the current research dealt with the identification of indicators associated with or that predict tenure status, whether a family owns or rents. Information that was gained from this research may provide evidence to support a more effective way to help low-income families attain homeownership. The investigation of previous and current research showed that it often focused on the outcomes of homeownership. Future research should aim to examine what indicators can help low-income families maintain homeownership. This information should be useful to determine on whom to focus homeownership subsidies (Olsen, 2007) and who is most likely to gain from homeownership or be most economically successful over the long term.

In sum, the goal of the present investigation was to analyze past research on the benefits of and barriers to low-income homeownership and examine what variables were associated with, or predict, tenure status among a rural, low-income population. Socio-demographic, housing, and health-related variables that most strongly influence tenure status were of interest.
Thesis Organization

The organization for this thesis follows the alternative thesis format. Two separate manuscripts have been written and are to be submitted for review to the scholarly journal, *Housing and Society*, a publication of the Housing Education and Research Association (HERA). Both articles included in this thesis center around low-income homeownership. Chapter 2, “Low-income homeownership: A critical review of the literature,” provides a review of the relevant research literature about the value and meaning of homeownership to low-income families as well as discussion of factors that thwart their ability to purchase a home. The manuscript includes a review of the literature that has identified trends in low-income homeownership and has examined the indicators associated with low-income families’ acquisition of housing, owned or rented.

After the review of the literature, the third chapter, “On the path to homeownership: Low-income owners and renters in rural communities,” includes an analysis of many of the predictor variables described in Chapter 2 to examine low-income homeownership among U.S. rural families. In this article a quantitative approach was used to discover which variables and family characteristics are likely to predict homeownership. To identify which variables are significant in predicting tenure status, ownership or rental of family housing, a logistical binary regression analysis was conducted.

Finally, chapter 4 concludes the thesis with a general discussion of both articles. Conclusions, limitations and implications are provided and directions for future research opportunities are discussed.
References


CHAPTER 2. LOW-INCOME HOMEOWNERSHIP:

A CRITICAL REVIEW OF THE LITERATURE

A paper to be submitted to Housing and Society

Andrea L. Bentzinger and Christine C. Cook

Abstract

This purpose of this article was to examine previous research that has looked at low-income homeownership. Benefits of homeownership and barriers to gaining homeownership have been examined extensively, though until recently the focus has not been on identifying variables associated with homeownership among families with limited resources. Both previous and present bodies of research support the idea that homeownership is important to families because of its social, economic, and symbolic significance. Benefits of ownership include important financial, social and psychological dimensions. Barriers include things like housing costs, accessibility, and availability. A number of variables discussed within the article have been shown to influence a household’s ability to attain homeownership.

Introduction

Recent research focuses on homeownership opportunities and acquisition among low-income and minority households (Cortes, Herbert, Wilson, & Clay, 2007; Herbert & Belsky, 2008a; Retsinas & Belsky, 2002a). During the late 1990s through 2008 steady increases in homeownership were noteworthy (Belsky & Duda, 2002a; Caplin, Carr, Pollock, Tong, Tan, Thampy, 2007; Cortes et al., 2007; Retsinas & Belsky, 2002a). Expanding opportunities for homeownership among low-income families began as an explicit public policy goal during the Clinton administration and continued under the Bush administration. In the last months of 2008 and early in 2009 increases in the number of foreclosures and defaults on home
mortgages were alarming. The recent collapse of the housing market has and may continue to change housing opportunities for low-income and minority households. Access to homeownership may be affected for these populations as well as for those who are already owners. This may lead to an increase in stressors associated with the failure to make house payments and entering into default and foreclosure procedures. Nevertheless, homeownership remains a cornerstone of economic recovery and stimulus plans in the United States. Better understanding of the challenges and successes of low-income homeowners will contribute to improving public policy strategies and efforts by housing professionals.

*Why Study Housing?*

The home environment is significant to its inhabitants in many different ways. For many people, housing is more than a shelter; additionally it provides for and helps families meet many of their needs for safety and security, social interaction and self-esteem (Merrill, Crull, Tremblay, Tyler, & Carswell, 2006; Schwartz, 2006). To be without a home, a place to live with family and congregate with friends is to lack security, comfort and access to amenities (Rossi & Weber, 1996). Housing is unique in the central role it plays in the lives of families as “the basic building block for a range of related benefits – personal health and safety, employment opportunities, a decent education, security of tenure, and economic security” (Bratt, Stone & Hartman, 2006, p. 1). In other words, housing is not only a means of protection from the outside world, but it is also a place where people spend much of their time engaged in a variety of important activities and essential tasks including acting as “a venue for contact with the more important members of one’s social network” (Bronfenbrenner & Evans, 2000, as cited in Evans, Wells & Moch, 2003, p. 476). For most
families housing represents a major financial and personal investment, which, for homeowners, also contributes significantly to wealth (Boehm & Schlottmann, 2004). Clearly, housing whether owned or rented is critical to individuals and families for many different reasons, but arguably is most important for low-income families because it often takes a large portion of income to sustain and possibly prevents them from meeting other basic needs (Cook, Steggell, Suarez, & Yust, 2006; Dolbeare, 2001; Long, 2003; Stone, 2006).

On a national level, housing is important because it plays a major role in the economy and can be a barometer for how well the nation is doing (Belsky, 2008). Recently, with the demise of Fannie Mae and Freddie Mac (government sponsored enterprises), as well as with increases in foreclosure rates it is clear that the health of the nation is tied to how well the housing market is doing. On a national level housing expenses also play an important role. Housing expenses account for more than one fifth of the gross domestic product in the United States (Schwartz, 2006). Residential construction and remodeling, rental and mortgage payments, money spent on things to furnish the unit, and other expenses for the general operation of the unit are all examples of how money is spent on housing every year. The housing industry creates employment, income, and tax revenue and generates spending as well (Schwartz, 2006).

Homeownership is a big part of the housing industry and it can strengthen housing markets (Rohe & Stewart, 1996), increase the political awareness of residents, and makes people better citizens because they are more involved with their communities (Rossi & Weber, 1996). The value of the housing unit is related to the quality of the community. This is one reason why residents that own are possibly better for the community and the nation; they have more interest in their community. “Protecting the neighborhood ‘status quo’ is
important to owners” (Rossi and Weber, 1996, p. 22). National legislation also affects homeowners more than renters. There are many policies designed as incentives to promote homeownership. Many homeowners will take equity out of their homes by refinancing their mortgages. The equity can then be used for improvements on the home, to pay off credit card debt, or simply stimulate the economy. Housing is important on many different levels; individuals, families, communities, and the nation are all affected by housing.

Trends in Low-Income Homeownership

Approximately 68% of U.S. families are homeowners but the rate varies significantly by age, race and ethnicity, and income (U.S. Department of Commerce, 2008). In 2008, about 41% of householders under age 35 years were homeowners but rates jumped to 67% for those 35 to 44 and to 75% among those 45 to 54 years of age. For black and Hispanic households, however, homeownership is less likely than for their white counterparts (47%, 49%, and 75%, respectively). Among households with family incomes below the U.S. median family income, homeownership stood at 51% in 2008 compared to 83% for those with equal to or greater than median family income. Only half of all households in the lowest income quintile are homeowners; black and Hispanic homeownership rates are slightly under 50% in the same quintile (Carasso, Bell, Olsen, Steuerle, 2005; Household Income in the United States, n.d.; Quigley & Raphael, 2004).

Belsky and Duda (2002a) described a boom in homeownership rates between 1994 and 1999, especially for low-income and minority households. Mortgage loans made to low-income and minority households grew by 94% between 1993 and 1999, while those made to high-income buyers only rose by 52%. Homeownership rates, however, did not increase equally among low-income groups. Low-income minority homeownership rose more rapidly
than for others. The number of non-Hispanic white low-income homeowners actually decreased during this time while among minority low-income owners it rose by more than 800,000. Immigration and the younger age distribution of minorities probably accounts for this increase. Analysts also speculate that low-income and minority homeownership has been rising more rapidly than for others due in part to public policy aimed at closing the gap in ownership rates between minorities and whites and between low- and moderate-income families (Belsky & Duda, 2002a).

Housing location has become increasingly interesting to researchers, especially comparisons between metropolitan and nonmetropolitan settings. Approximately 22% of all occupied housing units are in rural areas and homeownership continues to be the main form of housing tenure in these places (Housing Assistance Council [HAC], 2000, 2002), despite the fact that traditionally incomes are lower in rural compared to metro areas. The 1997 American Housing Survey showed that 16% of non-metro households were low income, 13% very low-income and 15% extremely low-income. Poverty has continued to be a problem in rural America; approximately 7.8 million persons in the rural United States, including disproportionate numbers of minorities, are poor. While the poverty rate is 14.6% for the total rural population, the poverty rate for non-metro African Americans is more than twice that at 33% and for Hispanics the rate is 27% (HAC, 2002). Housing services and delivery is particularly challenging in rural settings; “housing values in these areas are low, and home rehabilitation and new construction are often not feasible due to constraints on the availability of financing or other resources” (HAC, 2007, p.1). Population losses in many small towns and the lack of necessary life cycle housing and services are equally
problematic, affecting young families who own or seek to own housing in these communities (HAC, 2007).

The following literature review will examine in more depth the benefits of being a homeowner and the barriers to becoming a homeowner, especially for low-income households. Though cognizant of problems that make homeownership difficult for low-income families, policymakers and housing advocates indicate that with the right supports in place, owning a home provides access to wealth, is what families say they want, and is in the best interest of children, families, communities and the nation. Rural housing issues are highlighted below in so far as there are some aspects of affordability of and accessibility to homeownership that are different for low-income rural families compared to those in metropolitan communities. After reviewing current research, there is a discussion of variables associated with homeownership among low-income and minority homeowners, i.e., have been shown to affect or predict homeownership. Also within these remaining sections, there is attention to limitations of previous research and identification of possible future research topics.

Literature Review

Benefits of Homeownership

There has been a long standing belief in the United States that being a homeowner is what is best for the individual, the family, the community and the country (Bratt et al., 2006; Green, 2001; Retsinas & Belsky, 2002a; Rohe & Stewart, 1996; Rossi & Weber, 1996). It is thought that owners make better citizens than renters because they have more invested in their homes and neighborhoods; “homeowners capture the capital gains” (Haurin, Parcel, and Haurin, 2002, p.640). “Home equity – the market value of a home minus the balance on any
loans – represents more than four-fifths of the typical family’s wealth” (America Saves, n.d.). Although it is known that homeownership is sought after by most families, and thought to have more positive outcomes for the household and the community, questions remain regarding the actual benefits of becoming a homeowner, especially for low-income families (Shlay, 2006). Financial gains, social gains (improvements related to family functioning and child outcomes), increases in property value and decreases in crime, juvenile delinquency and vandalism all have been attributed to homeownership (Retsinas & Belsky, 2002a; Rohe, Van Zandt, & McCarthy, 2002; Shlay, 2006).

Financial. The most well known consequences of homeownership are the financial and economic benefits. Purchasing a home is an asset-building strategy and one that many Americans are eager to attain. Even for low-income households, owning provides wealth and is likely to be their principal asset (Schwartz, 2006). The notion that the lack of homeownership opportunities has limited low-income families’ wealth accumulation has been described in the literature. Wealth accumulation is considered an important benefit derived from homeownership for families in general, and low-income families in particular (Retsinas & Belsky, 2002a; Sherraden, 1991), though this point is also vigorously debated (Goetzmann & Spiegel, 2002; Shlay, 2006).

Boehm and Schlottmann (2008) investigated wealth accumulation for low-income households. The researchers utilized data from the Panel Study of Income Dynamics (PSID) looking at the time period between 1984 and 1994 to assess the contribution of numerous variables to family wealth. Measures studied included the value of the family’s total debt, the value of any family farm or business, the amount of money in the family’s savings and checking accounts, the value of any family owned real estate (other than primary residence),
the value of family stocks, mutual funds and individual retirement accounts, the value of the family’s automobile, the value of any other asset of note, and the value of the family’s equity in the primary residence. They found that homeownership did not guarantee wealth accumulation, but that household wealth appeared to be positively affected by homeownership.

Another financial benefit that accrues to families that own their homes is tax deductions of mortgage interest and property tax payments on federal tax returns that in effect lower the total cost of owned housing. These tax incentives to own may help increase savings or consumption for families in general but for low and moderate-income families the benefits are minimal (Bratt et al., 2006; Haurin, Herbert, & Rosenthal, 2007). Tax deductions are “quite regressive” since the homeowners with the largest houses and biggest mortgage payments receive the biggest share of these benefits (Bratt et al., p. 107).

When, and if, a family does decide to move to a different community or a bigger house they should be selling the unit for more than what they paid for it. Home prices are said to increase a half percentage point more than inflation in most years, which accumulates assets and equity (Belsky & Duda, 2002b). Homeownership also provides these households with protection from rising housing prices, especially if they have a mortgage loan with fixed-rate financing. When a family lives in rental housing they are susceptible to an increase in monthly rent every year. As a homeowner with a fixed rate mortgage the payments are stable and many times can be lower than what a family would pay for rent. Affordability issues surrounding rental units and continually rising costs is said to make homeownership a better option for low-income families (Belsky & Duda, 2002b; Sinai & Souleles, 2005).
Herbert and Belsky (2008b) found that for the most part renters face higher housing cost burdens than their owner counterparts. After 1997 the percentage of owners that were experiencing severe housing cost burdens was 21.5% compared to 28.7% of renters. However, from 1997-2005 there was an increase of more than 30% of low-income households that were paying more than 50% of their income on housing. Research in the area of cost-benefit analysis for low-income families is just beginning (Haurin et al., 2007; Herbert & Belsky, 2008b; Sinai and Souleles, 2005). Leaving this population solely with the option of the rental market is not the best solution. The National Low-Income Housing Coalition (NLIHC) has found that there is no rental market in the United States that provides affordable housing for low-income families (2008; Dolbeare, 2001). Furthermore, renters in rural areas are more likely to pay more than 30% of their income on their housing than their owner counterparts (HAC, 2002).

The government uses housing subsidies to help low-income families afford their homes; they offer rental subsidies as well as some for homeownership. The federal government spends over $40 billion to help low-income families attain safe, decent and affordable housing. However, most of that goes toward rental housing. Many middle- and upper-income homeowner households receive assistance from the government in the form of tax provisions while homeownership for the poor is rarely favored. The Department of Housing and Urban Development’s Section 8 voucher program until recently, 1992, did not even offer homeownership as an option for low-income households. Even now few families are able to take advantage of that option and many of the programs are only available to first-time homebuyers. There is an obvious interest in homeownership among low income
families; 28% of households in the lowest real income quintile are homeowners (Olsen, 2007).

