



PROCEEDINGS OF THE 2009 ANNUAL CONFERENCE OF THE HOUSING EDUCATION AND RESEARCH ASSOCIATION

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- 1948 West Lafayette, Indiana - October 17-19, 1948
- 1957 Urbana, Illinois - October 9-12, 1957
- 1958 Ames, Iowa - October 22-25, 1958
- 1959 Stillwater, Oklahoma - October 7-10, 1959
- 1960 Ithaca, New York - October 12-15, 1960
- 1961 Manhattan, Kansas - October 11-14, 1961
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- 1963 University Park, Pennsylvania - Oct. 30- Nov. 2, 1963
- 1964 East Lansing, Michigan - October 14-17, 1964
- 1965 Columbia, Missouri - November 3-6, 1965
- 1966 **1st AAHE Conference**, Urbana-Champaign, Illinois - October 26-29, 1966
- 1967 2nd Lafayette, Indiana - October 11-14, 1967
- 1968 3rd Athens, Georgia - October 27-29, 1968
- 1969 4th Davis, California - October 15-17, 1969
- 1970 5th Lincoln, Nebraska - October 14-16, 1970
- 1971 6th Blacksburg, Virginia - October 17-20, 1971
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- 1990 25th Columbia, Missouri - October 16-19, 1990
- 1991 26th Durham, New Hampshire - October 15-18, 1991
- 1992 27th Winnipeg, Manitoba Canada - September 16-19, 1992
- 1993 28th Columbus, Ohio - October 6-9, 1993
- 1994 29th Atlanta, Georgia - October 18-21, 1994
- 1995 30th Salt Lake City, Utah - October 11-14, 1995
- 1996 31st Kansas State University, Manhattan, Kansas - October 16-19, 1996
- 1997 32nd New Orleans, Louisiana - October 22-25, 1997
- 1998 33rd International Housing Conference, Seoul South Korea - August 5-8, 1998

- 1999 34th Orlando, Florida - October 18-23, 1999
- 2000 35th Stone Mountain Georgia - November 15-18, 2000
- 2001 35th Big Sky, Montana - July 22-July 25, 2001
- 2002 36th Minneapolis, Minnesota - October 23-26, 2002
- 2003 **1st HERA Conference** - Washington, DC (held in conjunction with AAFCS) -
June 28-30, 2003
- 2004 2nd Chicago, Illinois - October 20-23, 2004
- 2005 3rd Denver, Colorado - October 4-7, 2005
- 2006 4th Cornell University, Ithaca, New York - October 8-11, 2006
- 2007 5th Charlotte, North Carolina - October 23-26, 2007
- 2008 6th Indianapolis, Indiana - October 7-10, 2008
- 2009 7th Santa Fe, New Mexico – November 1- 4, 2009

Refereed Abstracts – Poster Presentations

HAPPINESS WITH HOUSING AND DESIRE TO MOVE AMONG PUBLIC EMPLOYEES IN RURAL GEORGIA

Karen Tinsley, Yoko Mimura, Anne L. Sweaney[†]

What are the current housing characteristics that determine the differences among the following three groups: happy with current housing and do not want to move, unhappy and want to relocate, happy but want to move, or unhappy but do not want to move? To address this question, we used survey data on public employees in a non-metropolitan community in South Georgia to examine the current housing satisfaction and desire for move as a function of housing characteristics of the area sample respondents.

The results of this research are of particular interest to local government officials, extension agents and specialists, human resource professionals and housing and community development practitioners. Providing an environment in which residents can attain the best possible quality of life is an important goal for local community leaders.

Neighborhood Quality, Distance from Work, and Desire for Relocation

Satisfaction with one's housing and neighborhood is positively correlated with a higher quality of life (Sirgy & Cornwell, 2002). One important issue often linked to the desire to move is poor neighborhood quality, which is associated with a voluntary move. Satisfaction with one's neighborhood affects satisfaction with one's housing. Furthermore, neighborhood quality is strongly associated with housing satisfaction (James, 2008), and dissatisfaction with one's neighborhood and housing increase the desire to move (Morris, Crull, & Winter, 1976). Relocation can be classified into two groups: voluntary move and induced move (Clark & Burt, 1980). Voluntary move is a function of housing, accessibility, neighborhood, and lifecycle

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characteristics. Housing factors include cost (price and operating expense), design, quality, square footage, and change in tenure status (own vs. rent). Accessibility factors include accessibility to workplace, shopping, school, family, and friends. Neighborhood factors include quality, physical environment, social composition, and public services. Lastly, the lifecycle factors include household formation, change in marital status, and change in household size (Clark & Onaka, 1983).

Beside neighborhood quality, another major reason to move is the distance from the work place. There are various studies on this topic. One study (Clark & Huang, 2002), for instance, examined teachers living in the Atlanta, Georgia metropolitan area (Fulton County) who moved between 1999 and 2000 (n=529) and confirmed that the probability of moving was the function of distance from the work place, and there was a threshold in terms of distance.

Data and Methods

The data used for this research was obtained from a survey conducted by the Housing and Demographics Research Center (HDRC) at the University of Georgia in the fall of 2006. There were 916 usable responses. The respondents included employees of the City of Moultrie, Colquitt County, Colquitt County Schools, and Colquitt County Regional Hospital. The sample is fairly representative of the public employees in the county.

The response variable was created from two survey items: happiness with the current housing (yes vs. no) and desire to move (yes vs. no). The new variable has three categories, where the best situation is happy and do not want to move (2), the medium situation has two combinations, happy but want to move or unhappy but do not want to move (1), and lastly, the worst situation is unhappy and want to move (0). The distribution of the sample was 64.2%, 17.2%, and 18.6%, respectively.

Because the response variable takes three categorical levels, cumulative logistic regression was used to examine the housing characteristics that are different among the three groups. The probability of being in the worst situation (0), as opposed to better situations (1, and 2), is modeled. The explanatory variables considered were the housing characteristics such as number of rooms, structure type, ownership status, presence of a problem with the house, self-assessed over-crowdedness, and two variables related to the location: distance from work (too far from work) and neighborhood quality (poor neighborhood). From several household socio-demographic characteristic variables that were available, age of the respondent and whether the respondent was the householder or not were included.

Findings

The results of the cumulative logistic regression show strong correlations between housing characteristics and the response variable (ranked 2, 1, and 0 as described earlier). Specifically, having more rooms, living in a single-family site-built home, and being a homeowner were associated with *increases* in the response rank (*decreases* in the odds of being in the lower rank.) House having a problem, not having enough space, being too far from work, and living in a poor neighborhood were associated with *decreases* in the response rank (*increases* in the odds of being in the higher rank). Among these variables, poor neighborhood was associated with the greatest change in the odds of being in the lowest response rank. Being older and not being the householder were associated with an increase in respondents' rating of the current housing situation.

Conclusions and Discussion

The survey respondents were more likely to have been unhappy with their home or to have shown interest in moving when they lived in a poor neighborhood. The importance of

neighborhood cannot be overlooked. Therefore, it is essential that community housing programs be developed with the neighborhoods as the focal point.

Comprehensive planning for existing and future needs is the primary way to formulate a communities' vision and implement plans related to housing goals (Carl Vinson Institute of Government, 2005). Understanding the factors associated with the desire to move and residents' happiness with their current housing can help local leaders develop policies, ordinances, and funding programs and facilitate the appropriate use of housing tools and resources for rehabilitation, redevelopment, land use, zoning, neighborhood revitalization, homebuyer education and counseling, public relation campaigns and other activities. For example, implementing a first-time homebuyer program for public employees is an important tool available to help these employees afford to live in adequate housing in the communities in which they serve. Furthermore, conducting the survey and disseminating the results could be a way for communities to build relationships with residents and neighborhood groups, which in turn could improve resident evaluations or happiness with the city, housing and neighborhood (Bruning, Langenhop, & Green 2004).

References

- Bruning, S. D., Langenhop, A., & Green, K. A. (2004). Examining city-resident relationships: linking community relations, relationship building activities, and satisfaction evaluations. *Public Relations Review*, 30, 335-345.
- Carl Vinson Institute of Government. (2005). Planning. In B.J. Hudson & P.T. Hardy (Eds.). *Handbook for Georgia Mayors and Councilmembers*. (p. 201). Athens, GA: University of Georgia.
- Clark, W. A. V., & Burt, J. E. (1980). The impact of workplace on residential relocation *Annals of the Association of American Geographers*, 70(1), 59-66.
- Clark, W. A. V., & Huang, Y. (2002). *Commuting Distance Sensitivity and Race and Socioeconomic Status*. Unpublished manuscript.
- Clark, W. A. V., & Onaka, J. L. (1983). Life Cycle and Housing Adjustment as Explanations of Residential Mobility. *Urban Studies*, 20(1), 47-57.
- James, R. N. (2008). Residential satisfaction of elderly tenants in apartment housing. *Social Indicators Research*, 89(3), 421-437.
- Morris, E. W., Crull, S. R., & Winter, M. (1976). Housing Norms, Housing Satisfaction and the Propensity to Move. *Journal of Marriage and Family*, 38(2), 309-320.
- Sirgy, M. J., & Cornwell, T. (2002). How Neighborhood Features Affect Quality of Life. *Social Indicators Research*, 59(1), 79-114.

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Table 1

Logistic Regression Estimate of Housing Happiness and Desire to Move

Variables	df	Odds Ratios	Wald Chi-square
Intercept 0	1	0.18	0.33
Intercept 1	1	0.78**	13.23
Number of rooms	1	0.87**	7.22
Single-family site-built home	1	0.65*	5.67
Homeowner	1	0.24***	49.57
House has problem	1	2.65***	31.21
Not enough space	1	10.62***	137.76
Too far from work	1	20.46***	15.85
Poor neighborhood	1	82.67***	29.63
Age of the respondent	1	0.98*	5.57
The respondent not the householder	1	0.41**	9.95

Note *** Significant at $p < 0.0001$; ** Significant at $p < 0.01$; * Significant at $p < 0.05$.

**CONSIDERING THE WHITE HOUSE IN 2009:
UTILIZING AN AMERICAN LANDMARK TO TEACH ABOUT
LIGHTING TECHNIQUES**

Paulette Hebert[†]

Background

The purpose of this poster presentation is to document one of the lighting design projects developed in a required, semester-long, lecture/lab course for junior year students in an interior design program at a large state university in the mid-west. The instructor for this course was an interior design Professor, who was also a practicing lighting designer and a registered interior designer.

The Project

In partial fulfillment of the course's objectives, three projects were assigned to the students. The first project for the course was entitled "Lighting Techniques: Considering the White House in 2009". The current presentation focuses on this project, in which students were required to utilize professional and amateur photographs, produced by others, of one of America's best-known landmarks, the White House, as aids to meet the project objectives. These objectives included: to expand students' lighting design vocabulary; to increase students' exposure to images of significant American buildings; to encourage students to explore, identify, and critique the manifestation of lighting techniques found in images of the White House; to engage design students in synergy with "current events" in housing. All images of the White House, whether related to the personal life or the public life of those living, visiting, or working in the White House, were deemed acceptable material for this project.

[†] Paulette Hebert, Ph.D., Professor, Oklahoma State University

The lighting techniques studied were those described by Smith and Bertolone in their publication, *Bringing Interiors to Light* (1986). They include grazing, light as art, backlighting, highlighting, uplighting, downlighting, beam play, shadow play, wallwashing, structural lighting, silhouette, and sparkle. These techniques have been created by the relative locations, mounting, and/or aiming of light sources, the specific types of fixtures selected, the quantity of light at certain angles, and the use of diffusing media. The techniques' criteria support the position of the Illuminating Engineering Society that lighting is both an art and a science, utilizing both qualitative and quantitative criteria (Rea, 2000).

During the course's lecture component, students were introduced to the lighting techniques in a two-hour PowerPoint slide show developed by the instructor. Selections from the instructor's annotated collection - content analyses from lighting design, interior design, home and garden, and shelter magazines, as well as field study photographs - were provided to illustrate lighting techniques in "found" applications. The images presented to the students included those from single family residences, multi-family housing, and commercial installations.

In the lab component of the course, students were required to select images of the White House, to explain the techniques used in the images, and to support their conclusions. Students were allowed to use contemporary or historic images, color or black and white photographs, and print or electronic media sources with proper citations.

The project submissions were required to consist of a cohesive and visually compelling “package”. The formats for the deliverables were (1) a series of up to four 20” x 30” graphic boards and (2) a CD, containing a PowerPoint presentation, in a jewel case with a custom graphic insert.

The time frame for the three-week-long White House lighting techniques assignment was established by the instructor to coincide with a significant current event, the inauguration of President Barack Obama. The intent was to capture the imagination of the design students, during a time when they were exposed to high doses of media depictions relative to the White House.

Criteria used to evaluate the students’ work included: appropriate manifestation and understanding of the twelve lighting techniques and visual composition. Student’s submission goals included: a coordinated and appealing visual presentation (PowerPoint slides in a labeled CD with custom graphic insert and a color board presentation) and a succinct oral presentation.

The Outcomes

There were a total of thirty three student enrollees in the two course sections with unanimous representation in the current project. All participants found representative images for each of the twelve lighting techniques. The sources for the images selected by the students included: historic images, obtained from books that focused exclusively on various physical aspects of the White House and its collections; historic photographs located through the White House Historical Association (WHHA) website; current and

older photos found through the White House's website; and a variety of pictures discovered through various tourists' blogs, and various print media outlets.

There was some duplication among the images selected. However, most students were able to find their own unique representation of the twelve techniques. Although the White House is home to America's First Family, it also houses many important non-residential activities. Because of the dual nature of the White House, students were able to locate many interesting lighting solutions and situations, including those found in the First Families' living quarters and the State Dining Room. The historic nature of the White House also provided special opportunities to study lighting. For example, students discovered images of daylight filtering through vintage textiles. Some White House images were identified as manifesting more than one lighting technique.

The students verbally presented the completed projects to their instructor and peers simultaneously. In addition, one of the projects was selected by the instructor for presentation at an enrichment event for the spouses of the state's Board of Regents. The purpose of the event was to profile educational achievements at the University and was declared a success by the hostess, the University's First Lady.

Additionally, some of the students indicated that they had been watching the concurrent, expanded television coverage of the First Family's home, during the project's timeline. Media coverage featured both the current and imminent occupants: the former, regarding their memories, and the latter, regarding their new plans for the White House. These programs included the formal pre-inauguration visit between President-Elect and Michele Obama with President and First Lady Laura Bush, the

actual Inauguration Day's activities, and the coverage of the First Families' respective departure from and arrival at the White House. Many students indicated that this project had not only facilitated an understanding of lighting techniques, but had also heightened their interest in political events in the United States and in the physical aspects of the White House, itself.

References

Rea, M., (Ed.). (2000). *The IESNA lighting handbook* (9th ed.). New York: Illuminating Engineering Society of North America.

Smith, F.K. & Bertolone, F.J. (1986). *Bringing interiors to light: The principles and practices of lighting design*. New York: Whitney Library of Design.

ANTI-MANSIONIZATION: THE IMPORTANCE OF SMALL-SCALE HOUSING

Joseph Panzer, Hyunjoo Kwon, Kathleen Parrott[†]

There is an explosion of information on sustainable or “green” building. Sustainable issues can be seen in society through Earth Day, LEED Building Standards and even Energy Star appliances, but is green building really put into practice? For years, American preferences stressed the need for larger, single-detached housing and having more space (Wilson & Boehland, 2005). However, with today’s economic hardships and limited resources, small-scale housing or ‘anti-mansionization’ could become the preference. Smaller, sustainable homes are beneficial and are becoming desirable, while larger homes are struggling for prowess.

Defined as the “achievement of balance and a plan for long term growth and nurturing” (Parrott, 1997), the sustainable philosophy is applied to construction of sustainable or “green” buildings. Reduced building size is key to the development of sustainable or environmentally friendly buildings (Wilson & Boehland, 2005). Thus, the idea of sustainable living in single-family dwellings is linked to its small-scale nature being desirable (Wilson & Boehland).

“Bigger is better” has been a predecessor in real estate, but the modern homebuyer is questioning the status quo (Wilson & Boehland, 2005), and is becoming interested in quality, more than size (Susanka, 1998). Attitudes and behavior are two areas of housing research suggesting preferences in sustainable design and building construction that reflect consumers’ knowledge regarding these issues (Dibb, 1994; Dibb et al., 1987). There is overwhelming evidence focusing on the appeal of providing small-scale housing in the United States (Ahn, Parrott, Beamish, Emmel, 2008). Tremblay and Imai (2000) suggest that one of the most important environmental designs is to minimize the interior space to a maximum of 1,500 finished square feet. According to *The Indianapolis Star* (as cited in Ahn et al.), with

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sustainability at its peak, demand for smaller, one-story, maintenance-free homes is exceeding supply.

Designers today like to utilize a smaller building envelope with a higher degree of finish quality and amenities (Wilson & Boehland, 2005). Material selection in small-scale, sustainable housing is important, as materials that require less energy during their life have a lower environmental impact (Tremblay & Imai, 2000). However, it is easier to reduce consumed energy by building a smaller home than by searching for more energy-conscious materials (Wilson & Boehland). Additionally, the house form and orientation of small-scale housing should be responsive to local climate characteristics to maximize heating and cooling efficiency (Crosbie, 1994).

Nielson (as cited in Ahn et al., 2008) reports that in small-scale, space efficient housing kitchen space planning is the most important design decision. This could be attributed to the fact that kitchens serve as the hub for all activity in a family and because the kitchen is expected to provide various functions for the home. Additionally, space planning in small-scale housing should utilize open space, whether with ceiling height or minimizing furniture. Open space planning creates the sense of more square footage. Creating flexible, multiuse space results in fewer rooms and less square footage. It also will maximize efficient storage spaces, creating less visual clutter.

According to Sell (as cited in Ahn et al., 2008), small-scale homes can be less expensive to build, less expensive to buy, more energy conscious, and easier to maintain, while still being conscious of style and comfort. If comparing small-scale housing to large-scale housing, even a small home built to moderate energy-performance standards would use significantly less energy than the large-scale home (Wilson & Boehland, 2005). Well-positioned windows that utilize

daylighting, flexible floor plans (balconies, patios, rooftop living areas), and unique storage options are reasons small-scale housing can be conscious of both style and comfort (Ahn et al.).

The outdoor area, if utilized correctly, can extend the indoor living area in a small-scale home to make it seem larger. Landscaping can additionally decrease energy consumption through shading of larger, more mature plants to cut down on solar heat gain.

While it is certain the problem statement holds true in evaluating the benefits in sustainable building construction, there is an obligation for continued improvement in technology and design to develop sustainable systems in housing (Tremblay & Imai, 2000). Materials should utilize what is locally available, as well as naturally occurring substances that are durable, efficient, recycled or renewable (Tremblay & Imai). As for new homebuyers, knowledgeability and perceptions drive the attitude toward sustainable designs (Dibb, 1994). Increasingly, governments, developers and homeowner's associations utilize 'anti-mansionization' laws to combat the increasing home size. For example, in subdivisions of Dewees Island, South Carolina, covenants have been established to limit home sizes (Wilson & Boehland, 2005). To help garner the success of small-scale, sustainable houses, builders should involve knowledgeable professionals, like a designer who focuses on compact house design. Both builder and designer can adequately explain the benefits of smaller homes (Wilson & Boehland).

Small-scale housing needs to become more prominent in sustainable design. By building small-scale housing, it will further question the status quo of "bigger is better". If more people would abide by the necessity of less square footage, rather than the want for more, housing would be more sustainable and better for the environment.

Future Research

The general public may not believe in small being better. It is difficult to point fingers in society at what led to a change in “bigger being better”, but what needs to change is the mentality of want over need. Building small-scale housing immediately, while not sacrificing amenities, would be sustainable.

Additionally, future research into economic effects of mansionization would solidify a trend in bigger not being better. While energy conservation and climate responsiveness are becoming more prevalent, how much of an effect does that really have on downsizing. Compared to the economic downturn, many would beg to differ. Not only this, but preference in small-scale housing differs amongst homeowners. Which trends will have longevity? Which space is the most important? Answering these questions in future research would strengthen the value of this study.

References

- Ahn M., Parrott K., Beamish J., & Emmel J. (2008). Kitchen space planning in small-scale houses. *Housing and Society*, 35, 83-96.
- Crosbie, M. (1994). *Green Architecture*. Washington DC: AIA.
- Dibb, S. (1994). Modelling in new housing choice-- an application. *OMEGA - The International Journal of Management Science*. 22, 589-600.
- Dibb, S. and Wensley, R. (1987). Energy efficient house design: the analysis of customer choice. *MEG Conference Proceedings* (Edited by Wensley, R.), Warwick.
- Parrott, K. (1997). Environmental concerns and housing. *Housing and Society*, 24(3), 47-68.
- Susanka, S. (1998). *The not so big house*. Newton, CT: Taunton Press.
- Tremblay, Jr., & Imai (2000). Designing sustainable housing. *Housing Science*. 24, 205-214.
- Wilson, A., & Boehland, J. (2005). Small is beautiful: U.S. house size, resource use, and the environment. *Journal of Industrial Ecology*, 9(1-2), 277-287.