Much of the research focusing on appreciation of housing and other financial benefits have neglected low-income and minority households. As Haurin, Herbert and Rosenthal (2007) suggest perhaps appreciation does not occur at the same rate for low-income and minority households as it does among middle- and upper-income households. Previous research has also focused on large data sets, like the PSID, with no indicator as to what the differences are between metropolitan and nonmetropolitan areas.

Social. Some of the positive social outcomes attributed to homeownership include things like better neighborhoods, more civic participation, more socially healthy children, higher self esteem, and a higher level of perceived self control (Evans et al., 2003; Green, 2001; Harkness & Newman, 2002; Lubell, Crain, Cohen, 2007; Rohe & Stegmann, 1994). Rohe, Van Zandt and McCarthy (2002). Being a homeowner is associated with positive social effects, like higher satisfaction, and more involvement by families within their communities and neighborhoods. An increase in life satisfaction for homeowners may come from the simple fact that they have achieved an important component of the American Dream. Researchers and housing professionals speculate that another reason life satisfaction may increase for homeowners is due to the personal and family control that comes from improving and customizing one’s own home, without regulation and oversight from landlords or property managers (Merrill et al., 2006). Unfortunately much of the research that was found on life satisfaction and homeownership was conducted in the 1990s and earlier.

A more current study conducted by Rohe and Stegmann (1994) measured the effects of self-esteem, perceived life control and life satisfaction on low-income people. Using a
longitudinal pre-test/post-test research design with a control group they were able to identify differences between owners and renters. They found homeownership and satisfaction were positively related at a statistically significant level. There were increases in self-esteem and perceived life control for owners and small decreases for continuing renters, but not a significant level. Surprisingly previous research did not always control for earnings or education of respondents, which is likely to influence life satisfaction and other social outcomes. “Not controlling for these two influences may overstate the social benefits of homeownership” (Retsinas & Belsky, 2002b, p. 376). Therefore, it is not known if the positive social outcomes that come with being a homeowner are actually from the tenure status or from socioeconomic status. Although owners are thought to have higher self-esteem and more control over their lives an important aspect to note is that perhaps it is not that homeowners are more satisfied with life, but that those who are more satisfied with life are more likely to be homeowners. In this case life satisfaction may actually be a predictor of homeownership and not an outcome variable.

In addition, a family’s housing brings with it a surrounding neighborhood in which nearby residents often have similar goals, values and aspirations, as well as socioeconomic characteristics. Owners are more likely than renters to be satisfied with neighborhoods and neighborhood conditions (Herbert & Belsky, 2008b). Herbert and Belsky (2008b) found that low-income families were likely to buy homes in mixed-income neighborhoods in suburban areas. They also found that low-income minority homebuyers experienced fairly sizable improvements in neighborhood conditions when they became homeowners. It did not appear in this study that low-income and minority households were being pushed into distressed
neighborhoods. They found no evidence to suggest that owning gave profound benefits to low-income and minority homebuyers, but it also did not find anything to the contrary.

Harkness and Newman (2002) were interested in seeing how homeownership and neighborhoods were related. Using data from the Study of Income Dynamics from the years 1968-1993 they looked at the effects of living in an owned home as a child on seven outcomes. These outcomes were, giving birth as an unmarried teenager, not working, attending school or caring for children, years of education at age 20, high school completion at age 20, acquisition of postsecondary education at age 20, average hourly wage rates between ages 24 and 28, and recipient of welfare, food stamps or other cash assistance between the ages of 24 and 28. What they found was that homeownership improves children’s outcomes in almost any neighborhood, but homeownership in better neighborhoods had a stronger relationship with positive outcomes. Renter children were also included in this study and the researchers did not find that better neighborhoods were better for these children. Residential stability probably plays an important role as renter children are not as likely to form close ties with anyone because they are more likely to move than children who live in an owned home (Harkness & Newman, 2002).

*Family Health Outcomes.* Both physical and mental health factors have been identified as positive outcomes for homeowners and their families (Cairney, 2005; Evans et al., 2003; Hartig & Lawrence, 2003; Haurin et al., 2002; Hiscock, Macintyre, Kearns, & Ellaway, 2003; Rohe et al., 2002; Rossi & Weber, 1996). Self-esteem can influence physical and mental health and homeowners are thought to have higher self-esteem than renters. There is security that comes with being a homeowner as well and this can create less stress for many people. However, low-income households may have increased stress due to family
financial instability leading to increased risk of mortgage default and home foreclosure (Rohe et al., 2002).

Evans, Wells, and Moch (2003) explored the relationship between housing and mental health in their research. In their review of the literature they found that living in multi-dwelling units had an adverse affect on psychological health and that families living in single-family detached homes fare the best in terms of mental health. Evans, Wells, and Moch (2003) concluded that housing does matter for psychological health, particularly for low-income families with young children. Cairney (2005) agrees that housing does matter for health, especially for children. In his study Cairney (2005) examined the effects of tenure status on the psychological well-being of adolescents. Using the 1994 and 1995 National Population Health Survey (NPHS) Cairney analyzed data from 1,777 cases. What he found was that young adolescents are more vulnerable to the effects of housing tenure than older adolescents. He speculated this might be because as children age they spend less time in the home environment and thereby reducing the impact on them.

Physical health of homeowners is thought to be better than that of renters. In a study on health and housing tenure completed by Hiscock, Macintyre, Kearns, and Ellaway (2003) results showed that there were many factors affecting health of social renters compared to owners. Social renters were defined as those who live in rental accommodations that are, “managed or at least subsidized by public sources” (p. 528). The study was conducted in the West of Scotland and the results indicated that physical housing conditions, and the meaning of home, as well as psychological and sociodemographic characteristics played a role in explaining why social renters had worse health outcomes than their counterparts who were homeowners. An obvious limitation of this study is that it was done with participants from
Scotland and may not be comparable to renters from the United States. Rossi and Weber (1996), however, found health and homeownership were related when they examined the National Survey of Families and Households. On a physical health self-rating scale, owners were more likely to have better perceived physical health. As with much research on this topic, data were cross-sectional making it difficult to explain the direction of the relationship between health and homeownership (Hartig & Lawrence, 2003). It seems likely that health outcomes affect the ability to own a home, and that owning affects the health outcomes of family members.

Many studies that have examined homeownership and health have to face the reality that other factors may contribute to this relationship. Housing quality and neighborhood effects could have more of an influence on health than the actual tenure status (Saegert & Evans, 2003). For example, rental properties are more likely to be overcrowded and in need of repairs which may lead to poor health outcomes (Cairney, 2005). Owners on the other hand are thought to take better care of their housing units and keep up the quality, which may lead to better health outcomes. Homeowners also have additional assets that may be used to pay for improved health care (Rohe et al., 2002).

**Child Outcomes.** Recent literature has focused on child outcomes and homeownership. Haurin, Parcel, and Haurin (2002) completed a study examining the impact of homeownership on the cognitive and behavioral outcomes of young children. The study used a national panel data set that linked a survey of young adults, the National Longitudinal Survey of Youth (NLSY), with the NLSY-Child data (NLSY-C). Children in this sample were age five to eight years old in 1988. Several measures were used to look at children’s experiences in the homes that were owned or rented. The child’s home environment was
examined using both the maternal report items and interviewer observation of the Home Observation for Measurement of the Environment (HOME) scales. The Peabody Individual Achievement Test (PIAT) was used to measure child cognition. Factors related to reading recognition (PIAT-RR) and mathematical assessment (PIAT-M) were also used. Finally child behavior problems were measured using mothers’ reports on 28 items based on behavior problems.

The study findings showed that owning a home led to a higher quality home environment (Haurin et al., 2002). It was also found that children who live in owned homes had scores that were 9% higher in math achievement and 7% higher in reading achievement, and child behavior problems were up to 3% lower compared to those who live in rental units. The researchers controlled for parental, economic, demographic and social characteristics and child’s gender and health, number of siblings, and nine characteristics of the household’s locality. Controlling for these variables led to the conclusion that children who live in an owned home have better outcomes than children who do not.

Other investigations have continued to find support for the notion that child outcomes are improved when parents are homeowners. Galster, Marcotte, Mandell, Wolman, and Augustine (2007) focused their research on adult outcomes for children that grew up in an owned home. Panel Study of Income Dynamics was used for this study and followed the data that were collected over 18 years. The participants in 1999 were between the ages of 25 and 31 years. The researchers found ownership status was a significant predictor in educational attainment. Those children that lived in an owned home their whole life or the majority of their life had a higher probability of obtaining a college degree than children who lived in rental housing.
A plausible question to ask, “is it these benefits that attract low-income households into homeownership or is it other factors?” Perhaps there are underlying factors associated with homeownership that are not seen, especially for rural, low-income families who have not received much attention in the literature until more recently. In examining the benefits of homeownership to children, adults, and families it is important to remember that the effects may not be visible until much later. Conversely, barriers to homeownership are evident to families quite immediately. In the following section barriers to homeownership as well as the limitations of home owning for a low-income population are discussed.

Barriers and Threats to Homeownership

Being a homeowner carries certain risks along with potential benefits. These barriers and threats, like the benefits, have important financial and social implications for the whole family. Herbert and Belsky (2008a) reported that some financial problems associated with homeownership, especially for low-income families, are the costs of purchasing and selling a unit. Down payments, legal fees, inspection costs and closing costs are daunting for potential low-income homebuyers, particularly for first-time homebuyers. Resources are already limited for this population, and if they were to need to move quickly these fees would offset any potential wealth accumulation from home equity (Haurin et al., 2007). Financial constraints are the primary obstacle to low-income families attaining homeownership, however, beginning as early as the 1990s some of the financial requirements to attain homeownership were relaxed. In the past the buyer was expected to put down as much as 20% of the purchase price for a down payment. This percentage continued to decrease and in some cases zero percent was accepted as a down payment during the 1990s and early 2000s (Haurin et al., 2007). Attitudes changed with the additional funding of first-time
homeownership programs and subsidies to help low-income families with a down payment. Nevertheless, along with transaction costs often comes an excessive amount of debt, leading to the threat of home mortgage default, foreclosure or even bankruptcy.

A threat to homeownership for low-income families is the possibility of foreclosure and this means a return to rental housing is likely. This is a recent concern due to the increase in foreclosures and defaults on home mortgages. Boehm and Schlottmann (2004) completed a study examining the possibility of low-income homeowners “slipping” back into rental housing. The probability of “slipping” back into rental housing was determined to be quite high especially for minority families. The researchers also found that first-time low-income homebuyers were likely to only purchase a home once. The study indicated, even if low-income families do attain homeownership it is not likely that they will move up the ‘housing ladder’ into better quality housing.

The cost of maintenance to keep up the quality of the housing unit can be another threat for sustaining homeownership among low-income buyers. Low-income households are more likely to purchase older dwellings that are in need of major repairs (Andrews, 1998; Rohe & Stegmann, 1994). In inner cities and rural areas there are a higher percentage of households dealing with moderate and severe housing quality problems, especially for low-income families (Andrews, 1998). For these families keeping up with maintenance costs can be financially difficult.

Many times other family needs will come before the upkeep of the home. Making the difficult choice between buying food and clothing, making mortgage and utility payments, and paying health care costs can stand in the way of fixing a leaky faucet, repairing the roof, etc. If these things are not repaired, however, the value of the home can decrease; thereby,
the opportunity to profit from its sale is diminished (Herbert & Belsky, 2008a). Harding, Miceli, and Sirmans (2000) completed a study regarding how well owners take care of their housing compared to renters. Although other studies have shown that owners take better care of their properties Harding, Miceli, and Sirmans argue that owners who are at risk of defaulting on their loans are not as likely to keep up with home maintenance. Similarly, those people who are getting ready to sell the unit might think they can get away with not doing needed repairs. Their study did find evidence for the former, but not for the latter. Clearly homeownership costs can be a vicious cycle, especially for low-income families.

The economic benefits of homeownership may be threatened or undermined by neighborhood physical qualities as well as sociodemographic characteristics of nearby residents. Living in a distressed neighborhood can offset the benefits of rearing a child in an owned home (Harkness & Newman, 2002). The extent to which families realize any appreciation in the value of their home can also be contingent upon the location of the house. The assessed value, and ultimately the selling price of a house in a poor neighborhood with high levels of crime rates and poverty is not likely to be as high as the equivalent home in a more stable, middle-income neighborhood. With that said, lower-income household are often restricted due to discrimination or income to neighborhoods of inferior quality relative to their upper-income counterparts (Haurin et al., 2007; Saegert & Evans, 2003). Minority families especially tend to be segregated by race in metropolitan settings (Haurin et al., 2007). Stuart (2000) looked at patterns of home buying in Boston, Massachusetts. He found that out of 126 communities, half of black and Hispanic buyers moved into just seven of those communities. He speculated that historic patterns of segregation and discriminatory practices were responsible for the observed pattern. However, Stuart also found that
neighborhoods were segregated by income; families bought homes in neighborhoods in which residents had incomes similar to their own. Even low-income whites were segregated from upper-income white families.

Research continues to conclude that discrimination within the housing market is an important deterrent to minority households in their attempts to become homeowners, as well thwarting their attempts to find affordable, good quality units. Haurin et al. (2007) stated that discrimination in the housing market limits the choices of dwellings for minority families and probably forces minority youth to stay at home longer with their parents or to live in groups after they leave their parents’ homes, resulting in decreased homeownership rates among minority individuals and families.

For low-income families homeownership implies limitations with regard to residential mobility. As better employment opportunities arise, low-income families may be forced to decide between taking the new position and selling the home. Should market constraints make the sale of the home long or difficult; this can hinder sustained homeownership for low-income families (Rohe et al., 2002). Selling a home takes money and time, already limited commodities for low-income households. A better employment opportunity may have to be given up if a family is unable to sell their house (Rohe et al., 2002). A household may also be located in an area that is unsafe and the ability to move is diminished because of this neighborhood characteristic. Furthermore, in economic terms it is more traumatic and stressful to default on a mortgage than breaking a lease (Rohe et al., 2002).

Finally, a barrier to homeownership for low-income families is simply a lack of a supply of affordable housing. As incomes have stagnated, housing costs have increased
making housing more unaffordable. Government subsidies are a major help in these cases (Andrews, 1998). However, subsidies for housing have had to deal with budget cuts and long waiting lists; people that need help may not be getting it. Housing vouchers provided by the government also tend to be anti-homeownership, especially for the poorest of the poor (Olsen, 2007). The main form of housing assistance provided by the government in the form of vouchers goes toward rental housing. There are many families that could afford to purchase a home, but there are none that are available in their price range (Collins, Crowe, & Carliner, 2002; Schwartz, 2006). Housing vouchers or down payment assistance would be beneficial to help families attain homes that may be a little bit out of their reach. Given the current economic crisis in the U.S., another very recent concern is that families who can afford a higher priced home will choose to purchase a lower cost home, one that is affordable to low-income families, thus further shrinking the supply of available, affordable homes for low-income families.

This portion of the literature review presented evidence that homeownership is beneficial to low-income households but a number of conditions limit the ability of rural low-income families to attain ownership and also can present limitations once homeownership is acquired. Based on previous research, a number of sociodemographic and economic characteristics have been identified that are associated with homeownership for low-income families. These potential predictors of homeownership are presented below.

**Predictors of Low-Income Homeownership**

*Age.* Age and tenure status are related. Young adults are more likely to rent, but home ownership becomes increasingly likely as adults age. Although low-income families are less likely to own than their moderate and upper-income counterparts, the pattern of ownership
rates are similar. Younger families are less likely to be homeowners than their older counterparts. The U.S. Department of Housing and Urban Development released statistics in 2003 that showed only 23% of households with a head of the household under the age of 25 owned a home, while 39% of those aged 25 to 29 years owned a home (Cook et al., 2006). Once adults reached 55 years or older the percentage of homeowners went up to 80. The 2007 American Housing Survey showed similar results. Out of 75,647 owners surveyed only 2% of these owners were under the age of 25. Only 23% of the participants surveyed in this age group were homeowners compared to 77% that were renters. The age range with the highest percentage of owners during this time was between the ages of 45 to 54 (23%); for this age group there were 23,208 people surveyed, of these 76% were homeowners (U.S. Census Bureau, 2007).

Haurin, Herbert, and Rosenthal (2007) reviewed literature about youth leaving the parental home. They found higher housing costs led youth to remain in their parents’ homes longer. Income is also a driving factor here; youth with lower incomes are more likely to live at home with their parents longer or to live in group situations. Lower incomes and higher housing costs keep children at home longer and therefore older people are more likely to own their homes.

Education. Ownership has been shown to have a positive relationship with educational attainment; the more education a person has received the more likely they are to own their home. The Urban Institute reported that from 1989–2001 college graduates homeownership rate went from 70% to 76% but just over half of high school dropouts owned their homes. The 2007 American Housing Survey provides evidence that this is the case as well. Of the participants with no high school diploma or a General Equivalency Diploma
(GED), 57% of them owned their home. As education went from receiving a high school diploma or the equivalent to higher education the percentage of homeownership rates went up, 67% and 72%, respectively (U.S. Census Bureau, 2007). Gyourko and Linneman (1996) found that over time the differences in ownership rates between higher educated people and lower educated people decreased. So, the older they got the more likely they were to own regardless of education. A drawback of these results is that it was not a longitudinal study and so we cannot tell if the older owners were owners when they were younger.

**Marital Status.** Marital status has been found to be an important predictor of homeownership. Being married or having a partner increases the likelihood of homeownership. From the 1997 American Housing Survey, Belsky and Duda (2002) found that in all income categories couples that were married were more likely to own than their single counterparts and that included those in the low-income category. When comparing recent buyers to those who were still renting in the income category between 50% and 80% of the area median income, they found that owners were one-third more likely to be married with no children and 65% more likely to be married with children.

Hughes (2004) looked at the relationship between marriage and homeownership. She found in her literature review that of all households married couples are most likely to own. In fact, she states that people may judge their readiness to get married by readiness to own a home. This paper looked into how closely the marriage and ownership variables are related. Hughes (2004) found a similar effect for blacks and whites and a more pronounced effect for those without college degrees. Housing costs appeared to play a small role in the decline of marriage over time, but seemed most important for those people without college degrees.
Hughes (2004) concludes that homeownership may actually be affecting marriage and not the reverse.

**Race/Ethnicity.** Recent research has put major emphasis on the increase in minority homeownership rates, especially for Hispanic households. Even with an increase in the rates of ownership among minority households, a gap between ownership rates for minorities and their white counterparts still exists (Belsky & Duda, 2002a). In 2000, the Hispanic homeownership rate was 47.3%, compared with 48.4% for non-Hispanic blacks and 75% for non-Hispanic whites. However, this gap in homeownership rates between whites and minorities has decreased over the years. These increases in ownership rates for minorities could be in part due to better quality survey instruments and/or a decrease in the amount of discrimination in the housing and mortgage market (Haurin et al., 2007). Many of the observed differences in the rates of homeownership between whites and minorities come from differences in household circumstances by race, such as wealth, income, education level, and marital status.

Boehm and Schlottmann (2008) focused their literature review on the rise in the number of low-income Hispanic homeowners over the last few years. There were important implications reported for policy makers when looking at housing situations for different racial/ethnic backgrounds. Across income groups and racial/ethnic groups structural quality and neighborhood quality were better for owners than renters. The likelihood of a household being an owner or renter was hypothesized as being a function of a standard set of socioeconomic variables including income, savings, minority status and dummy variables for the year in which the housing choice was made and the market in which the unit was located. They also examined how much time was spent in the U.S. What they found was owners
perceive their situation as better than renters do when it comes to neighborhood and housing quality regardless of minority status or income. Low-income Hispanics reported the largest difference between owners and renters. African Americans had lower rates of ownership, lower valued homes, and lower rents than Hispanic participants. The findings suggest that minority households do not yet have equal housing opportunities with whites (Boehm & Schlottmann, 2008).

**Number of Family Members in the Household.** Family formation is an important predictor of ownership (Hughes, 2004); the bigger the family, the more likely it will live in a owned structure. Homeownership is generally higher for families with children and higher for two-parent than for one-parent families (Carasso et al., 2005). Rossi and Weber (1996) showed that owners were significantly more likely to have higher numbers of family members in the household and the proportion of married or widowed households was also significantly higher for owners than for renters. When examining homeownership rates globally, Fisher and Jaffe (2003) also found that there was a positive correlation between household size and ownership rates, but it was not statistically significant.

**Location (Rural or Metro).** Recent low-income homeowners were more likely to purchase in nonmetropolitan areas and less concentrated cities. This reflects the fact that access to low cost manufactured housing is more prevalent in rural areas (Belsky & Duda, 2002a). There are more likely to be low-income homeowners in rural areas because housing is cheaper. Affordability problems in rural areas are still apparent, but not as significant as in central cities. People of all incomes that live in central cities reported the most problems with affordability (30%), suburban areas were second (28%), and rural areas reported 22% of the population paid more than 30% of their income on housing. Low-income populations living
in central cities, suburbs and rural areas reported 67.2%, 66.6%, and 50.6%, respectively, experiencing affordability problems in 1995. Over a ten-year period, rural areas saw a small decline in the percentage of low-income households from 41.2% in 1985 to 40% in 1995. Low-income households, however, are over-represented in rural areas. Only 38% of the total population lives in rural areas while 40% of low-income people live in rural areas (Andrews, 1998).

Rural individuals and families face different housing concerns than those in metro areas. Special challenges face rural welfare families in securing housing; fewer and lower-wage jobs, longer distances to services and jobs, less access to transportation, and lack of childcare options (Cook, Crull, Fletcher, Hinnant-Bernard, & Peterson, 2002; Pindus 2001). Locating available, affordable and good quality units is also a challenge in rural areas. Rural areas also tend to have a bigger problem with housing quality; physically inadequate units are more prevalent in rural communities (Andrews, 1998).

*Health Costs*. Low-income families often have to make choices on how they are going to spend their money. Basic needs can sometimes go unmet because of the lack of income; needs such as housing, transportation, food, clothes, and health care costs are continuously competing with each other in an effort to meet the demands of the household. Depending on the family’s values and their needs for that month, a mortgage payment might be missed so a child can visit the doctor or to pay for medication. Long (2003) states that in the face of hardships many families choose to sacrifice their health care costs in order to pay for other necessities. Families with one or more members experiencing a chronic illness or a disability may be forced to give up the dream of ownership because much of their household income must be spent on medical expenses.
What Long (2003) discovered was that over the last year 42.9% of adults had food, housing, or health care hardships. Of the low-income adults that were surveyed, 72.9% of them responded yes to having experienced these hardships of choosing where their income should go. For moderate- and higher-income adults, hardships with food and housing were rare, 2% experienced food hardships and 10% housing hardships. Health care hardships were reported most frequently with these income levels, 26%. For lower-income adults much of their hardships came from housing and health care, 44.9% and 55.4%, respectively. This research demonstrates the struggle that low-income families face when making choices for meeting their basic needs.

Income/Current Work Status. Even though the focus of this article is on low-income homeownership a discussion of the importance of income on homeownership rates is needed. The likelihood of becoming a homeowner increases directly with income (Haurin et al., 2007). The higher income is among households the more likely they are to own their home. High-income households are 10 to 45 percentage points more likely to be homeowners than those people in lower income groups (Eggers, 2005). Rossi and Weber (1996) found that owners were more likely to have more earners in the household. Even if homeownership is attained by low-income households the probability of them slipping out and going back to renting, especially for minority families is quite high (Boehm & Schlottmann, 2004). Bohem and Schlottman’s study examined the dynamics of race and income on homeownership. Using the Panel Study of Income Dynamics their analysis showed that for low-income and minority families these families were slower at moving into homeownership, less likely to maintain homeownership, and were not as likely to move into higher quality units over time compared to their higher-income counterparts.
Di and Liu (2007) conducted a study on the importance of wealth and income in the transition from renter to owner. What they found, using the PSID data from 1984, 1989, 1994, and 1999, was that both household income and net wealth was positively and statistically significantly linked to the likelihood of achieving homeownership; the higher the average annual household income over a five year period, all else being equal, then the more likely it was that the household would attain homeownership. Their research also showed that the importance of wealth in attaining homeownership. Haurin, Herbert and Rosenthal (2007) agree that wealth is a factor in predicting homeownership. One of their arguments for the gap in homeownership rates between minorities and whites is that whites have more wealth than African Americans and Hispanics and are therefore more likely to own. Results from these studies suggest that current income, predicted future income, and income security are strongly linked with homeownership. Low-income households therefore are at a disadvantage for becoming homeowners.

*Life Satisfaction.* Life satisfaction has mostly been seen as an outcome of housing tenure status. Homeowners have been seen as having a higher satisfaction with life in general compared to their renter counterparts. Rohe and Stegman (1994) did a study comparing owners and renters on self-esteem, perceived life control and life satisfaction of low-income people using a longitudinal design with a control group. Using a pretest and post-test the researchers compared two groups, low-income people participating in a homeownership program and a group of continuous renters. The measure for life satisfaction was from Campbell, Commerce, and Rodgers (1976, as cited in Rohe and Stegman, 1994). A single item was asked, “How satisfied are you with your life these days?” A five-point scale was provided for the response ranging from very satisfied to very dissatisfied. The baseline
measure (pre-test) showed no significant difference between the satisfaction of life for renters and owners. At the time of the post-test however, a significant difference was found using a means test. The owners showed an increase in life satisfaction while the renters’ life satisfaction had decreased after completing a regression analysis and controlling for differences in demographic and non-tenure related housing and neighborhood characteristics. The results showed that homeowners were more satisfied with life than renters. The researchers found that homeownership does have a statistically significant effect on life satisfaction of low-income people when compared to renters.

Rossi and Weber (1996) examined owners versus renters on a multitude of measures of well-being. They looked at measures such as, self-satisfaction, doing things as well as anyone, being sure that life will work out, depression scale, happiness scale, etc. What they found was that owners had significantly higher scores on self-satisfaction, do things as well as anyone, and were sure that life would work out. One source of data showed higher scores on a happiness scale, the National Survey of Families and Households. Owners were also more likely to have statistically significant lower scores on the depression scale. Rossi and Weber assert, however, that these previous research findings may have causality issues and any claim that ownership leads to these outcomes is questionable. Even though life satisfaction is usually identified as a benefit of homeownership status the question of causality still remains; does ownership lead to higher satisfaction or do people who are more satisfied with life tend to become homeowners? This is a question that needs to be addressed in future research.
Conclusions

This review of the literature has found that the benefits of homeownership for low-income households include financial and social dimensions. Financially a low-income household would benefit from wealth/asset accumulation, an increase in housing affordability over time, and tax benefits. From a social standpoint the benefits include higher life satisfaction, and improved neighborhood satisfaction and quality. The literature also showed that homeownership is more likely to have positive effects on the health of the whole family, physically and mentally. The impact of homeownership for children has also been found to be positive. If a child’s parents are homeowners, s/he will have better developmental outcomes, including higher educational attainment and better outcomes as adults. Furthermore it is more likely that children of homeowners will have fewer behavioral problems and will be more psychologically healthy.

Barriers and threats to homeownership for this population were examined as well. Some of these aspects included a lack of mobility, costs of purchasing and maintaining a home, discrimination in the housing market for low-income and minority families, an excessive amount of debt, the possibility of foreclosure, and poor quality neighborhood factors that may diminish the positive outcomes for homeowners and their families. Another downside to homeownership are that benefits are usually seen as long-term and sometimes low-income families are forced to leave their ownership status due to foreclosure or other issues and are not able to access these benefits.

Even with all the research that has looked at low-income homeownership, the direction of causality is still not clear when it comes to benefits. It is difficult for researchers to prove that homeownership is the cause of better outcomes. Other factors that should be
taken into consideration and controlled for when these studies are completed are the effects
of housing quality and neighborhood quality. These factors may have some influence on the
strength that housing tenure has on positive outcomes. Many studies employ the use of cross-
sectional data and correlational research, which are not able to identify causation. Therefore,
questions still remain regarding the direction of causation. For example, does
homeownership cause better physical and mental health outcomes or are people that are
healthier, physically and mentally, more likely to self-select into homeownership?

The predictors of low-income homeownership that were shown through the literature
to be associated with homeownership were age, education, marital status, race/ethnicity,
current work status, number of family members in the household, location (rural or metro),
life satisfaction, health care costs, and income. Age has been seen as a predictor because the
older the head of the household, more likely s/he will be a homeowner. Previous research has
found that the higher the education of the head of the household the more likely s/he will be a
homeowner, but those results decrease with age. Those households in which couples are
married or have a partner are more likely to be homeowners compared to their single
counterparts. Those of minority status are less likely to be homeowners than their white
counterparts. If the head of the household, as well as the partner, is currently employed then
it is more likely that the household will be owners rather than those who are not employed or
only have one earner. As the number of people in the household increases, the likelihood of
homeownership increases, especially for those with two-parent households. Rural areas were
identified as being more affordable for low-income families when it came to homeownership,
but much of the research has put the majority of focus on metropolitan areas or has not
distinguished between metro and non-metro areas.
Current research has put more focus on the rise in homeownership rates for low-income and minority households, as well as the benefits of homeownership for this population. It is important to note that further evidence is needed to identify which variables predict tenure status for low-income households. This research can have important implications for future policies and programs that work with low-income families who wish to be homeowners. As suggested by Olsen (2007) any low-income household that makes it to the top of the voucher waiting list should be offered the option of homeownership. Housing authorities should help guide these families into the housing tenure that best suites their needs. Further identification of homeownership predictor variables can be beneficial in helping make these decisions.