SMART HOME FOR AGING-IN-PLACE

Hyunjoo Kwon, Joseph Panzer, Kathleen Parrott, Julia O. Beamish, Yeunsook Lee[†]

Introduction

A significant concern as people grow older is that they may have to leave their home. As people get older, they can experience physical and psychological decline and they may need help from other people. This would mean leaving behind a comfortable setting, familiar community, and many memories. In addition, a certain amount of control is lost when one leaves home. This "control" provides the underpinning to feelings of dignity, quality of life, and independence. One's home is a strong element in that sense of security. The U.S. Census Bureau (1999) predicted that the population of older adults in this country will more than double in the next 25 years. On the other hand, most seniors desire to stay in their homes for the rest of their lives. According to the American Association of Retired Persons (2000), 89% of older adults want to age-in-place, as opposed to moving to institutional care settings. As this large group ages, they will need a proportionally large amount of safe, flexible housing to suit their changing needs (Memken & Earley, 2007).

To make possible an aging-in-place environment, products and services should support older adults' Activities of Daily Living (ADLs). ADLs are personal maintenance tasks performed daily, such as eating, getting in and out of bed, bathing, dressing, toileting, and getting around indoors (Katz & Akpom, 1976). A combination of technology and accessible environment, often conceptualized as the smart home for aging-in-place, is one of the possibilities to support independent living of older adults. The objective of a smart home for aging-in-place is to support older adults' independent living as long as possible. This paper examines a study of smart home

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design items or features that can enable older adults' to complete daily activities of living and allow older adults to live independently or age in place.

Activities of Daily Living and Instrumental Activities of Daily Living

To measure the level of functioning, social workers generally assess the types of activities that older people are able to complete on their own (Rogers, 2006). These activities fall into two general categories: 1) activities of daily living (ADL), and 2) instrumental activities of daily living (IADL). According to the performance abilities of these activities, older people may determine whether they live independently in their current houses or move to care facilities. In this study, 12 essential activities for older adults' independent living were identified: transferring, toileting, face washing, bathing and showering, eating, food preparation, dressing, laundry, housekeeping, operation of home appliances, responsibility for own medications, and ability to use telephone.

Smart Home for Older Adults

Smart homes for older adults include not only technology, services, but also design of the physical environment to support older adults' who may experience physical and cognitive changes due to the aging process. To design homes for older adults across a variety of physical, psychological, and financial circumstances, we need to understand their needs effectively. For this study, decline in several physical attributes (muscular strength, articulation of bone, vision, hearing, sense of touch) in older adults were considered. In addition, areas of a home including entrances, living room, bedroom, bathroom, kitchen and dining room, and laundry room and 12 daily activities were classified by high probabilities. In this study, 47 design items which are commercially available or under development were identified through literature review (Kwon, 2008; KNHC, 2000; Lee, 1994; Song, 2006), field studies of Smart Medical Home

in University of Rochester, Aware Home in Georgia Tech, Living Tomorrow in Belgium, Digital home in Korea and ABC Houses in Japan, and internet survey.

Entrance

The main access, entrance, should be designed to allow people with wheelchairs, walkers or canes to use. Six design items were proposed: no-step and flush thresholds, non-slippery floors, 34"-36" wide doors, lever door handles, motion sensor lights, and fingerprint door locks.

Living room

The living room is not only a personal area for rest but also a social area for other family members or friends. Living room design items include easy window lock, lift chair, picture button telephone, motion sensor concentrated lighting, and robot vacuum.

Bedroom

The bedroom is a place for sleeping, resting, dressing, and other activities. Eight design items for bedroom are: light switches with lighting, large and simple thermostats, window grips, organized storage, adjustable-height hangers, motion sensor lights, home appliance remote control, and voice activated lighting.

Bathroom

According to the research of Andes and Beamish (2008), bathrooms are one of the most important locations and need to be designed for older adults' needs of safety and ease of use. Seventeen design features were introduced: raised toilet seat with grab bars, big toilet flush button, bidet, simple and easy bidet control buttons, 36" high counter tops, single lever handle on faucets, basin with grab bars, tilt mirror, mirror with lighting, magnifying mirror, bath tub chair,

bath tub and shower with grab bars, bathtub with non-slippery material, shower chair, intelligent emergency service, intelligent bath tub, and health checker.

Kitchen and Dining Room

Kitchen design should be considered for older adults' safety and convenience in food preparation and cooking. Eighteen kitchen design features include: sink with grab bars, handcart, pedal faucets, range with large buttons, easy clean flooring, easy clean sink, refuse compressor, sink chair, sliding drawers, adjustable-height sink, spotlight on sink area, mirror under cabinet ceiling, C-type cabinet handle, counter top sill, automatic gas shut-off valve, smart refrigerator, automatic ventilation fan, and medication timer.

Laundry Room

The laundry room, usually connected to a kitchen or a living room, is used for washing and drying clothes. Laundry room design items are: diagonal wash and dryer, smart wash and dryer, and home appliance faultfinder.

Summary

This study of *smart home for aging-in-place* focused on the basic design features for older adults' daily living based on their physical aging process and examined 47 design items. Future study may include older adults' emotional and psychological characteristics, as well as physical characteristics for their housing design. Moreover, lifestyles of baby boomers who are aging and strongly want independent living need to be considered.

References

- American Association of Retired Persons (1999). *A profile of older Americans 1999*. Washington, DC: AARP, Resource Services Group.
- Andes, G. G., & Beamish, J. O. (2008). Development and use of the supportive bathroom features checklist in homes designed for retired persons. *Housing and Society*, (35)2, 139-168.
- Harris, D. (1988). *Dictionary of gerontology*. New York, NY: Greenwood Press.
- Katz, S. & Akpom, C. A. (1976). A measure of primary sociobiological functions. *International Journal of Health Services*, 6, 493-507.
- Korea National Housing Corporation. (2000). *Development on the model of intelligent apartment housing corresponding to residents' characteristics*. Seoul, Korea: Korean National Housing Corporation Press.
- Kwon, H. (2008). *Behavior-based design of aging-friendly digital home using a web-based survey*. Unpublished master thesis, Yonsei University, Seoul, Korea.
- Lawton, M. P. & Brody, E. M. (1969). Assessment of older people: Self-maintaining and instrumental activities of daily living. *Gerontologist*, 9, 179-186.
- Lee, Y. (1996). *Aging friendly housing design guidelines*. Seoul, Korea: Yonsei University.
- Memken, J., & Earley, N. (2007). Accessible housing availability for the growing U.S. elderly population. *Housing and Society*, 34(1), 101-115.
- Rogers, A. (2006). *Human behavior in the social environment*. New York, NY: McGraw Hill.
- Song, J. (2006). *Ubiquitous house model based on the human behavior*. Published dissertation. Yonsei University, Seoul, Korea.
- U.S. Census Bureau (1999). *1951-1994 statistical abstracts*. Retrieved April 15, 2009, from <http://www.census.gov/>

**EDUCATIONAL VIDEOS TO ENHANCE
TEACHING SUSTAINABILITY IN HOUSING, INTERIORS AND RELATED COURSES**
Sandra C. Hartje, Sharleen Kato, Beth Miller[†]

The Queensland, Australia Department of Housing promotes 'smart housing' as good practice in designing, planning and building homes to make them more socially, environmentally and economically sustainable. These three dimensions are oftentimes referred to as the three-legged stool, the three pillars or the triple bottom line of sustainability. The ability to live in one's home throughout the lifespan, move about safely, and feel secure reflects social sustainability; the efficient use of resources reflects environmental sustainability; and the cost-efficiency over time reflects economic sustainability. A fourth dimension emphasizes how societies and economies rely on the natural world, suggesting that no subsystem can expand beyond the capacity of the total system of which it is a part. In 1989, the World Commission on Environment and Development (Brundtland Commission) articulated what has become a widely accepted definition of sustainability: to meet the needs of the present without compromising the ability of future generations to meet their own needs. Beyond defining sustainability, the Earth Charter Initiative identifies values that give direction to future achievement and a sustainable global society, including respect for nature, universal human rights, economic justice, and a culture of peace. To live these values, all people must be responsible to one another, to the greater community of life, and to future generations.

Sustainability related to housing can be studied and managed in various contexts and from different perspectives. For example, if the house and site represents the basic context, then community and state represent a broader context and interiors and furnishings represent a narrower context. Furthermore, each of these contexts, or parts within, can be studied from a

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social, environmental, and economic perspective. The focus can range from the total carrying capacity of the planet to the capacity of the component parts.

With housing, sustainability issues are present in all phases of production and consumption, producing negative effects on individuals and the environment, from high operating costs (including energy), to unhealthy interior environments, to the creation of enormous amounts of waste and the depletion of natural resources.

Helping Students Make an Intellectual and Emotional Connection to Sustainability

Sustainable design is one of the fastest growing segments of the interior design and housing industry as designers and builders recognize the long-term benefits of environmentally responsible design. Given that, how do educators teach students about sustainability, addressing both the big picture and the component parts? How do we move student thinking from a conventional way of doing things to a new way of doing things? How do we facilitate both an understanding of and a desire to design and build sustainably?

Housing and interiors educators have an obligation to prepare students to engage with sustainability issues, yet instructors often find it challenging to communicate their complexity, which require both intellectual and emotional modes of learning. High quality audiovisual materials can be used to support instructional objectives and enhance course content by facilitating student learning through observing, analyzing and discussing the concepts.

Today, there are a plethora of audiovisual learning resources that can help introduce students to general concepts of sustainability as well as more specific applications to energy efficiency, renewable resources, social justice issues, etc. Television and movies, the most obvious, are an effective medium because most students are naturally television and movie viewers and very current issues related to sustainability can be presented. And, as the technological capabilities expand, the sheer number of audiovisual resources increases with

streaming media and video files. Streaming media are live television or radio 'feeds'. Video files, created professionally and with webcams, are available from video rental providers or can be conveniently accessed via the internet from public websites, such as You Tube®.

The purpose of this review was to guide instructors in selecting audiovisual resources that present issues of sustainability related to housing and/or interiors.

Method of Selection

Resources were reviewed that were produced after 2000 and could be used to either introduce sustainability issues in general or that were relevant to housing, interiors and related courses. Traditional educational DVDs, You Tube® videos and other on-line sources were all used. To identify resources, we contacted major distributors of educational videos, conducted on-line searches, perused educational television programming, and explored You Tube® entries. Sixty-seven (67) resources were viewed, varying in length from short clips to full length programming. The cumulative viewing time between three evaluators totaled at least 96 hours.

Selection Criteria

Each audio/video resource was reviewed by two evaluators based on established criteria. The videos were also given an overall rating of 1-10, with 10 being the most effective for classroom use. Although some videos were of high production and content quality, they were rated lower and not included on the final list of recommendations due to their incompatibility with housing, interiors and related courses, rather than on program quality.