Another weakness with previous literature is that there is not much focus on the difference between rural and metropolitan areas. As the articles’ identified suggested, non-metro households deal with different and unique challenges compared to their metro counterparts. However, homeownership is the most likely tenure status in rural areas and yet has received little attention, especially among low-income families. Future research examining benefits of and barriers to low-income homeownership as well as the indicators of homeownership need to take location into consideration. In addition, funding for U.S. rural housing programs has not kept pace with need and several programs have been affected by a recent shift in emphasis to indirect subsidies such as loan guarantees and tax incentives (HAC, 2002). Very few investigations have examined rural, low-income families’ housing experiences and their unique circumstances.

Furthermore, other research should determine the factors that affect the ability of low-income families to sustain homeownership, examining ownership in the context of the recent
housing crisis. Policymakers and housing advocates need to continue research to identify
who is ready for homeownership, if and how homeownership benefits family members, and
those families who are most likely to be successful homeowners.

References


Project*. Retrieved February 20, 2009, from

Belsky, E. S. (2008). Housing wealth effects and the course of the U.S. economy: Theory,
evidence, and policy implications. Joint Center for Housing Studies: Harvard
University.


Belsky, E. S., & Duda, M. (2002b). Asset Appreciation, Timing of Purchases and Sales, and
Returns to Low-Income Homeownership. In N. Retsinas, & E. Belsky (Eds). *Low-
Income Homeownership: Examining the Unexamined Goal*, (pp.208-238),

Boehm, T. P., & Schlottmann, A. (2004). The dynamics of race, income, and


CHAPTER 3. ON THE PATH TO HOMEOWNERSHIP:
LOW-INCOME OWNERS AND RENTERS IN RURAL COMMUNITIES

A paper to be submitted to *Housing and Society*

Andrea L. Bentzinger and Christine C. Cook

Abstract

The purpose of the current article was to look more closely at the predictors of low-income homeownership among families living in rural settings in the United States. The benefits of becoming a homeowner for low-income families are discussed as well as the risks associated with becoming an owner. The study used data from a multi-state research project “Rural Families Speak,” an investigation conducted by 17 states to assess the circumstances of rural low-income families. Two logistical binomial regression analyses were employed to identify significant predictors of ownership among rural low-income families, one with the entire sample and one with a subsample of participants who had a partner. In total, 19 variables were included in the regression analyses. The results of the study indicated that the determinants of tenure status are education level, partner status, Latino, total monthly income, food security status, monthly utilities, and housing wage.

Introduction

The study of low-income homeownership opportunities has had the attention of researchers and policymakers since the 1990s when programs were initiated with the express purpose of increasing the minority and low-income homeownership rates (Cortes, Herbert, Wilson, & Clay, 2007; Herbert & Belsky, 2008; Schwartz, 2006). Homeownership has been seen as beneficial for individuals and families and advantageous to the communities in which they reside. There are a range of benefits that come with homeownership, and advocates have
campaigned for low-income families, arguing that they too deserve the opportunity to receive these benefits. For low-income families themselves, homeownership is a key component of the “American Dream” and “symbolizes autonomy, achievement . . . [and] embodies core American values” (McConnell & Marcelli, 2007, pp. 199–200). Among rural families, the proportion of homeowners and the demand for homeownership are high and rental housing options are limited (Housing Assistance Council [HAC], 2002, 2007).

This study examined tenure status among low-income households residing in rural communities. The investigation included the identification of variables suggested by the literature as associated with owning and renting. Very little of the previous research, however, has been conducted with low-income families who are either owners or renters. Only recently has there been focused attention on low-income families who own their homes; even less research has focused on those who live in small town and rural settings. Questions remain as to their ability to acquire and sustain homeownership. An investigation of the predictors of homeownership to determine the role of various socioeconomic and family health characteristics was conducted. Specifically this study addressed the following research questions: (a) What are the predictors of housing tenure for rural low-income families?; and (b) What family sociodemographic characteristics compared to family health risks and housing expenditures and market conditions contribute most to explaining tenure, whether families are owners or renters?

Recent housing policy changes and current economic conditions suggest that a better understanding of low-income families’ ability to become homeowners and sustain homeownership is necessary. In particular, the availability of ownership opportunities for low-income families in rural settings has had little attention. This study intended to highlight
and bring a better understanding of rural housing opportunities among low-income families
to the attention of researchers, policymakers, and housing advocates. The first section of the
paper looks at the conceptual underpinnings of the study drawn from theories on housing
adjustment behavior (Morris & Winter, 1975) and asset accumulation (Beverly, McBride, &
Schreiner, 2003). The next section examines past research that has looked at the benefits and
limitations of owning versus renting one’s home. Another focus of the literature review is the
difference in housing concerns in rural and metropolitan areas. It is important to look at rural
versus metro areas because these represent two different types of communities and the
families within them. The next section outlines the methodology employed for the current
study followed by a results and a discussion section. Within the discussion section limitations
of the study are addressed and implications for policymakers and recommendations for
professionals working with low-income families, as well as directions for future research, are
also provided.

Conceptual Framework

Housing tenure refers to the financial arrangements under which someone has the
right to live in a house or an apartment. The most frequent forms are tenancy in which
rent is paid to and landlord and owner occupancy. Mixed forms of tenure are also
possible. The basic forms of tenure can be subdivided, for example an owner-
occupier may own a house outright or it may be mortgaged. In the case of tenancy,
the landlord may be a private individual, a non-profit organization, such as a housing
association, or a government body, as in public housing. (“Housing Tenure,” n.d.)
In the simplest terms housing tenure refers to whether a household rents or owns the
property. According to Rossi and Weber (1996), “Whether to own or rent a home is a matter
of choice; however, it is a choice that is heavily constrained” (p. 3). As families experience changing needs over the stages of the life cycle, they often seek to “adjust their housing situation” to meet new requirements by moving, modifying the home, or simply learning to cope with suboptimum conditions.

Morris and Winter (1975) developed a theory of family housing adjustment that explains housing decision-making and behavior in families. A model of Morris and Winter’s theory of family housing adjustment can be found in Appendix A. The theory of housing adjustments posits that when housing does not meet a family’s needs, the family experiences a housing deficit. Housing deficits are culturally defined; that is, what constitutes a housing problem is a function of cultural and family norms. There are five housing norms that are of particular relevance when making a housing decision according to the authors and proponents of the theory: space, tenure, structure type, quality, and neighborhood norms. Therefore when families perceive that their housing is non-normative, they will strive to correct the situation. However, a host of constraints may impinge on a family’s ability to align actual housing with perceived need for housing, i.e., correct their housing deficits. One of the most powerful norms is the tenure norm; families strive to be homeowners. For the purposes of this investigation, it is the tenure norm that is of most interest for two reasons: (a) homeownership is normative in American society, thus families who are not owners are likely to perceive a ‘housing deficit’ and strive to correct it and, (b) although the push to achieve homeownership will be great, it will be constrained by both family and market restrictions. Different constraints from within the family and outside of the family may force the household to make compromises or relax their norms. Ultimately families who experience housing deficits and cannot correct them will experience dissatisfaction.
Low-income families have fewer options than do higher income households when it comes to making choices about housing. A lack of economic resources and other challenges may lead them to relax tenure norms. An example of how a family might relax their tenure norms is by renting instead of buying a home because of their economic situation. However, there is not much evidence that low-income families have different ambitions for homeownership than do their higher-income counterparts. Low-income families are simply faced with barriers and constraints that impede their ability to attain homeownership.

The theory of housing adjustment is important because it illuminates the process by which families make housing decisions and the constraints that impinge on them in meeting cultural and family norms when it comes to housing. Due to constraints that may impinge on a household’s ability to own a home they may miss out on an important consequence of achieving homeownership, the opportunity to build wealth. Recently asset accumulation has been advanced as a conceptual underpinning for promoting homeownership for low-income families. “Given the change, many low income families can acquire assets and become financially secure” (Olsen, 2007, p. i). Sherraden (2000) is considered to have broken new ground when he argued for a model of “asset accumulation” as a means to increase savings for low-income families, heretofore shut off from many traditional opportunities to acquire wealth. In order to get to this end result however low-income families need to adopt specific asset-accumulation strategies (Beverly et al., 2003).

According to Beverly et al. (2003) there are three stages to accumulating assets and many strategies. The stages include reallocation, conversion, and maintenance. Reallocation is making sure that resource inflows exceed outflows and if they do not, then either consumption needs to be reduced or inflow needs to be increase (e.g., working more). The
second stage, conversion, is the ability to turn resources into a more “difficult-to-spend” form. Previous research has shown that, “asset accumulation is more likely when resources are converted to less-liquid forms” (Beverly et al., p. 148). A household that is using the conversion strategy may use automatic transfers from a checking account to a savings account; this way the money is never in their hands and is harder to spend. Finally, the maintenance stage is when savings actually lead to asset accumulation; i.e., homeownership. Strategies that low-income families use to obtain savings and assets include both psychological and behavioral aspects. Each stage of the asset accumulation process has both psychological and behavioral aspects. The stages of asset accumulation along with both psychological and behavioral strategies are displayed in Appendix B. This framework can help researchers, policymakers, and housing advocates establish a more useful approach to helping low-income families gain assets, especially owning a home. It complements the theory of housing adjustment, hypothesizing how low-income families might overcome barriers that constrain housing choices. Forced savings and asset accumulation are mechanisms that can help families transition to homeownership to which many rural low-income families indicate they aspire.

Literature Review

Homeownership has been the dominate form of housing tenure in the United States for a long time now and there is a belief that homeownership is best for the individual, the family, the community, and the country (Bratt, Stone, & Hartman, 2006; Green, 2001; Retsinas & Belsky, 2002; Schwartz, 2006). U.S. governmental policy promotes homeownership through mortgage and property tax deductions on federal income tax returns and by making funds available for first-time homebuyers (Haurin, Parcel, & Haurin, 2002).
The federal government even makes it easier for households to see the advantages in owning through websites like the U.S. Department of Housing and Urban Development (HUD; www.hud.org) and the Government National Mortgage Association (Ginnie Mae; www.ginniemae.gov). The Ginnie Mae website provides calculations and an easy-to-read table demonstrating the value in owning a home versus renting it (Ginnie Mae, n.d.). Even with the economic and housing crisis that the country is experiencing today the government is trying to identify ways to keep people in their homes and programs to assist in avoiding default and foreclosure (HUD, n.d.). It is apparent that federal government policies support homeownership for American families, believing it to be the “road to success.” Forthcoming is a review of the literature on owning and renting, focusing on the benefits of homeownership and the barriers to homeownership among low-income families. The literature review will also examine the differences in housing issues facing low-income families in rural compared to metropolitan communities.

Benefits of Homeownership

There is an economic importance to housing, as well as psychological and social functions (Merrill, Crull, Tremblay, Tyler, & Carswell, 2006). The economic benefits of homeownership include accumulated wealth and assets, tax deductions and other incentives from the government, and substantially lower costs over time. The accumulation of wealth, however, is probably the most beneficial economic factor for low-income families because their owned home will likely be the biggest asset they will ever attain (Schwartz, 2006). It is also a step in the right direction toward economic self-sufficiency (Sherraden, 2000). Boehm and Schlottmann (2008) advocated for asset accumulation for low-income households through homeownership. Although they found that homeownership did not always guarantee
accumulation of wealth for low-income households, they identified a positive relationship between homeownership and wealth. Homeownership was also found to increase the likelihood of nonhousing wealth, contributing even more to the economic benefits of homeownership.

Like their middle- and upper-income counterparts, another financial benefit that low-income families use is the deductibility of mortgage interest and property tax payments that reduce a family’s overall tax bill and potentially increase savings or consumption. The federal government in 1990 spent $47.2 billion on total tax benefits to homeowners (Sherraden, 1991). In 2005, $68.9 billion was spent on mortgage interest deductions alone (Carasso, Steuerle, & Bell, 2005). However, households in the top one-fifth of the income distribution usually receive the most benefit out of this deduction (Dolbeare, 2001). Most recently the government has issued a first-time homebuyer tax credit to qualified citizens. In 2008, a $7,500 credit was offered that must be repaid over 15 years; in 2009 a first-time homebuyer can receive an $8,000 incentive that does not have to be repaid (National Association of Home Builders, 2009).

Finally, an economic benefit of being a homeowner is the possibility of a stable monthly housing payment and greater affordability of the unit (Goodman, 2001; Quigley & Raphael, 2004). A mortgage that has a fixed interest rate will never increase, but rents typically grow faster than income, which means families are more pressed for money. From 2000–2007 the ratio between rent and income grew from 26.5% to 30.3%, and 45.7% of renters were paying more than 30% of their income on housing (Katz & Turner, 2007). Quigley and Raphael (2004) noted in their observation of housing affordability for homeowners that, “Owner-occupied housing is as affordable now, on average, as in the early
This means that a long-term benefit of homeownership is lower monthly housing expenditures compared to families that rent over the same amount of time. For renters, increases in rents every year can lead to more stress and instability (Katz & Turner). The National Low-Income Housing Coalition (2008) has found that there is no rental market in the United States that provides affordable housing for low-income families.

Owners of homes are thought to have higher satisfaction with their homes and life in general (Green, 2001; Herbert & Belsky, 2008; Rohe, Van Zandt, & McCarthy, 2002). Owning increases psychological health by leading to higher self-esteem and social status (Rohe et al.). One reason that it is thought to lead to a higher sense of self-esteem is because the owner has accomplished “a significant life goal” (Herbert & Belsky, p. 9). They have more opportunities to invest in their homes. They can decorate how they would like, but that also comes at a cost as well. Improving a home or remodeling a home to fit the housing needs to the family shows self-expression as well (Merrill et al., 2006). Rohe and Stegmann (1994) measured the effects of self-esteem, perceived life control, and life satisfaction on low-income people. The researchers used Hoyle’s Self-Esteem Inventory and Levenson’s Internal–External scale, and life satisfaction was measured using Campbell, Commerce, and Rodgers single item asking, “How satisfied are you with your life as a whole these days”. The researchers found that homeownership and satisfaction were positively related at a statistically significant level. Increases in self-esteem and perceived life control were reported for owners, whereas there were small decreases for continuing renters, but not a significant level. Rossi and Weber (1996) also found that owners were more likely than were renters to score higher on measures of well-being and lower on depression. These conclusions came from two different data sets, the National Survey of Families and
Households (NSFH) and the General Social Survey (GSS), however the GSS did not offer any statistically significant evidence. Rossi and Weber used nine different measures between the two data sets including self-satisfaction, do things as well as anyone, sure that my life will work out, depression scale, happiness scale, physical health self-rating, anomia scale, life is exciting/dull, and substance abuse in household.

The benefits of homeownership have important implications not only for adult family members but for their children as well. Parents that are experiencing reduced stress, a sense of security, and higher life satisfaction will likely see a positive change in their parenting and interaction with their children. The home environment is the main place where children are reared and has important implications for their physical and socioemotional development. Many studies have been completed testing the affect of parental homeownership on child developmental outcomes (Aaronson, 2000; Cairney, 2005; Galster, Marcotte, Mandell, Wolman, & Augustine 2007; Haurin et al., 2002). One important reason for this could be the stability of homeownership. Homeowners have been found to remain in one place longer, and this could lead to better developmental outcomes for children. The 1997 American Housing Survey found that half of all owners stay in the same home for 10 years or more (Belsky & Duda, 2002). Aaronson found that longer residential duration had a positive impact on educational attainment. When examining cognitive and behavioral outcomes Haurin et al. found that homeownership led to higher math scores, higher reading achievement, and fewer child behavior problems when compared to children who lived in rental units.

Cairney (2005) researched the mental health of adolescents, and the findings indicated that for younger adolescents, tenure status had more influence on mental health
than for older adolescents. It was hypothesized that this was likely due to the fact that as children age they tend to spend less time in the home environment. For children who live in owned homes, their social and educational environment and a more nurturing home environment supports their development. Poor environments can impact self-esteem, friendship formation, and competence as well as physical health. Judging from past research the home environment is important for the development of children cognitively, socially, physically, and emotionally and therefore is important to research.

Risks and Limitations of Homeownership

All the benefits of homeownership seem very appealing, but one must not overlook the limitations to homeownership and the barriers that low-income families face in attaining this tenure. If a household is not equipped with the right resources to make a down payment, or to deal with home maintenance and proper upkeep of the unit, such as may be the case for low-income people, it might diminish the benefits of owning (Herbert & Belsky, 2008). Some disadvantages of becoming a homeowner include possible foreclosure, responsibility for maintenance, payment of property taxes, and less mobility. There are many costs associated with purchasing a home such as property taxes, down payments, realtor fees, etc. Low-income families may not have these kinds of resources at their fingertips. Renting in this situation would seem like a far better financial solution to meet housing needs.

An immediate limitation for low-income families trying to attain ownership status is the large down payment and other costs associated with buying a home (Herbert & Tsen, 2007). Low-income families already have limited resources and saving to buy a home is not necessarily a number one priority. However, if down payment assistance is offered to low-income families, even as little as $1,000, then 700,000 additional low-income households
might have the opportunity to purchase a home (Herbert & Tsen). This would increase the percentage of low-income homeowners by 19%. Along with down payment issues for low-income buyers, a low credit score could also be problematic in getting a mortgage loan. Many families at this income level either have made bad decisions with their credit or just simply do not have the appropriate credit history built up yet. This is another limitation for low-income families when it comes to homeownership. Sometimes households with limitations like these face the risk of higher interest payments on their mortgage as well. However, as long as the interest rate is fixed, it is likely that over time their mortgage payment will be lower than what they would be paying for a rental unit.

Along with the upfront costs of purchasing a home, owners have to pay the mortgage, property insurance, real estate taxes, routine maintenance, utilities, and a possible association fee depending on the location. Renters, on the other hand really only have to pay for rent, property insurance, and utilities (Crull, Bruin, & Hinnant-Bernard, 2006). Owners have much more that they have to take care of and keep track of. The cost of maintenance on the home can become a major problem; if a household does not keep it up house will deteriorate and lose its value (Herbert & Belsky, 2008). This can be especially troubling for low-income families who are likely to purchase older homes that need more repairs (Andrews, 1998; Rohe & Stegmann, 1994). The quality of the housing will also diminish and could have important implications for health and child outcomes.

As discussed before stability can be very beneficial for the owner, their children, and the community. At the opposite end however, a lack of mobility is a potential risk low-income families must take if they would like to become homeowners. As difficult as it is to get into homeownership, it is often just as difficult to get out (e.g., sell the housing unit).
Perhaps it is neighborhood characteristics that are proving to be a downfall or maybe it is the opportunity for a better job in another community that would require moving. Low-income families who are homeowners often have to decide to stay in a poor neighborhood or forgo a better job in another community because they cannot sell their house. These kinds of choices can be extremely detrimental to a household.

**Homeownership in Rural Communities**

Living in a rural community comes with its own unique challenges for many households, but especially for low-income families. Special challenges face rural welfare families such as: fewer and lower-wage jobs, longer distances to services and jobs, less access to transportation, and lack of childcare options (Cook, Crull, Fletcher, Himnant-Bernard, & Peterson, 2002; Pindus 2001). Locating available, affordable, and good quality housing units is also a challenge in rural areas.

Although housing, both owned and rented, in rural communities is usually considerably less expensive, housing tends to be older and often under-maintained. The HAC (1997, 2000) has continuously documented that rural households are more likely to live in substandard conditions than are their metro counterparts. Rural households are more likely to live in inadequate housing, which many times includes severe structural defects, lead paint problems, and infestation of vermin, than are their urban counterparts regardless of owner or renter status (Cook et al., 2002). Even families that live in owned housing in rural areas suffer from housing deficiencies compared to their urban and suburban counterparts. Renters, however, in rural areas have the fewest choices and most housing inadequacies compared to their owner counterparts. In the HAC (2003) paper on rental housing in rural America it
stated that 12% of nonmetro renters lived in substandard housing compared to 6% of owners. However, today quality of housing is not as much of a concern as affordability is.

Poverty in rural areas is prevalent, especially for minorities, single female-headed households, and children. Although housing costs are lower in rural areas so are incomes. Many low-income households in rural areas spend more than the affordable 30% of their income on housing. According to the HAC (2006), the number of households that fall into this category is approximately 70%. Homeownership rates in rural areas are high like in the rest of the nation: 76% of rural households own their homes. However, for those who live in poverty the rate of homeownership decreases by 20 percentage points.

Adverse neighborhoods appear to interfere with the formation of bonds between people. For minority families, rural places may present additional problems. “A growing number of rural low-income people have housing that is so inadequate in quality, so insecure in tenure and so temporary in duration that to keep a roof over their heads is a preoccupying and precarious accomplishment” (Fitchen, 1992, p. 173). Another concern for rural, low-income families is that there are not as many options for them to receive assistance. Rural communities are geographically more dispersed, and it can be difficult for some families to access social services in their community or a nearby community. Small communities are not as likely to have a lot of services because there are not as many people that need the assistance as in a metro area.

A common solution for low-income families in rural areas to make up for housing cost burdens is to double up. Doubling up is when two or more families live in the same housing unit; they share their home (Ahrentzen, 2003). Doubling up can have important implications on families because of crowding. Ahrentzen completed a review of the literature
examining the health consequences of doubling up. What she found was children who have families that share rents can have an increased exposure to respiratory diseases, but the more availability of funds through sharing rent can increase the amount of money a parent can spend on medications for the child. For older people who found a younger roommate, their mental health improved, they were happier, and they felt their lives were better. They also found that they ate and slept better and participated in more activities. However, the research does not mention who is more likely to double up: owners or renters.

Method

Data from the Rural Families’ Speak project (NC1011) were used to investigate the predictors of homeownership among low-income families in rural areas. The NC1011 investigation is a 17-state, longitudinal study that includes both quantitative and qualitative data to examine rural, low-income families’ experiences, well-being, and successes in the context of welfare reform. The larger project currently has three waves of data and several panels within each wave based on when state researchers entered the study. This study used interview data from Wave 1 but includes only states’ data from three panels. Data collection began for panel 1 in 1999, panel 2 began data collection in 2001, and finally panel 3 was collected in 2004. The questionnaire, regardless of panel number, used a common set of core questions asked of each participant. Participants could expand, however, on their answers and give more in-depth information resulting in complementary qualitative data. Both the quantitative and the qualitative portions of the data were compiled by one university team, Oregon State. Over 500 respondents, women from 30 U.S. nonmetropolitan counties, were queried about their socioeconomic and demographic characteristics and those of each of their
family members. The data set is distinctive in its focus on low-income rural families. For more information on the Rural Families’ Speak project see Bauer (2004).

For this study a number of questions about the families’ socio-demographic situations and family mental and physical health status were drawn from the quantitative data; one contextual variable, county housing wage was added to the data set to evaluate the housing market’s role in tenure decisions among low-income families. Descriptive statistics, frequencies and means, were used to generate baseline information about the sample and to identify the number of participants who were owners or renters. Two logistical binary regression analysis was employed to identify predictor variables for the outcome variable tenure, whether participants owner or renter their housing units. The first regression analysis that was conducted used the entire sample (382 cases) and looked at 17 variables. The second analysis used a subsample of those participants who reported having a partner (226 cases); this regression added two more partner variables: partner work status and partner health risk.

Participants

Participants in the Rural Families Speak Project were multi-cultural mothers, 18 years or older, who had at least one child who was 12 years old or younger. Families selected to be interviewed had to be eligible for or receiving food stamps, or be Women Infants and Children (WIC) Program transfers. Participants were recruited from a variety of human service agencies that work with eligible families (e.g. Food Stamps, WIC Program, Head Start, Social Services Offices, Housing Authority Offices, food pantries, Latino Migrant and Settled Workers Program, etc.).

The original data set included 522 cases from 17 project participating states (CA, IN, LA, MA, MD, MI, MN, NE, NH, NY, OH, OR, WY, KY, WV, and IA). However, 21 cases
from South Dakota were deleted due to excessive amounts of missing variables. In addition, there were 89 cases for which housing tenure was classified as “other”; these too were dropped from the analyses. “Other” tenure status usually included families whose housing was provided by employers or other family members. There were another nine families for whom tenure status could not be identified, and these participants therefore were deleted from the study as well.

In all, 119 cases from the original data set were not used, resulting in a total sample for this study of 403 participants. On average the 403 mothers were 31 years of age and had two children with the youngest child having an average age of 3 years. Over half of the mothers (65.4%) were non-Hispanic White women. Latino mothers accounted for 23.3% of the participants and just under 7% of respondents were African American. It should be noted that this was not a representative sample; Latinos were overrepresented as they account for 14.7% of families in the United States (U.S. Census Bureau, 2008). On the other hand, African Americans were underrepresented; 12.4% of the U.S. population is African American (U.S. Census Bureau). There is however a disproportionate number of low-income families in the United States who are Latino or African American. Information from U.S. Census Bureau in 2004 shows that Latinos and African Americans in the lowest fifth of the income scale accounted for 13.56% and 19.77%, respectively, of the total (“Household Income in the United States,” n.d.).

Although interview participants were women, many were married or lived with a partner. Most women (61%) reported they were married or were cohabitating. As for educational level, 33.8% of mothers had not received their high school diploma or GED, whereas 39.3% had received higher education, from training in a vocational school to a
graduate degree. Participants’ average monthly income was just over $1,300 per month. Table 3.1 illustrates the demographic characteristics of the total sample of owners and renters.

Insert Table 3.1

Procedures

Two logistical binominal regression analyses were conducted to identify the factors associated with tenure status among rural low-income families. The outcome variable for the study was housing tenure, that is, whether the participant was a homeowner or a renter. Of special interest was the degree to which the predictor variables were associated with homeownership for these families and the extent to which specific variables (sociodemographic, health, housing expenditures) played a role in predicting tenure status. The predictor variables for the first regression analysis included the sociodemographic variables, mother’s age, mother’s education level, mother’s race/ethnicity, partner status, mother’s employment status, number of children, age of the youngest child, and total number of family members. The household’s monthly income was included in the model, as were measures of food security and life satisfaction. Housing costs (both mortgage/rent costs and utility costs) and county housing wage were also identified. Two measures related to family health were included: health insurance (the number of family members covered by health insurance) and a health risk variable that included mental and physical health problems for the mother. The second logistical binomial regression analysis, including only those participants who had a partner, examined the following predictor variables: mother’s age, mother’s education level, mother’s race/ethnicity, mother and partner’s employment status, number of children, age of the youngest child, total number of family members, household’s
monthly income, food security status, life satisfaction, mortgage/rent costs, utility costs, county housing wage, family health insurance, and a health risk variable for the mother and partner.

Differences between owners and renters were also examined through cross tabulation using a chi-square statistic and an independent \( t \) test. The chi-square test was used for categorical variables to see if two variables were independent from each other or related. For the continuous variables a \( t \) test was conducted to see if there were significant differences in the means between owners and renters.

**Predictor Variables**

*Socioeconomic Status.* Mother’s age was a continuous variable based on her age on 12/31/01. Mother’s education level was recoded into three categories: less than high school (1), high school diploma or GED (2), and beyond high school (3), which included specialized technical, business, or vocational training; some college; and college graduate. The participant’s ethnicity was also used in the analysis. Participants were asked to report on seven different categories of ethnicity; non-Hispanic White, Hispanic/Latino, African American, Native American, Asian, multi-racial, and other. For the regression analyses two dichotomous variables were created Latinos (0 = other; 1 = Latino) and African Americans (0 = other; 1 = African American). A variable was also created identifying partner status (0 = no partner; 1 = partner). A participant was considered to have a partner if she was married or living with a partner. If the participant was separated, divorced, or single she was coded as not having a partner. Whether or not the participant, as well as the partner, was working was also included within the analysis (0 = not working; 1 = currently working). The questions addressing this issue asked simply, “Are you currently employed?” and “Is your partner
currently employed?” The number of children and the age of the youngest child as well as the total number of family members were included as continuous variables. Monthly household income was used in the analysis as a continuous variable as well.

*Food Security.* The food security status of the household was measured using the 18-item Core Food Security Module (Hamilton et al., 1997). For the analysis the household was either coded as food secure or food insecure (0 = food insecure; 1 = food secure). A complete list of the 18-item core module is in Appendix C. Food security is sometimes used as a proxy for health (Berry, Katras, Sano, Lee, & Bauer, 2008).

*Life Satisfaction.* Life satisfaction was asked through a single question, “How satisfied are you with your life as a whole?” The participant responded on a five-point Likert-type scale from 1 (*very dissatisfied*) to 5 (*very satisfied*).