The results are a list of 19 recommended audiovisual resources presented in the categories of 1) general sustainability issues, 2) cities, housing and construction, and 3) textiles, materials, and interiors. Each category includes the resources with the highest ratings, listed in alphabetical order. Each resource could be used in college classrooms, is relevant to

sustainability issues related to housing and interiors, is professional, and could be easily incorporated into lectures and effectively used to stimulate discussion and analysis. A synopsis of each resource is provided, along with some evaluator comments.

Hopefully, this list of recommended audiovisual resources will be useful to instructors of housing and interiors courses in meeting course objectives. The list provides a good starting point in the search for materials that will challenge students on both the intellectual and emotional level to understand and engage sustainability issues related to their field, both in general and specific ways. If educators can effectively accomplish this task, all of society will benefit, including individuals and households, the economy and the environment.

STUDENT HOUSING FAIRS: A SERVICE-LEARNING OPPORTUNITY PROVIDED BY UNIVERSITY HOUSING STUDENTS

Carla Earhart, Lindsey Earhart, Steven Moll[†]

Introduction

Student housing fairs are an efficient way to bring together university students looking for a place to live and housing providers with dwellings available for rent. Housing providers pay a fee to set up a booth to attract students to their specific residence halls, apartment communities, or rental houses. University students are able to meet with multiple housing providers in one location and compare them side-by-side before making a housing decision.

These housing fairs are held at numerous universities several months before the fall semester move-in, and are typically sponsored by the university's Student Affairs office. At Ball State University, the annual Student Housing Expo is hosted by the Residential Property Management Association (RPMA), an organization comprised of RPM majors and minors. The housing fair allows RPM students to take what they are learning in the classroom and apply it in a real world situation. In addition, they are providing a service to the university, students, and housing providers.

Purpose

According to Eyler and Giles (1999), service-learning not only provides a positive end result for community partners but also has powerful learning consequences for students involved. Studies have shown that students involved in service-learning have, among other attributes, improved grades, greater personal and social responsibility, and

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a higher level of leadership skills. This poster presentation focuses on the planning and implementation of the Student Housing Expo at Ball State and other universities, and how university housing faculty can develop a similar service-learning opportunity for their own students.

Student Housing Fairs at Other Universities

An online search for student housing fairs reveals that several universities are now hosting such events:

- Ohio State University: http://offcampus.osu.edu/landlord_housingfair.asp
- Bowling Green State University:
<http://www.bgsu.edu/offices/sa/offcampus/page22304.html>
- University of Connecticut:
http://www.offcampus.uconn.edu/housing_fair_spring_2009.html
- Colorado State University: <http://ocssral.colostate.edu/housing-fair.aspx>
- University of Texas: <http://www.utexas.edu/tsm/advertise/housing-fair-2009.shtml>
- Texas A&M University:
<http://studentlifestudies.tamu.edu/sites/studentlifestudies.tamu.edu/files/results/fu//26-full.pdf>

Planning and Implementation

Although many students are needed to carry out the activities of the Ball State Student Housing Expo, it has worked best for one member to chair the overall event, with sub-committees working under the chair to distribute the responsibilities. All sub-committees must be in constant communication with the chair and with each other due to overlapping activities.

Facilities. Setting the date/time and securing the venue must be done early. The ideal location is one that provides maximum student traffic but is also easily accessible to off-campus housing providers. While other universities hold their housing fairs as early as October or as late as June, ranging from two hours to two days, the RPMA housing fair is held over a five-hour period in the middle of the day in November in a central campus food court location.

To aid off-campus housing providers in maneuvering the often-confusing campus environment, visitor parking passes and campus maps are needed. These should be obtained from Parking Services at least two weeks in advance and sent to housing providers.

Housing providers set up their booth one hour before the event, on a first-come basis. Many decorate their booth in attention-getting colors/products to capture the interest of prospective student renters. Some will serve refreshments and/or award door prizes. Many housing providers that will waive or offer discounts on their application fees on the day of the housing fair to further entice prospective renters.

Housing Providers. As soon as the date and location of the housing fair are established, on-campus and off-campus housing providers should be invited. The list of potential participants will grow over time, but the initial list for the Ball State RPMA Student Housing Expo was generated through telephone directory listings, online listings, members of the area landlord association, and those that advertise in the campus newspaper.

The initial invitation should include details of the event, a registration form/contract, and a contact for further information. Although many other universities charge higher

fees, the fee for the Ball State housing expo is \$90 for a full table. A half-table is also available for a reduced fee for smaller housing providers. It is important to establish a deadline for payment, then to follow up with any housing provider that has not responded by the deadline. On-going communication regarding parking, set-up, and other details should be maintained.

Promotions. Another committee is needed to promote the housing fair to university students. A variety of methods have been used at Ball State, including all-student email, advertisements in the campus newspaper, table tents in campus food courts, t-shirts worn by RPMA members before and during the event, signage in major campus locations, and fliers distributed at major campus pedestrian intersections.

Participating housing providers also provide additional advertising with individual ads in the campus newspaper, encouraging students to visit their booth at the housing fair. Some housing providers also promote the event through their own banners and fliers. One year RPMA was able to coordinate the event with the publication of the university's annual Renter's Guide, which also promoted the event.

Conclusion

The RPMA Student Housing Expo has been a successful service learning experience. In its most successful year, 20 housing providers and over 200 students attended the "one-stop shopping" event, with both groups reporting positive experiences. RPMA members are able to apply classroom knowledge in a variety of circumstances, including organization, communication, marketing, customer service, financial management, and others. The organization has also raised several hundred dollars from the event.

After assessing the event, these issues are being considered for future student housing fairs:

- Connect the event to a housing course instead of the student organization;
- Collaborate with the university's division of Student Affairs to host the event;
- Invite related businesses, such as rental furniture and renters' insurance, to participate in the event;
- Provide an educational component to the event by hosting a seminar on student rental rights and responsibilities presented by the university's student attorney;
- Identify a charitable organization for the proceeds of the event.

References

Eyler, J., & Giles, D.E. (1999). *Where's the learning in service-learning?* San Francisco, CA: Jossey-Bass.

COMBINING HOUSING, FINANCIAL, AND RELATIONAL COUNSELING: A HOLISTIC APPROACH

Gina G. Peek, Leslie E. Green-Pimentel[†]

Introduction

With the 2008 and 2009 economic downturn in the United States, individuals and families are facing substantially more financial stress resulting from reduced incomes, increased debt, and the possibility of eviction or foreclosure. Moreover, couples are likely experiencing increased relational stress as a response to or in tandem with financial stress. Prior research has demonstrated a positive association between financial and relational stress (Aniol & Synder, 1997; Blumstein & Schwartz, 1983; Johnson, Lee, & Schramm, 2006; Locke & Wallace, 1959; Miller, Yorgason, Sandberg, & White, 2003; Spanier, 1976). From a theoretical perspective, understanding individual well-being requires a well-rounded approach. Bronfenbrenner's Ecological Theory provides a holistic understanding into individual well being within a biological, social, and cultural systems context (Bronfenbrenner, 1979).

Project

In 2008, a professor of family financial planning and two professors of marriage and family therapy from a southern university saw the need to combine relational therapy with financial counseling. A program was developed to aid couples seeking assistance with financial and relational issues. The program focused on increasing client satisfaction by taking a holistic approach to well-being and emphasizing the link between financial and relational health.

Therapy was provided by graduate students with expertise ranging from housing, family financial planning, child and family development, and marriage and family therapy (MFT). During sessions, each couple was paired with two graduate counselors, one with financial

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expertise and another with relational expertise. The counselors were supervised by the three professors who developed the program. The professors were certified in either financial planning or family therapy.

Purpose

The purpose of this poster is twofold. The first objective is to help housing educators and counselors understand that families seeking assistance with housing needs may also be experiencing relationship stress. The second objective is to offer simple suggestions that may be incorporated by professionals into their current programs designed to aid clients experiencing financial stress. Client specific results are currently being analyzed and are beyond the scope of this poster.

Objective One: Helping Housing Counselors Take a Holistic Approach

Pressing housing needs drove the financial health of clients, and placed added strain on couples' relationships. Because counseling was specifically designed to acknowledge and address housing, financial, and relational issues, the counselors could more easily recognize connections between these areas, and thus couples' global needs were met more completely.

Housing rightfully played a key role in counseling sessions as no other necessary good constitutes such a sizable percentage of the household budget. Therefore, housing and related financial concerns were frequently at the forefront of relational issues. Among the couples in counseling common issues included but were not limited to the following:

- Need to match housing needs with extant incomes
- Planning for home improvements to help meet future family composition changes
- Inability to sell homes due to the slumping economy
- Threat of eviction or default

Objective 2: Suggestions and Tools for Housing Counselors

Suggestions for meeting housing, financial, and relational needs should be specific to the needs of the couple. Some suggestions used during sessions to help ease tensions, facilitate communication and improve overall well-being are listed below.¹ Housing counselors may consider implementing these suggestions as needed.

- Invite couples to talk openly about their housing and financial struggles with respect and understanding, avoiding blaming words and phrases
- Guide couples to rekindle appreciation for each other by acknowledging each others strengths
- Encourage couples to step away from financial stressors by engaging in activities such as taking a short walk and talking about non-financial and housing stressors
- Direct couples to work together on financial and housing specific homework in order to address and resolve important issues; homework may include creating spending plans, meeting weekly to discuss financial issues, and forecasting future housing needs
- Be prepared to assist couples facing urgent relational or financial issues with additional community resources, such as Community Connection and local crisis interventionists.

Housing counselors are not trained as therapists. However, by acquiring additional education, they can better recognize the complex relationship that exists between housing, financial, and relational issues. Housing counselors may then more easily recognize when clients are facing this complex relationship and make appropriate referrals as needed.

Counselors may utilize a variety of references to increase knowledge, including texts such as *Guide to Surviving Debt* (Loonin, Williamson, & Klein, 2002) and *Facilitating Financial Health: Tools for Financial Planners, Coaches, and Therapists* (Klontz, Kahler, & Klontz, 2008).

¹ The suggestions and activities were recommended by the graduate students (with expertise in marriage and family therapy) working on the project for specific couples in light of their individual relationship stress. These suggestions may be used by housing and financial educators generally with the acknowledgement that serious relationship issues should be handled by trained marriage and family therapists.

Additionally, housing counselors can seek the assistance of Cooperative Extension professionals using peer-reviewed materials from websites such as eXtension (2009).

Conclusion

The housing issues mentioned above are not new to the American household. Consumers have always faced financial and relational issues. However, in today's strained economic climate, couples may face increased personal and financial challenges, with catastrophic consequences such as losing their home.