*Housing.* Participants were asked to report either their monthly housing mortgage or rent payment. Utility costs for one month was also included as a predictor variable to identify the participant’s housing costs. Included in the measure of utility costs were electricity, gas, water, garbage, phone, cable, and other. The National Low-Income Housing Coalition (2007–2008) calculated housing wages for all counties and most metropolitan areas in the United States. A housing wage is the amount of money a household needs to earn hourly in order to afford the fair market rent on a 2-bedroom unit in the county. Fair market rents (FMRs) are established yearly by the Department of Housing and Urban Development. Participants in this study lived in 29 different U.S. counties. Both variables, monthly housing costs of the participants and monthly utility costs along with the housing wage of the county in which they were residing, were used in the analysis. Housing wage was identified for each county and therefore was not the same for all participants and was considered a contextual
variable, whereas housing costs were an individual effect. Housing wage was viewed as a proxy for the market context in which families made housing tenure decisions, whereas housing costs permitted examination of the financial resources used by families to support tenure decisions.

*Health.* Mothers reported on numerous mental and physical health conditions experienced by them and any other person living in the household, including a partner, if one was present, and any children. A couple measures of health status were examined: (a) mother and partner’s health risk were calculated for this study and included four measures of mental and physical health: life threatening illnesses, emotional disorders, disability, and drug/alcohol abuse (Cronbach’s alpha = .41 and .33, respectively; Ontai, Pong, Sano, & Conger, n.d); and (b) the number of family members covered by health insurance variable was created by summing whether members were insured and was also tested as a predictor variable.

A complete list of the variables including the name of the variable, its description and how each was coded can be found in Appendix D.

*Outcome variable*

*Housing Tenure:* The outcome variable used here is housing tenure, or whether the participant rented (1) or owned (2) their housing.

*Results*

The total sample contained 403 families; 26.6% owned their home and the remainder (73.4%) rented. Table 3.1 displays means and standard deviations of demographic characteristics for owners, renters and the entire sample. On average mothers that were owners were older ($M = 32.95, SD = 7.66, N = 107$) than were mothers who were renters ($M$
An independent samples t test showed that owners and renters were significantly different from each other in age, \( t(397) = -3.94, p = .00 \). The average number of children for owners and for renters was similar (2.9 and 2.2, respectively) yet significantly different, \( t(401) = -4.31, p = .00 \); however the mean age of the youngest child of owners and of renters (3.7 and 3.4, respectively) was not significantly different, \( t(395) = -.78, p = .44 \).

Owners had slightly bigger families (\( M = 4.9 \) household members) than did renters (\( M = 4.2 \) household members), \( t(237) = -3.87, p = .00 \). Owners’ average monthly income ($1,815.15) was significantly higher income than that of renters ($1,145.94), \( t(401) = -7.34, p = .00 \).

Owners were more likely to have a higher education than were their renting counterparts. Of homeowners, 54.2% had some schooling beyond their high school degree or GED, whereas only 33.9% of renters had some education beyond high school, \( \chi^2(2, N = 402) = 16.96, p = .00 \). The majority of owners (68.9%) and renters (64.2%) in this study were non-Hispanic White. Neither race nor ethnicity were found to be significant; that is, owners and renters were just as likely to be either non-Latino White, Latino, or African American, \( \chi^2(1, N = 399) = .99, p = .32 \) and \( \chi^2(1, N = 399) = .96, p = .33 \), respectively). Owners were more likely to have a partner compared to renters (82.2% compared to 53.4%), \( \chi^2(1, N = 403) = 27.54, p = .00 \). There was no significant difference in employment status between mothers who rented (47.0% employed) and those who owned (51.4% employed), \( \chi^2(1, N = 403) = .62, p = .43 \). The mothers who had partners reported on their partners’ work status as well. For owners 87.5% of partners were employed and for renters 76.4% of partners were employed, \( \chi^2(1, N = 245) = 4.38, p = .04 \).
Table 3.2 exhibits means and standard deviations for housing characteristics for owners, renters, and the whole sample. For owners and renters the average monthly mortgage or rent payment was $343.84 and $270.50, respectively (without assumed equal variances), \( t(119) = -2.54, p = .01 \). For owners the average monthly utility cost was $229.48, and for renters it was $145.39, \( t(336) = -6.96, p = .00 \). The housing wage for these counties ranged from $9.42 to $28.02 with a mean of $13.02. Owners experienced a lower mean housing wage for their counties at $12.01, than did renters at $13.39 (assumed variances were not equal), \( t(359) = 3.93, p = .00 \).

Insert Table 3.2

Means and standard deviations for health characteristics for owners, renters, and the entire sample can be found in Table 3.3. The percentage of owners who were food secure was 64.4, whereas only 42.8% of renters were categorized as food secure. Chi-square results are significant, \( \chi^2(1, N = 386) = 13.87, p = .00 \), meaning owners were more likely to be food secure than were their renter counterparts. The results of life satisfaction show that 62.3% of homeowners compared to 51.4% of renters rated being satisfied or very satisfied with life. The chi-square test shows that there was not a significant difference between owners and renters on life satisfaction, \( \chi^2(4, N = 400) = 4.10, p = .39 \).

Insert Table 3.3

With regard to medical insurance, 65.3% of renters had medical insurance for themselves and 67% of owners were insured. For their families, owners had a mean score of 3.65 people insured and renters had 2.8 people in the family insured, \( t(400) = -4.7, p = .00 \). Health risk for participants and their partners was identified through four categories. Owners had a mean score of .88, meaning on average owners reported one or less health risks; 78%
of owner participants reported yes on either zero or one of the categories. Renters had a mean health risk score of 1.03 with a higher percentage of participants reporting more than one issue with health (29.6%). The t test results showed no significant differences in the means for this variable, t(394) = 1.41, p = .16. The mothers who rented and reported having a partner identified their partner as having a mean health risk score of .66, and owners’ partners had slightly higher mean health risk score of .72, t(237) = -.53, p = .60. These scores represent the fact that on average renters and owners reported that their partners have one or zero health problems from the health risk variable.

Logistical Binomial Regression Analysis

The first logistical binomial regression analysis was used to estimate the effects of 17 selected variables on the probability that respondents would be owners or renters, their tenure status; participant’s age at 12/31/01, education level, partner status, is participant Latino, is participant African American, participant currently working, total number of children, age of the youngest child, total number of family members, total monthly income, food security status, satisfaction with life, mortgage/rent cost, monthly utility costs, county housing wage, mother’s health risk score, and how many family members have medical insurance. Table 3.4 shows the results of this binomial regression analysis. Only seven variables were found to be significant in this model: education level, partner status, is participant Latino, total monthly income, food security status, monthly utilities, and county housing wage. The 17 variables used in this analysis accounted for 31% of the variance in predicting homeownership for this sample. Education level had a positive relationship with tenure status (i.e., the higher the education level of the head of the household the more likely the family will be a homeowner). Partner status had a positive influence on tenure status as well; those
participants with partners were more likely to own. The mothers who identified themselves as Latino had a significant positive relationship with homeownership too. Total monthly income also had a positive and statistically significant relationship with housing tenure. The higher the monthly income the more likely it was that participants were homeowners. Food security status had a positive relationship with housing tenure as well. The analysis identified that households that were food secure were likely to be homeowners. Another significant and positive association was between monthly utilities costs and homeownership; as utilities costs increased it became more likely that homeownership was the tenure status of the participant. Housing wage by county had a negative relationship to tenure indicating that participants who lived in counties with lower housing wages were more likely to own. In these rural counties with low housing wages, housing was probably more affordable.

A second logistical binomial regression analysis was conducted with a subsample of the participants who reported having a partner; two variables were added, partner currently working and partner’s health risk score. Table 3.5 shows the results of this logistical binomial regression analysis. Only five of the variables in this regression were statistically significant: education level, total monthly income, food security score, monthly utilities, and county housing wage. As with the previous regression all variables had a positive relationship with housing tenure, except for county housing wage.

Quite a few sociodemographic variables found in other studies to impact tenure status were not significant in the equation: for example, participants’ age, children’s age, household
size, race or ethnicity, marital or employment status. In the reported equation, surprisingly health risk of the family was not significant.

Discussion

The goal of this study was to examine tenure status of rural, low-income mothers to understand particularly what family characteristics are associated with ownership status. The sample had two categories of housing tenure: rent and own. Using logistical binomial regression, this study was able to indicate which variables and to what degree variables were associated with homeownership for the sample. For this sample, education level of the participant, partner status, Latino, household monthly income, food security status, monthly utilities, and the county housing wage were found to be statistically significant in predicting tenure, whether a family owns or rents.

Both family and market constraints impinged on participants in the study just as Morris and Winter (1975) suggested. Income and education level at the family household level and the county housing wage at the community level impacted families’ ability to own. The extent to which homeownership promoted wealth could not be determined by this study; only that owners had higher incomes than did their renter counterparts. Longitudinal data are available and can be used in future research to examine whether families who owned, owned consistently over the 3-year interval. It appears that families in which there are two earners are more likely to own and higher monthly income is associated with ownership even among low-income rural families. Although all the families in the study were low-income, those within the sample that had marginally higher incomes and those with two earners in the family, were more likely to own a home. Questions remain as to whether they can sustain
homeownership and acquire wealth over time, as indicated by the literature (Sherraden, 1996).

**Limitations and Implications**

A limitation of this study is that it was not a representative sample of a low-income population. Latino participants were overrepresented and African American participants were underrepresented. Although this was a large sample with a diverse group, findings may not be generalized to the entire low-income population, especially minorities. Another limitation of the study is that some cases were deleted due to missing information. These deleted cases could have had different circumstances and could have added to the value of the study.

This study only captured one moment in time for these families and is considered to be another limitation. The direction of causality is always an issue in cross-sectional data. The logistical binary regression model was able to show variables that are related to housing tenure, whether a family owned or rented their dwelling unit. However, it is not possible to say that the outcome is caused by the predictor variables. Furthermore, many of the benefits of homeownership cannot be seen in the short term; that is, whether wealth is being built, assets accumulated. In this study the benefits of homeownership could not be determined but an assessment of wave two and wave three of the NC1011 data set can begin to look into these issues. Qualitative data analyses can also add to an understanding of the meaning and benefits of homeownership among low-income rural families. Finally, the county housing wage variable that was used as a proxy for market conditions was not the same for every county and therefore the p value may have been skewed. A limitation to note in this study is that the Cronbach alpha values of the health measures were fairly low and further health measures should be identified and tested.
Despite its limitations this study adds a contribution to the small amount of research on rural housing for low-income families. It also helps to fill a gap in identifying what characteristics may predict homeownership for this population.

Findings from this study can be useful to policymakers and housing advocates to help better serve rural, low-income households who desire to become homeowners. By identifying factors that contribute to low-income families achieving homeownership, professionals can work with renters who want to become homeowners. Additional education leads to better paying jobs and, together, higher education and better incomes contribute to the opportunity to become homeowners. For single parents who seek homeownership, the road may be “more steep” because this study indicates that two-earner families have an advantage when it comes to buying a home.

It is also important to note, however, that there are limitations and risks for low-income households to own their housing unit. Policymakers, housing advocates, and people who work with low-income populations need to be aware of these risks. Although this study has addressed the benefits of homeownership for a low-income population, recently the number of foreclosures has been alarming suggesting that low-income homeowners in particular are vulnerable. Families who are encouraged to become homeowners when they are not financially or socially ready for the responsibility that comes with owning a home could be a risk (Herbert & Belsky, 2008). Foreclosing on a home has been shown to be harder to deal with than breaking a lease on a rental unit. However, low-income families that would like to be or already are owners should be able to attain/maintain that tenure status and experience the long-term benefits of homeownership. Housing assistance programs working
with low-income families should think about household situations individually and look at what works best for the family.

Another implication of this study was the recognition of the importance of identifying rural areas as unique and separate from its urban counterpart. Rural communities are geographically more dispersed, and it can be difficult for some families to access social services in their community or a nearby community. Small communities are not as likely to have a lot of services because there are not as many people as in a metro area who need assistance. Policy makers and those working with low-income populations have to be sensitive to the fact that, in addition to a lack of assistance, rural low-income families have other special needs and circumstances within their communities.

Future Research

Further research needs to be completed to better understand the factors associated with low-income homeownership. Herbert and Belsky (2008) recommended that future research should look at the previous housing situations as well as the current one. This study was completed using the first wave of a three-wave research project so it is possible to examine in future research how low-income rural families are able to sustain homeownership, at least in the short term. Examining the three waves of data collected from the Rural Families Speak project could help to discern additional details about low-income families in rural areas and their housing circumstances. Examining the aforementioned variables that predict housing tenure and the participant’s actual changes in tenure status over time will offer more evidence to policy makers and housing advocates regarding homeownership counseling and appreciation for the housing situations faced by families. Many first-time homebuyers purchase their housing taking future income into consideration.
Following these families to see how their income level and other predictor variables changed will help policy makers, housing advocates, and low-income households see what variables help put these families into a homeowner position and what keeps them there. Homeownership can be a step on the way to economic self-sufficiency for these families.

Future research should also delve more into the role of family members’ health and the extent to which it helps or may stymie the opportunity to become a homeowner. A longitudinal study could show how homeownership benefits health or illuminate how health impacts the ability of participants to attain homeownership. One variable related to health, food security, was found to be significant, but previous research has shown that there is a relationship between housing and health that was untested in this study. Tenure status as a predictor of health outcomes, for example, remains to be examined in future research with the current data. Perhaps this means housing quality, the presence of adequate bathrooms or kitchens, air quality, the absence of lead paint, or some other factor is what is more significant than tenure when it comes to health. Community measures may also be added to a future study given that previous research has suggested that “contextual disadvantages” may multiply health risks (Wickrama, Elderly, & Abraham, 2007). More research in this area can offer a more complete picture of what the predictors of homeownership are for low-income families as well as how housing tenure and health are related. A longitudinal study would provide more evidence that housing tenure may impact the health of the residents in rural low-income households. A further suggestion would be to examine the qualitative responses of the participants. Qualitative data would provide more detailed and enriched evidence related to low-income homeownership, rural context, and health experiences of respondents.
Future research should use all three waves of the NC1011 data set to examine if homeownership can lead to economic self-sufficiency for low-income families. Because asset accumulation is one of the biggest benefits of homeownership, special attention should be paid to the ways rural, low-income families build wealth through asset accumulation. Owning a home is a major source of wealth and a huge asset, especially for low-income families. Homeownership has not only been seen as an accumulation of housing wealth, but also has a relationship to nonhousing wealth as well. Helping to identify ways that low-income, rural families can become economically self-sufficient and take a step closer to the “American Dream” deserves the attention of researchers, policy advocates, and service providers.