Prior literature acknowledges a connection between financial and relational health. Financial counseling can be taken to another level when housing, financial, and relational health are considered concurrently. Families that are able to view their lives holistically are better equipped to make housing, financial, and relational improvements that elevate overall family happiness. Counselors and educators may choose to augment their current practices by using a holistic approach, and thus contribute to the improvement of overall client well-being.

References

- Aniol, J. C., & Synder, D. K. (1997). Differential assessment of financial and relationship distress: Implications for couples therapy. *Journal of Marital and Family Therapy, 23*(3), 347-352.
- Blumstein, P., & Schwartz, P. (1983). *American couples*. New York: William Morrow.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- eXtension (2009). eXtension: more mind reach Retrieved August 20, 2009, from <http://www.extension.org/>
- Johnson, A. C., Lee, Y. G. L., T. R., & Schramm, D. G. (2006). *Financial factors contributing to marital satisfaction in early marriage*. Paper presented at the The Association of Financial Counseling and Planning Education.
- Klontz, B., Kahler, R., & Klontz, T. (2008). *Facilitating financial health: Tools for financial planners, coaches, and therapists*. Erlanger, KY: National Underwriter Company.
- Locke, H. J., & Wallace, K. M. (1959). Short marital-adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living, 21*(3), 251-255.
- Loonin, D., Williamson, O., & Klein, G. (2002). *Guide to surviving debt*. Boston: National Consumer Law Center.
- Miller, R. B., Yorgason, J. B., Sandberg, J. G., & White, M. B. (2003). Problems that couples bring to therapy: A view across the family life cycle *American Journal of Family Therapy, 31*(5), 395.
- Spanier, G. B. (1976). Measuring dyadic adjustment: new scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 38*(1), 15-28.

HOUSING FOR THE ELDERLY: RECENT RESEARCH AND POLICY IN KOREA

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Introduction

Korea has become an aging society with over 14% of the population being elderly, by 2018. The society is also projected to become a super-aged society with over 20% of the being elderly in 2026 (Korea National Statistical Office, 2008). Given this dramatic increase of older adults, studies of housing for the elderly are important. According to a survey by Korean Research Institute for Human Settlement (KRIHS), 87.4% of older adults hope to remain living in their current home, and 63.8% of them still want to age at home, even if their health status is getting worse (2007). Recently, the Korean Government has enacted policies to address the needs and preferences of the rapidly increasing elderly population. The purpose of this presentation is to examine existing and proposed policies identifying gaps regarding public rental housing for the elderly.

Policy for the public rental housing for the elderly

Korean policy has established three key policies to address the increasing elderly population. These policies include the Elderly Welfare Policy, the Basic Policy for Low Birth Rate and Aged Society (2005) and the Policy for Facilitation of Age-Friendly Industry (2006). Even though the currently enacted policies regulate the construction of elderly housing, problems still exist within the policies to support the elderly housing. The most frequently acknowledged problem is that there is no unified policy for public

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rental housing for the elderly (Kwon et al., 2006; Bae et al., 2008; Seoul Development Institute, 2007; Park et al., 2007).

Under the current policies, housing for the elderly is regulated by two broad policies: housing construction which focuses on building and architecture regulations and the Policy for the Elderly Welfare which provides social services. In an attempt to provide more coordinated housing with supportive services the *Housing Stability Policy for the Elderly*, is being proposed. This policy would define the concepts of housing for the elderly and public rental housing for the elderly and also make a connection between related policies such as policy for housing and policy for the elderly welfare (Park et al., 2007).

Housing for the elderly			
Regulated by Architecture Regulation for the elderly housing		Regulated by Policy for the Elderly Welfare	
Single-family housing for the elderly	Multi-family Housing for the elderly		Welfare facility for the elderly
	Market rate housing	Rental housing	
		Public rental housing	
		Public rental housing for the elderly	Welfare housing for the elderly (free and market rate)

Table 1 The status of public rental housing for the elderly
Adapted from Park, 2007

Apartment complex and unit planning in public rental housing for the elderly

Korean studies on apartment complex and unit planning in public rental housing for the elderly are categorized as the following: awareness and preference of the housing between older adults (Bae et al, 2008; Park, 2005); model and housing unit development for elderly housing (Park et al., 2007; Heo at al., 2008); and case studies of foreign countries (Jang et al., 2008; Lee, 2007). These studies argued that architectural flexibility, user convenience, amenities, safety, comfort, and accessibility, as well as quality management are critical principles for planning public rental housing. Furthermore, the research provided examples of these principles. The most distinctive characteristic of this housing allows intergenerational families to live together in the same complex (Park, 2007). In spite of these efforts, they also argued that there is no unified policy for public rental housing for the elderly.

In addition, Park suggested spaces to support quality of life, housing for the elderly include a terrace garden, public bathrooms, and a guest house. However, the researcher did not suggest how to develop funding to build and maintain the facilities given that the prospective residents are low-income older adults.

To realize quality housing for the elderly, regulation and support systems should include policies that are financially feasible and allow flexibility so that elderly residents can modify their units if their circumstance or the number of household members change over time. Even if alternative housing is available to be exchanged if circumstances change, trading units may not be possible. In this case, units may be

converted unlawfully if government does not have the regulations or funding to support flexible housing.

Conclusion

Public rental housing for the elderly is being considered to address the dramatically projected increase in elderly population as well as for satisfying the older adults' desire to age at home. Nevertheless, there are some problems to realize this kind of housing. The biggest problem is the conformation of policy related to the elderly housing developments. In addition, the planning of public rental housing for the elderly already in progress, research is still needed to determine whether the existing housing supports housing preference for the elderly, especially, for the low income elderly.

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References

- Bae, J. Y., Kang, K. Y., & Lee, K. H. (2008). A study on the planning of national rental housing for the elderly in the aged society. *The Journal of Architectural Institute of Korea*, 24(5), 23-30.
- Korea National Statistical Office. (2008) The aged population statistics 2008, Retrieved from <http://www.nso.go.kr/>
- Kwon, H., Choi, E., & Park, J. (2006). The improvement of related regulations and System in consideration of the elderly in apartment housing. *The Journal of Housing and Urban Planning*, 91, 1-12.
- Heo, Y. K, Jang. M. S, Park, M. A., & Lee, Y. S. (2008). A study on improvement plan for national rental apartment. *Conference for Korean Institute of Interior Design*, 10(2), 65-68.
- Jang, M. S, Lee. H. J, Lim, C. S., & Lee, Y. S. (2008). A case study on affordable elderly housing Memdelsohn in San Francisco. *Conference for Korean Institute of Interior Design*, 8(1), 37-42.
- Lee, H. J. (2007). A analysis of the housing policy for senior citizens and characteristics of senior housing in Japan. *The Journal of Architectural Institute of Korea*, 23(4), 83-92.
- Park, J. Y., Kwon, H. S., & Kwon, S. S. (2007). Model development of national rental housing for the elderly. *The Journal of Architectural Institute of Korea*, 23(12), 11-18.
- Park, S. Y., Choi, E. H., Park, K. J., Ji. E. Y., & Han, S. J. (2005). Study on analysis of housing preferences of aged and aging population. *The Journal of Housing and Urban Planning*, 84,223-239

PREDICTORS OF RENTAL OWNERSHIP USING THE SURVEY OF INCOME AND PROGRAM PARTICIPATION (SIPP) DATA

Andrew Carswell, Robert Nielsen, Martin C. Seay[†]

Introduction

Academic scholarship on the ownership and operation of multifamily properties is underrepresented within the housing literature. Savage (1998), and Bogdon and Ling (1998) provided profiles on the ownership characteristics and status of the rental property industry sector using the U.S. Census Bureau's Property Owners and Managers Survey, a 1995 questionnaire that the Bureau discontinued shortly thereafter. Bogdon and Follain (1996) noted the lack of quality of most multifamily housing data sets, while examining the siting, financing and affordability characteristics of apartment buildings using the Residential Finance Survey. Despite this valuable information, little was ascertained about the ownership characteristics of such housing, given the limitations of that data set. Bogdon, et al. (1999) reported on the potential for academics to provide quality research on multifamily housing using the Apartment Database of the Multifamily Housing Institute. Unfortunately, there are seemingly no academic journal publications related to this database, possibly due to tight industry control over such information.

Given the limitations of existing data sets on multifamily housing, the authors explore a non-traditional source of information on rental properties, the Survey of Income and Program Participation (SIPP). There has been little exploration of the rental property ownership patterns of individual households, save for an examination of the percentage

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of units owned by individuals using the 2001 Residential Finance Survey, which showed that 56% of the nation's rental stock was owned by individuals (Harvard University Joint Center for Housing Studies, 2008). Revisiting this topic seems timely, in that a number of households may have decided to use the housing boom of the late 1990s and early 2000s as an opportunity to enhance their personal financial portfolios through owning rental properties. SIPP also is advantageous to the research community, in that it offers a wide variety of topical modules which give the researcher the opportunity to isolate certain financial and social outcomes that rental property ownership may have on households, when compared to similarly situated households who do not own rental properties. As a result, the two primary research questions explored in this paper are:

- a) What are some of the personal and demographic factors that predict ownership of rental properties?
- b) What are some of the financial and social outcomes of rental property owners, when compared against those who do not own such properties?

Data Analysis

Using weighted data available through SIPP, a profile of the average rental property owner is shown in Table 1. Out of nearly 108 million households accounted for in our weighted sample, just over 6 percent of the sample reported income from rental property. The primary years for rental property are 45-74, perhaps indicative of households using a more aggressive wealth accumulation strategy as they approach retirement age. Non-Hispanics and whites are more likely to own rental property, compared against other racial and ethnic groups. Household income and education

level logically showed a positive correlation with rental property ownership. Those in good health had a higher percentage of owning rental property, relative to those in poor health.

A preliminary logistic regression model was created to predict individual ownership of rental property, controlling for all other variables (Table 2). This model included sex, age, ethnicity, race, education, geographical region, household makeup, income, self reported health status, homeownership status, and whether an individual's housing burden was 30% or greater. The results of this analysis provide insight into predicting rental ownership. Homeownership status proved to be the most significant variable, with homeowners being 4.195 times more likely to own rental property than non-homeowners, which was not surprising. Age also was significant, with each additional year causing an individual to be 9.7% more likely to own rental property. This also is not surprising, given the fact that such an investment in rental property requires a large amount of accumulated capital, which becomes more attainable as one gets older. Hispanic individuals were 35.4% less likely to own rental property than other ethnic groups. Additionally higher educational attainment levels were associated with a higher likelihood of rental ownership, as individuals with a bachelor's degree were 74.6% more likely to own rental property than individuals with less than a high school degree. Being in good health and having a tolerable primary housing burden (under 30% of gross household income) also seemed to have a positive effect on household ownership of rental property, but were just beyond the level of acceptable significance.

The analysis in Table 3 shows that there is a significant difference in the median average hours worked among rental and non-rental property owners. While there was

no difference in median average hours worked between those who did not own rental property at all during the 24-month period and those who either bought or sold rental property during the 2-year period, there was a significant drop in the number of hours worked per week for those who owned rental property throughout the entire period. This could signify a level of commitment beyond those who experimented with the travails of owning such property for a short time, and could also signal that the rigors of owning rental property had caused rental property owners to substitute their work effort away from their wage earning profession and toward the management of the rental property.

Meanwhile, an examination of the median wage earned by rental property holders is also illuminating. Once again, the data are broken down into four categories: a) whether a household had bought rental property during the 24-month period being examined; b) whether a household had sold rental property during the 24-month examination period; c) a household that had sustained ownership of rental property through the entire examination period; and d) households that had not owned rental property at all during that time frame. Because SIPP data separates both wage data and all other sources of income, it is possible to determine the wage-earning effects on individual rental property owners. Table 4 examines some of these effects. Those who bought rental property intra-period saw an increase in their wage income of over 21%. This result may be partially due to these types of households finally garnering the financial resources through such a wage increase to actually own rental properties. Conversely, those who sold intra-period had experienced a decline in wage income, possibly serving as the impetus for the sale of their rental properties, as the attention

diverted to such properties may have contributed to the erosion of their hourly earned wage.

Table 5 shows the wage results when factoring in both earned income and income gained from other sources. This figure was arrived at after including the income gained from other sources, plus the amount of hours that were spent tending to rental properties. Both sets of data were made available through the SIPP data. Those with rental properties throughout the examination period had a net decrease in hourly wage after two years. Such a trend suggests that substituting hours of regular work for those devoted to both work and activities related to the rental property did not result in a higher overall wage. Curiously, however, those who had not owned rental property at all during that time did experience an overall increase in total hourly wage, albeit a small one.

Discussion

Because SIPP provides researchers the opportunity to longitudinally track respondent households, there are several opportunities to branch this research out further. For example, there are several research questions that can be answered through analysis of SIPP data over, say, a 10-year period. These are questions that will eventually be addressed during the presentation, including whether rental property ownership substantially improves household income over time and whether overall health declines as a result of owning rental property. While owning rental property may have seemed to be a good wealth building strategy during the late 1990s and early 2000s, the expense and stress involved with managing rental property may have

nullified any such prospective income gains in the long term. SIPP provides researchers with a variety of health outcomes of survey respondents, including such things as medical expenses and current health status. Owning rental property may create stress for a household, due to several responsibilities to which landlords must adhere, including dealing with unruly tenants. It is also reasonable to assume that the current housing crisis has caused even more stress, as house price declines create the very real possibility that attainable rent levels will not be able to match the landlord's mortgage payment for the rental property.

References

- Bogdon, A.S., & Follain, J.R. (1996). Multifamily housing: An exploratory analysis using the 1991 Residential Finance Survey. *Journal of Housing Research*, 7(2), 79-116.
- Bogdon, A.S., Follain, J.R., Monson, Goodman, J., Manson, D., & Brady, S. (1999). Research applications of the Multifamily Housing Institute's Apartment Database. *Journal of Real Estate Literature*, 7(2), 221-234.
- Bogdon, A.S., & Ling, D.C. (1998). The effects of property, owner, location, and tenant characteristics on multifamily profitability. *Journal of Housing Research*, 9(2), 285-316.
- Harvard University Joint Center for Housing Studies. (2008). *State of the nation's housing*. Cambridge, MA: Harvard University.
- Savage, H. (1998, October). What we have learned about properties, owners and tenants from the 1995 Property Owners and Managers Survey. *Current Housing Reports H121/98-1*. Washington, DC: U.S. Bureau of the Census.

Table 1.

Rental Property Ownership by Selected Characteristics: 2004

Characteristic	Number (Thousands)	Percentage
Total Households (age of reference person is 18+)	108,350	6.11%
Age		
Age 18-24	5,060	1.18%
Age 25-34	18,350	2.54%
Age 35-44	22,920	4.77%
Age 45-54	22,980	7.30%
Age 55-64	16,920	9.49%
Age 65-74	11,190	8.52%
Age 75+	10,920	6.95%
Ethnicity		
Hispanic	11,580	2.57%
Not Hispanic	96,770	6.53%
Race		
White alone	88,820	6.51%
Black alone	13,230	3.72%
Asian alone	3,040	5.93%
Other	3,260	5.03%
Education^a		
Less the high school graduate	10,700	3.03%
High school graduate	28,040	4.79%
Some college or Associates	37,260	5.90%
Bachelors Degree	18,360	9.11%
Post- Gradutate Degree	10,420	10.12%
Region^b		
Northeast	20,450	6.13%
Midwest	24,810	6.49%
South	39,170	4.93%
West	23,920	7.62%
Household Type		

Family		
Married Couple	55,920	7.72%
Male Householder	4,800	4.73%
Female Householder	12,820	2.23%
Non-Family		
Male Householder	15,520	5.56%
Female Householder	19,030	4.83%
Other	260	2.10%
Marital Status		
Married, spouse present	55,970	7.72%
Married, spouse absent	1,400	4.97%
Widowed	11,510	5.74%
Seperated	3,160	2.26%
Divorced	16,650	5.30%
Never Married	19,650	3.11%
Household Annual Income		
Q1: Less then \$22,341	25,360	2.83%
Q2: \$22,341 - \$42,335	26,960	4.53%
Q3: \$42,336 - \$72,100	27,560	5.99%
Q4: Greater then \$72,100	28,460	10.64%
Tenure Status		
Homeowner	73,580	8.41%
Non – Homeowner	34,770	1.23%
Health Status^c		
Good Health	90,490	6.45%
Poor Health	17,860	4.37%
Housing Burdened		
Less then 30%	79,090	6.94%
30% or greater	29,260	3.86%

Source: Calculations based on the Survey of Income and Program Participation, 2004 Panel, Waves 1-3 and Topical Module 3.

^a Age 24 and older

^b Regions based on census regions

^c Determined based on self reported health status. Health status rated good if indicated to be excellent, very good, or good. Health status rated poor if indicated to be fair or poor.

Table 2.

The SURVEYLOGISTIC Procedure

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4873733.95	22	<.0001
Score	4032785.35	22	<.0001
Wald	1178.2565	22	<.0001

Analysis of Maximum Likelihood Estimates

Parameter	DF	Standard		Wald	
		Estimate	Error	Chi-Square	Pr > ChiSq
Intercept	1	-8.2430	0.3458	568.2604	<.0001
male	1	0.0788	0.0505	2.4310	0.1190
age	1	0.0923	0.0126	53.9156	<.0001
agesq	1	-0.00060	0.000111	29.9372	<.0001
Hispanic	1	-0.4367	0.1404	9.6765	0.0019
black	1	-0.0203	0.1082	0.0352	0.8512
asian	1	-0.1440	0.1508	0.9117	0.3397
other	1	-0.00539	0.1884	0.0008	0.9772
eduhs	1	0.1162	0.1123	1.0720	0.3005
edusomecoll	1	0.2637	0.1253	4.4309	0.0353
educollgrad	1	0.5576	0.1269	19.3104	<.0001
edupostgrad	1	0.4791	0.1424	11.3146	0.0008
regionne	1	0.2177	0.0846	6.6128	0.0101
regionmw	1	0.2374	0.0789	9.0632	0.0026
regionw	1	0.4606	0.0781	34.8138	<.0001
famsingle	1	-0.3661	0.0916	15.9795	<.0001
famnnonfam	1	0.0884	0.0653	1.8289	0.1763
inccat2	1	0.3502	0.0982	12.7122	0.0004
inccat3	1	0.5640	0.1085	27.0275	<.0001
inccat4	1	1.0068	0.1155	75.9660	<.0001
healthgood	1	0.1947	0.0733	7.0574	0.0079
housingburden30	1	0.1979	0.0817	5.8683	0.0154
homeowner	1	1.4339	0.1095	171.5935	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
male	1.082	0.980	1.195
age	1.097	1.070	1.124
agesq	0.999	0.999	1.000
Hispanic	0.646	0.491	0.851
black	0.980	0.793	1.211
asian	0.866	0.644	1.164
other	0.995	0.688	1.439
eduhs	1.123	0.901	1.400
edusomecoll	1.302	1.018	1.664
educollgrad	1.746	1.362	2.240
edupostgrad	1.615	1.221	2.135
regionne	1.243	1.053	1.468
regionmw	1.268	1.086	1.480
regionw	1.585	1.360	1.847
famsingle	0.693	0.580	0.830
famnonfam	1.092	0.961	1.242
inccat2	1.419	1.171	1.721
inccat3	1.758	1.421	2.174
inccat4	2.737	2.182	3.432
healthgood	1.215	1.052	1.403
housingburden30	1.219	1.039	1.431
homeowner	4.195	3.385	5.199

Table 3.

Median average hours worked by rental property ownership status			
	Month 1	Month 24	Change
Bought rental property	40	40	0
Sold rental property	40	40	0
Owned rental property throughout	36	35	-1
Never owned rental property	40	40	0

Table 4.

Median hourly wage for earned income by rental property status				
	Month 1	Month 24	Change	
Bought rental property	\$ 9.39	\$ 11.40	\$ 2.01	21.42%
Sold rental property	\$11.57	\$ 8.55	\$ (3.02)	- 26.09%
Owned rental property throughout	\$10.73	\$ 8.89	\$ (1.84)	- 17.15%
Never owned rental property	\$ 8.15	\$ 8.33	\$ 0.19	2.27%

Table 5.

Median hourly wage for total income by rental property status				
	Month 1	Month 24	Change	
Bought rental property	\$11.56	\$ 13.90	\$ 2.34	20.24%
Sold rental property	\$14.92	\$ 11.03	\$ (3.88)	- 26.04%
Owned rental property throughout	\$14.47	\$ 13.74	\$ (0.73)	-5.06%
Never owned rental property	\$ 9.34	\$ 9.79	\$ 0.45	4.83%

DEVELOPING A SUSTAINABILITY INDEX FOR THE MULTI-FAMILY HOUSING INDUSTRY

Daniel Castro-Lacouture, Kathy Roper, Deborah Phillips[†]

Over the past decade, there has been a plethora of attention given to issues around sustainability and eco-friendly initiatives in housing. Research indicates that about half of all carbon emissions in the U.S. come from the residential sector of real estate, not to mention that consumers pay over \$150 billion per year for utility and fuel bills (USA Today, 2007). More than 76 million residential buildings currently exist in the U.S. and millions more will be built in the future. Headlines constantly remind us that our homes use fossil fuel-based heating/cooling/lighting and hot water systems, and are one of the leading sources of pollution, including sulfur dioxide emissions, nitrous oxide emissions and particulate emissions, causing urban air quality problems. In addition, buildings also produce carbon dioxide emissions, the chief pollutant blamed for climate change. Likewise, the average home consumes more of our resources than necessary, which negatively impacts the environment and generates a large amount of waste (Sustainable Building Resource Directory, 2009). Research also indicates that pollutant levels in the air inside our homes may be several times higher than the air outside. Pollutants can be caused by cleaning products, building materials, and furnishings that typically contain volatile organic compounds (VOC) which can contribute to allergic reactions.