References


Table 3.1.

**Demographic Characteristics of Mothers by Housing Tenure Status**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Owner ($n = 107$)</th>
<th>Renter ($n = 296$)</th>
<th>Total ($n = 403$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
</tr>
<tr>
<td>Mother’s age (as of 12/31/01)*</td>
<td>32.95 (7.7)</td>
<td>29.7 (7.1)</td>
<td>30.6 (7.4)</td>
</tr>
<tr>
<td>Number of children*</td>
<td>2.9 (1.3)</td>
<td>2.2 (1.3)</td>
<td>2.4 (1.3)</td>
</tr>
<tr>
<td>Age of youngest child</td>
<td>3.7 (3.1)</td>
<td>3.4 (2.95)</td>
<td>3.5 (2.98)</td>
</tr>
<tr>
<td>Total no. of family members*</td>
<td>4.9 (1.4)</td>
<td>4.2 (1.8)</td>
<td>4.4 (1.7)</td>
</tr>
<tr>
<td>Monthly income*</td>
<td>1,815.15 (892.27)</td>
<td>1,145.94 (775.17)</td>
<td>1,323.62 (859.32)</td>
</tr>
<tr>
<td></td>
<td>$n$ (%)</td>
<td>$n$ (%)</td>
<td>$n$ (%)</td>
</tr>
<tr>
<td>Marital status*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner</td>
<td>88 (82.2)</td>
<td>158 (53.4)</td>
<td>246 (61)</td>
</tr>
<tr>
<td>No partner</td>
<td>19 (17.8)</td>
<td>138 (46.6)</td>
<td>157 (39)</td>
</tr>
<tr>
<td>Mothers’ ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>73 (68.9)</td>
<td>188 (64.2)</td>
<td>261 (65.4)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>21 (19.8)</td>
<td>72 (24.6)</td>
<td>93 (23.3)</td>
</tr>
<tr>
<td>African American</td>
<td>5 (4.7)</td>
<td>22 (7.5)</td>
<td>27 (6.8)</td>
</tr>
<tr>
<td>Other</td>
<td>7 (6.6)</td>
<td>11 (3.8)</td>
<td>18 (4.5)</td>
</tr>
<tr>
<td>Mothers’ education*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>21 (19.6)</td>
<td>115 (39)</td>
<td>136 (33.8)</td>
</tr>
<tr>
<td>High school or GED</td>
<td>28 (26.2)</td>
<td>80 (27.1)</td>
<td>108 (26.9)</td>
</tr>
<tr>
<td>Beyond high school</td>
<td>58 (54.2)</td>
<td>100 (33.9)</td>
<td>158 (39.3)</td>
</tr>
<tr>
<td>Mother employment status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently employed</td>
<td>55 (51.4)</td>
<td>139 (47)</td>
<td>194 (48.1)</td>
</tr>
<tr>
<td>Not currently employed</td>
<td>52 (48.6)</td>
<td>157 (53)</td>
<td>209 (51.9)</td>
</tr>
<tr>
<td>Partner employed*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently employed</td>
<td>77 (87.5)</td>
<td>120 (76.4)</td>
<td>197 (80.4)</td>
</tr>
<tr>
<td>Not currently employed</td>
<td>11 (12.5)</td>
<td>37 (23.6)</td>
<td>48 (19.6)</td>
</tr>
</tbody>
</table>

*Significant difference between renters and owners, $p<.05$. 
Table 3.2.

*Housing Characteristics by Tenure Status*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Owner (n = 107) M (SD)</th>
<th>Renter (n = 296) M (SD)</th>
<th>Total (n = 403) M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage/rent cost*</td>
<td>$343.84 (256.57)</td>
<td>$270.50 (180.00)</td>
<td>$288.11 (203.12)</td>
</tr>
<tr>
<td>Monthly utilities*</td>
<td>$229.48 (103.74)</td>
<td>$145.39 (99.52)</td>
<td>$169.77 (107.62)</td>
</tr>
<tr>
<td>Housing wage*</td>
<td>$12.01 (2.34)</td>
<td>$13.39 (4.62)</td>
<td>$13.02 (4.18)</td>
</tr>
</tbody>
</table>

*Significant difference between renters and owners; p<.05.
Table 3.3.

*Health Characteristics by Tenure Status*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Owner (n = 107)</th>
<th>Renter (n = 296)</th>
<th>Total (n = 403)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Mother’s health risk</td>
<td>0.88 (0.90)</td>
<td>1.03 (1.01)</td>
<td>0.99 (0.98)</td>
</tr>
<tr>
<td>Partner’s health risk</td>
<td>0.72 (0.80)</td>
<td>0.66 (0.86)</td>
<td>0.69 (0.84)</td>
</tr>
<tr>
<td>Family insurance*</td>
<td>3.65 (1.77)</td>
<td>2.80 (1.54)</td>
<td>3.03 (1.65)</td>
</tr>
<tr>
<td>Food security*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food secure</td>
<td>65 (64.4)</td>
<td>122 (42.8)</td>
<td>187 (48.4)</td>
</tr>
<tr>
<td>Food insecure</td>
<td>36 (35.6)</td>
<td>163 (57.2)</td>
<td>199 (51.6)</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>4 (3.8)</td>
<td>10 (3.4)</td>
<td>14 (3.5)</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>4 (3.8)</td>
<td>14 (5.0)</td>
<td>18 (4.5)</td>
</tr>
<tr>
<td>Mixed feelings</td>
<td>32 (30.2)</td>
<td>119 (40.5)</td>
<td>151 (37.8)</td>
</tr>
<tr>
<td>Satisfied</td>
<td>45 (42.5)</td>
<td>102 (34.7)</td>
<td>147 (36.8)</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>21 (19.8)</td>
<td>49 (16.7)</td>
<td>70 (17.5)</td>
</tr>
</tbody>
</table>

*Significant difference between renters and owners; p<.05.
Table 3.4.

*Logistical Binomial Regression Analysis Summary for Variables Predicting Homeownership for Low-Income Families in Rural Areas (N=382)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Logistical coefficient</th>
<th>Standard error</th>
<th>Odds ratio</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant’s age</td>
<td>0.03</td>
<td>0.03</td>
<td>1.03</td>
<td>.20</td>
</tr>
<tr>
<td>Participant education level</td>
<td>0.81</td>
<td>0.21</td>
<td>2.24</td>
<td>.00*</td>
</tr>
<tr>
<td>Partner status</td>
<td>1.11</td>
<td>0.43</td>
<td>3.04</td>
<td>.01*</td>
</tr>
<tr>
<td>Participant is Latino</td>
<td>-0.89</td>
<td>0.45</td>
<td>0.41</td>
<td>.05*</td>
</tr>
<tr>
<td>Participant is African American</td>
<td>-0.55</td>
<td>0.67</td>
<td>0.58</td>
<td>.41</td>
</tr>
<tr>
<td>Self currently working</td>
<td>-0.48</td>
<td>0.32</td>
<td>0.62</td>
<td>.13</td>
</tr>
<tr>
<td>Total number of children</td>
<td>0.09</td>
<td>0.30</td>
<td>1.10</td>
<td>.76</td>
</tr>
<tr>
<td>Age of youngest child</td>
<td>0.05</td>
<td>0.06</td>
<td>1.05</td>
<td>.37</td>
</tr>
<tr>
<td>Total number of family members</td>
<td>0.00</td>
<td>0.25</td>
<td>1.00</td>
<td>.99</td>
</tr>
<tr>
<td>Monthly income</td>
<td>0.00</td>
<td>0.00</td>
<td>1.00</td>
<td>.00*</td>
</tr>
<tr>
<td>Food security score</td>
<td>0.75</td>
<td>0.31</td>
<td>2.11</td>
<td>.02*</td>
</tr>
<tr>
<td>Satisfaction with life</td>
<td>0.16</td>
<td>0.16</td>
<td>1.17</td>
<td>.33</td>
</tr>
<tr>
<td>Mortgage/Rent costs</td>
<td>0.00</td>
<td>0.00</td>
<td>1.00</td>
<td>.87</td>
</tr>
<tr>
<td>Utility costs</td>
<td>0.01</td>
<td>0.00</td>
<td>1.01</td>
<td>.00*</td>
</tr>
<tr>
<td>Housing wage</td>
<td>-0.17</td>
<td>0.07</td>
<td>0.85</td>
<td>.01*</td>
</tr>
<tr>
<td>Mother’s health risk</td>
<td>-0.16</td>
<td>0.17</td>
<td>0.85</td>
<td>.34</td>
</tr>
<tr>
<td>Family insurance</td>
<td>0.16</td>
<td>0.12</td>
<td>1.17</td>
<td>.19</td>
</tr>
</tbody>
</table>

Cox & Snell $R^2 = .31$

*Significant at the $p < .05$ level.*
Table 3.5.

Logistical Binomial Regression Analysis Summary for Variables Predicting Homeownership for Low-Income Families in Rural Areas—Partner Data Included (N= 226)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Logistical coefficient</th>
<th>Standard error</th>
<th>Odds ratio</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant’s age</td>
<td>0.03</td>
<td>0.03</td>
<td>1.03</td>
<td>.42</td>
</tr>
<tr>
<td>Participant education level</td>
<td>0.89</td>
<td>0.24</td>
<td>2.44</td>
<td>.00*</td>
</tr>
<tr>
<td>Participant is Latino</td>
<td>-0.89</td>
<td>0.51</td>
<td>0.41</td>
<td>.08</td>
</tr>
<tr>
<td>Participant is African American</td>
<td>-0.23</td>
<td>0.89</td>
<td>0.79</td>
<td>.79</td>
</tr>
<tr>
<td>Self currently working</td>
<td>-0.31</td>
<td>0.38</td>
<td>0.74</td>
<td>.43</td>
</tr>
<tr>
<td>Partner currently working</td>
<td>0.30</td>
<td>0.53</td>
<td>1.35</td>
<td>.57</td>
</tr>
<tr>
<td>Total number of children</td>
<td>0.56</td>
<td>0.45</td>
<td>1.75</td>
<td>.21</td>
</tr>
<tr>
<td>Age of youngest child</td>
<td>0.07</td>
<td>0.08</td>
<td>1.07</td>
<td>.39</td>
</tr>
<tr>
<td>Total number of family members</td>
<td>-0.36</td>
<td>0.41</td>
<td>0.70</td>
<td>.38</td>
</tr>
<tr>
<td>Monthly income</td>
<td>0.00</td>
<td>0.00</td>
<td>1.00</td>
<td>.01*</td>
</tr>
<tr>
<td>Food security score</td>
<td>0.94</td>
<td>0.37</td>
<td>2.55</td>
<td>.01*</td>
</tr>
<tr>
<td>Satisfaction with life</td>
<td>0.19</td>
<td>0.20</td>
<td>1.20</td>
<td>.36</td>
</tr>
<tr>
<td>Mortgage/Rent costs</td>
<td>0.00</td>
<td>0.00</td>
<td>1.00</td>
<td>.50</td>
</tr>
<tr>
<td>Utility costs</td>
<td>0.00</td>
<td>0.00</td>
<td>1.00</td>
<td>.02*</td>
</tr>
<tr>
<td>Housing wage</td>
<td>-0.17</td>
<td>0.08</td>
<td>0.85</td>
<td>.04*</td>
</tr>
<tr>
<td>Mother’s health risk</td>
<td>-0.09</td>
<td>0.21</td>
<td>0.92</td>
<td>.69</td>
</tr>
<tr>
<td>Partner’s health risk</td>
<td>-0.19</td>
<td>0.25</td>
<td>0.83</td>
<td>.44</td>
</tr>
<tr>
<td>Family insurance</td>
<td>0.17</td>
<td>0.13</td>
<td>1.19</td>
<td>.19</td>
</tr>
</tbody>
</table>

Cox & Snell $R^2 = .32$

*Significant at the $p < .05$ level.
CHAPTER 4. GENERAL CONCLUSIONS

General Discussion

The purpose of the present research was to analyze past research on low-income homeownership; emphasizing the benefits of and barriers to homeownership among poor rural families and their children. Many of the variables that were described in past literature in chapter two as having a relationship with housing tenure were then analyzed in chapter three using logistical binary regression, thus completing another goal of the research, to examine variables that predict homeownership for a rural, low-income population. The study aimed to identify variables with the strongest association with housing tenure in order to discover significant differences between owners and renters.

The regression analysis that was completed in chapter three identified seven significant variables associated with housing tenure for the sample of rural, low-income families: education level, partner status, Latino, total monthly household income, food security status, monthly utilities, and housing wage by county. The findings indicate that families whose household head has a higher education will be more likely to attain homeownership compared to households with less education. Those participants that had a partner were more likely to be homeowners. The Latino variable had a negative relationship with housing tenure; participants that were Latino were not as likely to be homeowners as those that were not Latino. An interesting finding was that even though all households represented in this study were low-income a higher total monthly income predicted homeownership. A household that was food secure was more likely to be a homeowner compared to one that was food insecure. There was a positive relationship between monthly utility payments and housing tenure indicating that higher utility costs were associated with
homeownership. Finally housing wage had a negative relationship with tenure status demonstrating that households in county’s that had a lower housing wage were more likely to be owners. A second analysis of a sub sample of the participants that had partners identified five variables as being significant predictors of homeownership; education, monthly income, food security score, monthly utilities, and county housing wage. These variables all had positive relationships with housing tenure, except for housing wage.

The research that was conducted in this paper has general implications for issues surrounding low-income homeownership. As identified through the literature review homeownership can have great benefits for low-income households, especially in accumulating assets and wealth. Other important benefits include better developmental outcomes for children, and better physical and mental health for the whole household. It is noteworthy that many families want to be homeowners, regardless of income, not for the real and perceived financial benefits but for the other benefits as well. Much of the research that has been completed in this area though has not been able to identify causation. It is not known whether ownership causes better outcomes or whether people that are healthier, happier, etc. are more likely to own a home.

For policy makers the information on predictors of low-income homeownership may prove to be beneficial as it may help target households that have a greater chance of entering into homeownership. Policies aimed at increasing the homeownership rate, especially for low-income households, should target those people who possess the characteristics (predictor variables) that were described and found significant in the current research. Service providers who work to secure homeownership for low-income buyers or who implement
first-time homebuyer programs also may find this information useful when identifying potential participants for their programs.