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Similarly, in recent years, there has been a greater spotlight on the multi-family sector's environmental impact and sustainability efforts; the focus is becoming more intense as apartment owners and developers wrestle with high operating costs and increased competition. It is often easier to consider sustainability when it pertains to new construction as opposed to making major modifications and shifts toward eco-friendly efforts in existing buildings. The link between eco-friendly building and affordable housing projects has also been perceived as too costly since many operate on limited budgets. In addition, multi-family owners may not be aware of the opportunities that exist to cost effectively integrate sustainable strategies into their existing communities. Considerations should be made to integrate non-traditional building systems, energy-efficient appliances, healthy building products, re-use of materials, and environmentally sensitive products into their current operating policies.

Sustainability can take on a variety of meanings depending on the audience. The most widely quoted meaning internationally comes from the 1987 Report of the World Commission on Environment and Development which defines sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (Rosenberg, 2009). When related to real estate, sustainability is about operating properties efficiently, reducing waste, and maximizing energy usage (Rosenberg, 2009). According to sustainable housing experts, a home is green when it "is designed, built, renovated, operated, or reused in an energy efficient and resource-conserving manner" (Building Environmental Science and Technology, 2008). Green homes are designed to: protect the occupant's health; reduce energy, water, and

general resource usage; reduce the impact on the environment; and contribute to the national economic and energy security (SBRD, 2009).

As of late, apartment owners have been slow to retrofit existing apartments and developers are reluctant to build eco-friendly apartments mostly because of the higher “first-costs” and perceived lack of return. However, many are taking a second look as residents are starting to inquire about the company’s policies toward environmental initiatives; increased competition and higher operating costs associated with building maintenance and operations are also forcing those in the multi-family industry to rethink sustainability.

This paper will present the development of a sustainability index to enable multi-family owners to quickly and easily evaluate and compare sustainable initiatives over a wide range of indicators, other than first cost, that can be useful in deciding whether or not to make modifications. This index is intended to provide owners with a useful tool to prioritize improvements depending on budget allocations and capital expenditures. Factors to be considered for the composition of the index include: environmental impact (e.g., chemical, noise, visual emissions); life cycle cost analysis; reliability; maintenance frequency; and monitoring possibility. The index will be developed by interviewing members from the multi-family industry that currently serve on an expert panel for issues and initiatives around sustainable and eco-friendly apartments.

The two apartment communities used as a pilot for developing the Multi-Family Sustainability Index (MFSI) focus on existing apartment communities located in Atlanta, Georgia. The first community used in the research is a 533-unit high-rise located in the

heart of downtown Atlanta, Georgia. The community is 57-years-old and consists mainly of one- and two-bedroom floorplans that average 620 square feet and includes common areas totaling approximately 300,672 square feet. The apartments use gas for cooking and electricity for air conditioning (chiller system). The existing heating system is a hot water boiler system. Currently, the building is suffering from physical and economic obsolescence. Since the multi-family firm acquired the asset, the physical occupancy has averaged 84%. The second community is a 120-unit senior living community located in a popular in-town neighborhood of East Lake located in Atlanta, Georgia. This affordable housing community is plagued by higher than average operating expenses due to the age of the structure and size of the community. In both cases, the owner's objective is to maximize energy conservation and to assess the costs and benefits associated with such improvements. The owner has other properties with similar challenges and is in need of an assessment tool that can aid in determining the highest and best use of renovation dollars.

The findings from this research will offer multi-family owners a tool for evaluating adaptive strategies for integrating sustainable modifications into ways of attracting and retaining residents. This research will also explore other resources that are available to multi-family owners to assist in guiding them through the decision-making process of determining the most effective alternatives.

Adopting sustainability measures will become more of a strategic imperative as energy prices increase and multi-family owners look for innovative ways to compete in a volatile and complex marketplace. The challenge lies in the ability for these owners to transform their operating practices so that products and designs for renovation will

maximize efficiency and provide low-operating costs, durability and healthy environments for their occupants.

References

- Building Environmental Science and Technology (2008). Resource Efficient Buildings. From <http://www.energybuilder.com/greenbld.htm> (Accessed May 19, 2009).
- Jones, C. (2007, November 1). Eco-friendly Homes are Moving into Mainstream. *USA Today*.
- Montoya, M. (2010). *Green Building Fundamentals*. New Jersey: Pearson.
- Rosenberg, J. (2009). Sustainable Development: Property Managers Can Reduce Energy Use and Expenses Through Green Practices. *Journal of Property Management*. May/June, pp. 42-47.
- Sustainable Building Resource Directory (2009). From <http://www.sbrd.net/greenhousing.html> (Accessed April 29, 2009).

INTENTION TO MOVE INTO A NURSING HOME OF THE ELDERLY IN JEJU, KOREA

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Introduction

This study aimed to examine the intention to move into a nursing home (IMNH) of the elderly in Jeju, Korea. Increasing lifespan and lower birth rate have been resulting in an aging. Like other parts of Asian countries, Korean society expects the elderly population to be over 14.3% in 2018 and 20.8% in 2026 (Korea National Statistical Office; KNSO, 2007) and families are forced to bear the long time caregiving. This study was brought into two ideas about the needs of Nursing home (NH).

First, Jeju is under the low supply of NH considering the high proportion of the elderly. Jeju, with its nature, is the oldest province and mostly known for 'longevity' in Korea. In 2006, the proportion of the older population aged 65+ in Jeju was 10.7%, which was 1.2% higher than the average percentage at the national level. Moreover, the proportion of the oldest old aged 85+ was the highest (8.74%) compared to 6.06% at the national level (KNSO, 2007). Jeju is thus demanded the needs for long term care such as NH³. In Jeju, however, there are five non-profit NHs and one profit NH existed; 149 non-profit NHs and 84 profit NHs at the national level (Ministry for Health and Welfare; MHW, 2006a).

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³ In Korea, elderly welfare facilities are categorized into institutional care and community care. According to Elderly Welfare Policy (EWP) of Korea, institutional care is classifies as elderly housing welfare facilities (including care facilities, elderly co-housing, and welfare housing) and elderly medical care facilities (including nursing home, nursing co-housing, and elderly hospital), and community care is classifies as leisure facilities and home-based care facilities (EWP, section 31, 2009).

Secondly, a priority is considered for NH rather than family support in the home as regards increasing care burden of family caregivers for the elderly. There have been decreasing numbers of elderly living with their children⁴, caregiving for aging parents remains the norm for the majority of Korean. After the elderly admitted to a NH, it lessens the burden of their children (Kim, 2001; Lee, 2008). This becomes an alternative source for long term support, physically, emotionally, and economically. Currently this attention happens at the moment in Jeju. Providing these two points, this paper explored that what factors affected on IMNH of the elderly in Jeju, Korea.

Measures and Analysis

Data were collected from Jeju Development Institution through face-to-face structured interview of 359 individuals in 2008. The sampling from the 20 municipalities in Jeju provinces that had the highest number of residents aged 85+ within each section a random sample of elders was identified. Statistical analysis was performed using SPSS version 14.0 for Windows. To investigate the influential predictors of IMNH, 13 independent variables were analyzed using a general regression analysis, and Beta coefficients were examined. Variables are shown in Table 1.

⁴ The elderly families increased from 39.0% in 1994 to 45.5% in 2004, whereas the elderly families living with children decreased from 55.9% in 1994 to 51.9% in 2004. (Chung, 2005).

Table 1. Summary of the variables

Variables	Scale	Respondent composition
Intention to nursing home	1 if move, 0 not move	Intention to move was 27.9%
Age	1 if 85-89, 0 ≥ 90	From age 85 to 89 was 65.5%
Education	1 if school, 0 no school	Education was low that illiterate and nearly know Korean was 76.6% and primary to middle school was 21.5%
Gender	1 if female, 0 male	72.4% was female
Occupation	1 if occupation, 0 no occupation	78.3% was no occupation
Tenure	1 if own, 0 rent or others	62.7% owned a home
Monthly Income	1 if over \$300, 0 less than \$300	Less than \$300 was 68.5% in monthly Income
Live alone	1 if live alone, 0 otherwise	47.1% lived alone
Whom to live with in the future	1 if living with children, 0 otherwise	28.7% preferred to living with children in the future
Location	1 if suburban, 0 urban	84.7% located in suburban
Economic Difficulty	continuous variable; 1 never difficult to 5 very difficult	54.3% was difficult and very difficult
Health Status	continuous variable; 1 very good to 5 very bad	69.3% was very bad and bad
Illness	1 if illness, 0 no illness,	81.1% had illness
Social interaction*	1 if going to the elderly center and talking with neighbors, 0 otherwise,	28.1% was going to the elderly center and talking with neighbors.
Aging home welfare services	1 if no experience, 0 experience,	62.1% had experienced those services

* Social Interaction was substituted for the types of leisure time. Other answers were staying home with sleeping, watching TV, caring grandchildren, and caring a kitchen garden.

Conclusion and Discussion

Table 2 delineates regression analysis results. The model was significant with $R^2 = .120$ and $F = 3.359$, $p \leq .001$. Among 13 independent variables, three turned out to be marginally significant and one was statistically significant; female, renters, and low income were related to IMNH. The result in that those populations were higher rates of IMNH was not new. Taking into account female, renters, and low income are not

financially stable, however, it is reasonable to provide non-profit NH more than profit NH. Living with others (their spouses or friends) or alone tends to be higher probability of IMNH than living with adult children. Given this result, it indicates that the elderly are more likely to prefer living with their adult children rather than living in a NH, which reflects in the Korean traditional norm of family responsibility. In Korea, the proportion of elderly living alone increased 16.1% in 2000 to 17.9 % in 2005, and Jeju was roughly one third higher in 2005 (24.3%) (MHW, 2006b). It may be appropriate to assume that those who would live with others or alone will increase and NH is essential to be provided.

What remains to be determined by the future study is to explore the types of NH services in Jeju. Non-urban areas have more elderlies, nuclear families (Kwon, 1999), and lower income than urban areas. The geographical differences between urban and non-urban areas are significant factors to consider the elderly environmental needs because health statuses, levels of aging, economical conditions, life styles, and types of housing are depending on regions and locations. Especially, Jeju, which is a subtropical island off the southern tip of the Korean peninsula, is isolated rural area, and the fact may therefore lead to be longevity. In order to keep the reputation for 'longevity', further in-depth studies toward NH services would be needed.