This research is beneficial to service providers and households in rural areas as well. All the participants from this study were from rural counties. A limitation of the study is that although the focus was on low-income households there was no comparison to their metropolitan counterparts. Generalizations may be reasonably made about rural, low-income families however, Hispanics were overrepresented in this study and African Americans were underrepresented; perhaps another limitation of the study. Research on minorities has been more prevalent recently and future research should continue to examine differences in housing tenure status by race and ethnicity especially given continuing diversity in the United States.

Recommendations

Future research should aim to look more closely at the outcomes of homeownership as well as the predictors. The research provided in this paper is important to identifying variables that may help low-income homeowners get into homeownership and help housing advocates and service providers identify who is most likely to be successful in acquiring this form of housing tenure. Further empirical evidence is needed in this area to demonstrate if the benefits and limitations actually do exist for the low-income population and minorities in rural areas. Needless to say homeownership is still part of the “American Dream” and many people still today aspire to achieve that goal. Low-income families deserve the option to receive the benefits of ownership just as much as their higher-income counterparts.

Homeownership is the preferred tenure status in the United States and that can be seen through the increases in homeownership rates over the last few decades. Judging by the
increases in low-income homeownership rates it is evident that these families have the same
desire to achieve homeownership as their upper-income counterparts. However, housing
assistance for this population has mainly focused on rental units. There has been an increase
in the number of subsidies allotted for homeownership options, but that option is not
available to all qualified households. Further research and program and policy evaluation
should aim to identify the most effective way to support families and their housing needs.
APPENDIX A. THEORY OF FAMILY HOUSING ADJUSTMENT

The adaptation-flow model.

## APPENDIX B. A FRAMEWORK OF ASSET-ACCUMULATION STAGES AND STRATEGIES

<table>
<thead>
<tr>
<th>Stages of asset accumulation</th>
<th>Psychological</th>
<th>Behavioral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reallocation</td>
<td>-Set and mentally focus on a saving of asset goal&lt;br&gt;-Use mental accounting&lt;br&gt;-Seek encouragement for saving</td>
<td>-Increase efficiency&lt;br&gt;-Reduce consumption&lt;br&gt;-Increase income&lt;br&gt;-Sell assets&lt;br&gt;-Increase debt&lt;br&gt;-Postpone income in order to receive lump sum payment&lt;br&gt;-Monitor resource flows</td>
</tr>
<tr>
<td>Conversion</td>
<td>-View deposits into savings accounts as obligatory</td>
<td>-Pay savings account first&lt;br&gt;-Arrange for automatic transfers to saving vehicles&lt;br&gt;-Store money informally</td>
</tr>
<tr>
<td>Maintenance</td>
<td>-Adopt simple rules regarding the uses of savings</td>
<td>-Choose financial services that increase the costs of withdrawals</td>
</tr>
</tbody>
</table>

APPENDIX C. FOOD SECURITY MODULE QUESTIONS

1. “We worried whether our food would run out before we got money to buy more.” Was that often, sometimes, or never true for you in the last 12 months?

2. “The food that we bought just didn’t last and we didn’t have money to get more.” Was that often, sometimes, or never true for you in the last 12 months?

3. “We couldn’t afford to eat balanced meals.” Was that often, sometimes, or never true for you in the last 12 months?

4. “We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food.” Was that often, sometimes, or never true for you in the last 12 months?

5. In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn’t enough money for food? (Yes/No)

6. “We couldn’t feed our children a balanced meal, because we couldn’t afford that.” Was that often, sometimes, or never true for you in the last 12 months?

7. In the last 12 months, did you ever eat less than you felt you should because there wasn’t enough money for food? (Yes/No)

8. (If yes to Question 5) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?

9. “The children were not eating enough because we just couldn’t afford enough food.” Was that often, sometimes, or never true for you in the last 12 months?

10. In the last 12 months, were you ever hungry, but didn’t eat, because you couldn’t afford enough food? (Yes/No)

11. In the last 12 months, did you lose weight because you didn’t have enough money for food? (Yes/No)

12. In the last 12 months, did you ever cut the size of any of the children’s meals because there wasn’t enough money for food? (Yes/No)

13. In the last 12 months did you or other adults in your household ever not eat for a whole day because there wasn’t enough money for food? (Yes/No)

14. In the last 12 months, were the children ever hungry but you just couldn’t afford more food? (Yes/No)

15. (If yes to Question 13) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?
16. In the last 12 months, did any of the children ever skip a meal because there wasn’t enough money for food? (Yes/No)

17. (If yes to Question 16) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?

18. In the last 12 months did any of the children ever not eat for a whole day because there wasn’t enough money for food? (Yes/No)

**APPENDIX D. VARIABLE NAMES AND DESCRIPTIONS**

<table>
<thead>
<tr>
<th>Name of Variable</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>housing1</td>
<td>Rent or own housing</td>
<td>Categorical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Rent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = Own</td>
</tr>
<tr>
<td>S_age1</td>
<td>Mother’s age, 12-31-01</td>
<td>Continuous</td>
</tr>
<tr>
<td>S_edu2</td>
<td>Mother’s education level recoded</td>
<td>Categorical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = less than high school</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = high school diploma or GED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = beyond high school</td>
</tr>
<tr>
<td>Latino</td>
<td>Is mother Latino?</td>
<td>Dichotomous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 = No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Yes</td>
</tr>
<tr>
<td>Af_Am</td>
<td>Is mother African American?</td>
<td>Dichotomous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 = No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Yes</td>
</tr>
<tr>
<td>S_ms2</td>
<td>Mother’s marital status recoded into partner status</td>
<td>Dichotomous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 = no partner</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = partner</td>
</tr>
<tr>
<td>S_cw_y1_1</td>
<td>Mother currently working?</td>
<td>Dichotomous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 = No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Yes</td>
</tr>
<tr>
<td>Pj_cwrk1</td>
<td>Partner currently working?</td>
<td>Dichotomous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 = No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Yes</td>
</tr>
<tr>
<td>ttl_n_c1</td>
<td>Number of children</td>
<td>Continuous</td>
</tr>
<tr>
<td>age_youn1</td>
<td>Age of the youngest child</td>
<td>Continuous</td>
</tr>
<tr>
<td>Ttl_fml</td>
<td>Total number of family members</td>
<td>Continuous</td>
</tr>
<tr>
<td>Ave_inc1</td>
<td>Monthly household income</td>
<td>Continuous</td>
</tr>
<tr>
<td>Fsmscor1_1YN</td>
<td>Food secure or insecure</td>
<td>Dichotomous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 = insecure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = secure</td>
</tr>
<tr>
<td>Satisfa1</td>
<td>Life satisfaction</td>
<td>Categorical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = very dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = mixed feelings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 = satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 = very satisfied</td>
</tr>
<tr>
<td>Rent_$1_1</td>
<td>Monthly rent/mortgage</td>
<td>Continuous</td>
</tr>
<tr>
<td>Variable</td>
<td>Description</td>
<td>Type</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Utilitie1_1</td>
<td>Monthly utilities</td>
<td>Continuous</td>
</tr>
<tr>
<td>Elect_$1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas_$1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water_$1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garba_$1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone_$1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable_$1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bill_$1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hwage_county</td>
<td>Housing wage for each county</td>
<td>Continuous</td>
</tr>
<tr>
<td>FamInsu</td>
<td>How many people in family are insured?</td>
<td>Continuous</td>
</tr>
<tr>
<td>M_hlthrsk</td>
<td>Mother’s health risk</td>
<td>Continuous</td>
</tr>
<tr>
<td>Mlf ill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M emo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M pdis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M drug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha=.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P_hlthrsk</td>
<td>Partner’s health risk</td>
<td>Continuous</td>
</tr>
<tr>
<td>Plf ill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P emo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P pdis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P drug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha=.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX E. CORRELATION MATRIX OF PREDICTOR VARIABLES
<table>
<thead>
<tr>
<th>Variable Name</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_age1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S_edu2</td>
<td>.17**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S_ms2</td>
<td>.05</td>
<td>-.18**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latino</td>
<td>.15**</td>
<td>-.32**</td>
<td>.33**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Af_Am</td>
<td>-.13*</td>
<td>.03</td>
<td>-.17**</td>
<td>-.15**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S_cw_y1_1</td>
<td>.09</td>
<td>.17**</td>
<td>-.11*</td>
<td>-.01</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ttl_n_c1</td>
<td>.40**</td>
<td>-.11*</td>
<td>.27**</td>
<td>.22**</td>
<td>.02</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age_youn1</td>
<td>.49**</td>
<td>.10*</td>
<td>-.19**</td>
<td>.09</td>
<td>-.06</td>
<td>.12*</td>
<td>-.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ttl_fml</td>
<td>.23**</td>
<td>-.19**</td>
<td>.48**</td>
<td>.39**</td>
<td>.01</td>
<td>-.02</td>
<td>.80**</td>
<td>-.12*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ave_incl</td>
<td>.26**</td>
<td>.02</td>
<td>.45**</td>
<td>.31**</td>
<td>-.12*</td>
<td>.24**</td>
<td>.33**</td>
<td>.02</td>
<td>.35**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fmscor1_1YN</td>
<td>-.07</td>
<td>.06</td>
<td>-.00</td>
<td>-.02</td>
<td>.13**</td>
<td>.06</td>
<td>-.04</td>
<td>-.02</td>
<td>-.04</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfa1</td>
<td>-.02</td>
<td>-.03</td>
<td>.09</td>
<td>.05</td>
<td>-.03</td>
<td>.15**</td>
<td>-.06</td>
<td>-.04</td>
<td>.03</td>
<td>.09</td>
<td>.19**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent_$ _1_1</td>
<td>.13*</td>
<td>.06</td>
<td>.25**</td>
<td>.20**</td>
<td>-.14**</td>
<td>.11**</td>
<td>.20**</td>
<td>-.03</td>
<td>.22**</td>
<td>.40**</td>
<td>-.06</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilitiel_1</td>
<td>.18**</td>
<td>.01</td>
<td>.24**</td>
<td>.04</td>
<td>.02</td>
<td>-.02</td>
<td>.27**</td>
<td>.01</td>
<td>.21**</td>
<td>.31**</td>
<td>.10*</td>
<td>-.01</td>
<td>.19**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hwage_county</td>
<td>.01</td>
<td>.09</td>
<td>-.17**</td>
<td>-.08</td>
<td>-.02</td>
<td>-.07</td>
<td>-.11**</td>
<td>-.00</td>
<td>-.17**</td>
<td>-.07</td>
<td>-.12*</td>
<td>-.11*</td>
<td>.05</td>
<td>-.10*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FamInsu</td>
<td>.19**</td>
<td>.07</td>
<td>.19**</td>
<td>-.13</td>
<td>.02</td>
<td>.02</td>
<td>.61**</td>
<td>-.02</td>
<td>.44**</td>
<td>.17**</td>
<td>-.04</td>
<td>-.10</td>
<td>.06</td>
<td>.17**</td>
<td>-.01</td>
<td></td>
</tr>
<tr>
<td>M_hlthrsk</td>
<td>.08</td>
<td>.13*</td>
<td>-.14**</td>
<td>-.21**</td>
<td>-.07</td>
<td>-.10*</td>
<td>-.09</td>
<td>.14**</td>
<td>-.15**</td>
<td>-.17**</td>
<td>-.20**</td>
<td>-.19**</td>
<td>-.03</td>
<td>-.05</td>
<td>.11*</td>
<td>.05</td>
</tr>
</tbody>
</table>

*significant at p = .05. **significant at p = .01.
APPENDIX F. INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

Please answer each question. If the question does not pertain to this study, please type not applicable (N/A).

SECTION I: KEY PERSONNEL

☐ Yes  ☒ No  Have there been any personnel/staff changes since the last IRB approval was granted? If yes, complete the following sections (Additions/Deletions) as appropriate.

<table>
<thead>
<tr>
<th>Add</th>
<th>Delete</th>
<th>First Name</th>
<th>Last Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td>Andrea</td>
<td>Bentzinger</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>Dawn</td>
<td>Browder</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>Surema</td>
<td>Benjamin</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>Moises</td>
<td>Perales Escudero</td>
</tr>
</tbody>
</table>

List all members and relevant experiences of the project personnel. This information is intended to inform the committee of the training and background of the investigators and key personnel.

<table>
<thead>
<tr>
<th>NAME &amp; DEGREE(S)</th>
<th>POSITION AT ISU &amp; ROLE ON PROJECT</th>
<th>TRAINING &amp; DATE OF TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kimberly Greder PhD</td>
<td>Associate Prof and Co-PI</td>
<td>September 2000</td>
</tr>
<tr>
<td>Chris Cook PhD</td>
<td>Associate Prof and Co-P</td>
<td>September 2000</td>
</tr>
<tr>
<td>Steven Garasky PhD</td>
<td>Associate Prof and Co-P</td>
<td>September 2000</td>
</tr>
<tr>
<td>Dawn Browder</td>
<td>Graduate Student</td>
<td>February 2003</td>
</tr>
<tr>
<td>Andrea Bentzinger</td>
<td>Graduate Student</td>
<td>2007</td>
</tr>
</tbody>
</table>

SECTION II: CONTINUING REVIEW

In addition to completing Section I: Key Personnel, please complete Section II if this is an application for Continuing Review. If this is an application for continuing review and you will be modifying your project in the future, please complete all sections of the form. If this application is only to request approval for a modification or change to your study, please complete Section I: Key Personnel and Section III: Proposed Modifications or Changes.

1. ☒ Yes  ☐ No  Is the research permanently closed to the enrollment of new subjects?
2. ☐ Yes  ☒ No  Have all subjects completed all research-related interventions?
3. ☒ Yes  ☐ No  Does research remain active only for long-term follow-up of subjects?
4. ☐ Yes  ☒ No  Are the remaining research activities limited to data analysis?
5. ☐ Yes  ☒ No  Subject enrollment has not begun and no additional risks have been identified.

Part A: Enrollment Status

<table>
<thead>
<tr>
<th>Number of Subjects Approved by IRB: 30</th>
<th>Number of Subjects Consented to Date: 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Subjects Consented Since Last Continuing Review: Total: 30</td>
<td>Males:</td>
</tr>
<tr>
<td>Number of Subjects Screened:</td>
<td>Number of Subjects Lost to Follow-up: 9</td>
</tr>
<tr>
<td>Check if any enrolled subjects are:</td>
<td>Check below if this project involves either:</td>
</tr>
<tr>
<td>☐ Minors (under 18)</td>
<td>☐ Existing Data/Records</td>
</tr>
<tr>
<td>☐ Pregnant Women/Fetuses</td>
<td>☐ Secondary Analysis</td>
</tr>
<tr>
<td>☐ Cognitively Impaired</td>
<td>☐ Pathology/Diagnostic Specimens</td>
</tr>
</tbody>
</table>