Table 2. Regression Analysis: Predictors of intention to move for nursing home

Variables	Std. β .	Std. Error	Std. β .	T
Age	.009	.050	.010	.183
Education	.002	.074	.002	.024
Gender	.122	.068	.122	1.803⁺
Occupation	.047	.059	.043	.794
Tenure	-.094	.050	-.101	-1.874⁺
Monthly Income	.092	.053	.095	1.738⁺
Live alone	.053	.051	.059	1.049
Whom to live with in the future	-.218	.047	-.243	-4.619^{**}
Location	.027	.065	.022	.426
Economic Difficulty	-.022	.023	-.055	-.952
Health Status	-.001	.027	-.002	-.039
Illness	.084	.066	.074	1.278
Social interaction	-.001	.059	-.001	-.012
Aging home welfare services	.064	.054	.069	1.182

R = .347, R² = .120, F = 3.359**

⁺p ≤ .10, *p ≤ .05, **p ≤ .001

Acknowledgement

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Reference

- Chung, K. H. (2005). *The living profile and welfare service needs of older persons in Korea 2004*, Seoul, Korea: Korea Institute for Health and Social Affairs.
- Kim, S. H. (2001). A study of the changes of the family life after the entrance into the residential care of the demented elderly, Unpublished master's thesis. Mokwon University, Daejeon, Korea.
- Korea National Statistical Office. (2007). *Resident of Registration Population*. Seoul, Korea: Korea National Statistical Office.
- Kwon, S. J. (1999). A study on the delivery planning of nursing homes in Korea. *Korea Institute of Healthcare Architecture*, 5(9), 47-59.
- Lee, M. S. (2008). A study on changes of caregiving burden, family relations and guilty conscience after the elderly's entering nursing home, Unpublished master's thesis, Hanseo University, Chungcheongnam-do, Korea.
- Ministry for Health and Welfare. (2006a). *The status quo of elderly welfare facilities*. Seoul, Korea: Ministry for Health and Welfare.
- Ministry for Health and Welfare. (2006b). *The status quo of elderly living alone*. Seoul, Korea: Ministry for Health and Welfare.

Refereed Abstracts – Oral Presentations

QUESTIONABLE VALUES: MORTGAGE FRAUD AND ITS PRICE EFFECTS

Andrew Carswell[†]

Introduction

Mortgage fraud is a fast-growing white-collar crime whose ramifications throughout the industry have only recently become apparent. A common method of implementing mortgage fraud is through the use of inflating appraisals (Banfield and French 2007), in order to obtain false equity upon a home's resale, usually to either an unwitting buyer or a straw buyer who never intended on living in the home. While the inflated valuation in these situations is committed by the front-end appraiser, the property tax assessment official finds that correct valuation of a property becomes compromised as a result of the crime. This research outlines the effects that mortgage fraud has on a community's sales prices and property tax revenues in a Georgia county.

Case Study

Data, Methodology and Research Questions

The author was interested in determining whether there was an effect on the growth patterns of house sales prices and property tax assessment values for properties that were located within a certain proximity to a property obtained through mortgage fraud. As a result, the null hypothesis is that the intervening variable (whether fraud occurred within proximity of the property for sale) would have no effect on the sale price of the individual home being sold, *ceteris paribus*. Also, regarding the neighborhood effects, the null hypothesis is that there would be no difference between the property tax assessment values over time for both the experimental properties (those located within an area affected by mortgage fraud) and the control group (those properties located in areas unaffected by mortgage fraud).

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A series of prosecuted mortgage fraud cases were examined in Fulton County, GA. Data for this particular project centers around proximity to nineteen properties cited in a federal court case in April 2006. Most of the fraudulently sold properties are located in two clustered areas within the county. A series of properties were identified within each of the mortgage fraud-affected neighborhoods, in order to determine what effect the criminal event had on surrounding property values. A control group was also used with properties in non-fraud neighborhoods which had a +/- 5% tolerance related to square footage, land size, and other characteristics within the selected neighborhoods of the subject properties. This resulted in a universe of 3,250 properties, covering thirteen unique neighborhoods that generally resembled each other in terms of property and neighborhood characteristics. Of these total cases, 1,067 (32.83%) were located within neighborhoods that included mortgage fraud. Fraud-affected areas are defined as single-family houses which fall within a ¼-mile distance of the properties. All researchable data is from tax year 2000 to 2008.

Two different sets of analyses were performed. The first examined the differences between the assessment values' growth rates for the properties in both fraud-affected and non-fraud neighborhoods from the period of 2000 through 2008. This analysis tests the theory that properties within proximity of the fraud-affected properties will eventually be contaminated through false appreciation of assessment values. The second examined actual sales records of the properties within both the fraud-affected and non-fraud areas to determine whether fraud had an effect on the ultimate sales price of these properties.

Results

Assessments within fraud-affected areas experienced a higher compound annual growth rate than those within non-fraud affected neighborhoods during the eight year period examined, with statistically significant differences in mean growth rates at each interval along the way (Figure

1). These findings suggest that there may be a value contagion effect perpetuated by mortgage fraud that causes assessment values to rise higher than normal.

A multiple regression model was developed to examine the actual sales records of Fulton County properties, to determine if fraud played a role in the house price decision, after controlling for all other variables (Table 1). In all, there were 3,442 sales transactions which occurred between January 1997 and December 2007 within thirteen neighborhoods. The subsequent analysis incorporated the house's physical features, market characteristics, and seasonal factors. Meanwhile, another variable was added to determine whether a sale had occurred within a fraud-affected area. Several independent variables had highly significant effects on the log house price. Number of baths, property acreage, and square footage of living area all had positive relationships with house price movements, as did certain exterior property characteristics. Partial basements and full basements had significant and positive effects as well, when compared against properties with no basement. The year-over-year market effect, after controlling for all other variables, was a 2.2% rise in values during the ten-year time frame. Home sales that occurred during the summer showed a significant price increase as well. Meanwhile, the fraud variable shows that purchasing a home in a fraud-affected area caused a significant upward movement in house price by 4.1%, further evidence that fraud properties can cause a house price contagion that spreads outward as they become used as comparables for surrounding neighborhood home sales.

Conclusions and Implications

This research shows that mortgage fraud may cause an upward bias on house prices and subsequently on assessment values and property taxes. It can also be argued that more longitudinal research on mortgage fraud needs to occur, specifically whether the value decline is even steeper for mortgage fraud properties than for foreclosures that occur through household

economic shocks such as job loss, divorce or extraordinary medical expenditures. Several states have introduced (and passed) legislation that strengthens existing laws pertaining to the commission of mortgage fraud. The primary objective of these laws, however, is to bolster the successful prosecution of mortgage fraud, and does not necessarily address the property tax issues that result from mortgage fraud. As a result of the latest role that appraisers have played in the mortgage fraud crisis, a new Code of Conduct has been proposed that protects valuation officials from receiving too much pressure from builders and lenders who employ them (Nicolay 2008). Ironically, appraisers could join with other real estate and law enforcement resources to help stem the neighborhood effects of mortgage fraud, but there is only scattered evidence, however, that such efforts have been initiated.

References

Banfield, W.E., and S. French. 2007. Current trends in property tax law: The legislation and litigation shaping assessment practices. *Journal of Property Tax Assessment & Administration* 4(1): 5-26.

Nicolay, C. 2008. Examining the code of conduct: While promoting appraiser independence, Cuomo's agreement could threaten some businesses. *Valuation Insights & Perspectives*, 14-19.

Figure 1. Comparison of assessment growth rates, fraud versus non-fraud neighborhoods, 2000-2008

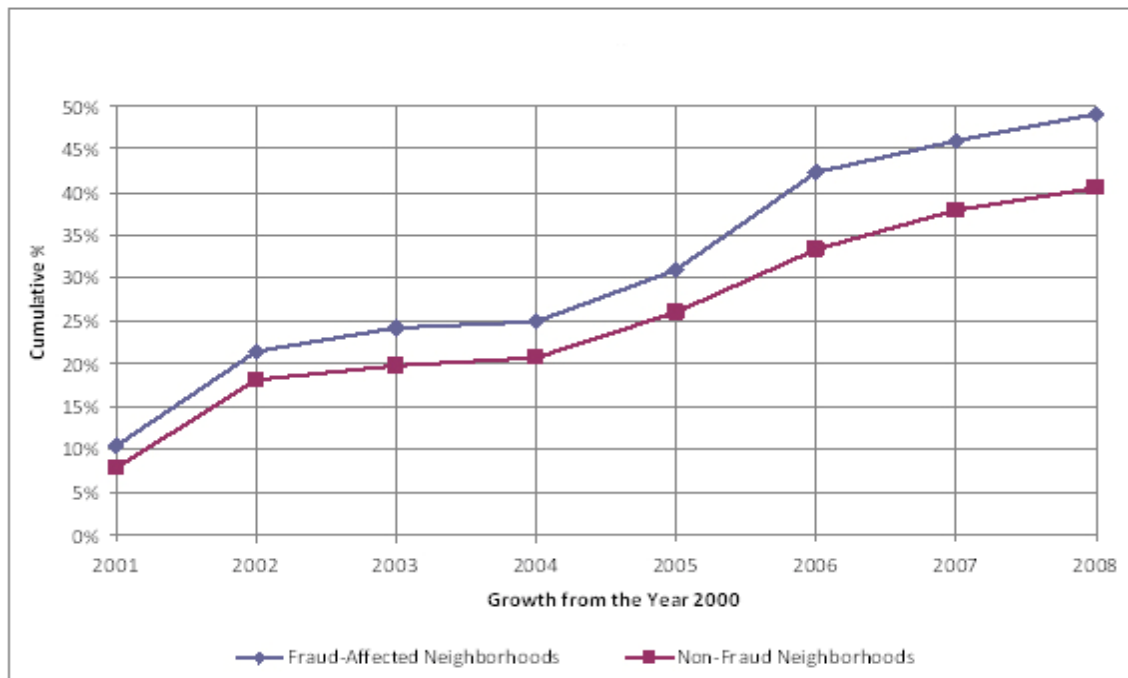


Table 1. Results of hedonic price model, Fulton county, Georgia (1997-2007)

<i>Variables</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>t-Value</i>	<i>Sig.</i>
(Constant)	4.777	0.056	85.382	0.000
Fixbath	0.038	0.006	6.429	0.000
Fixhalf	0.011	0.008	1.407	0.160

Ageofhouse	0.002	0	3.36	0.001
Calcacres	0.013	0.003	4.693	0.000
year	0.022	0.001	16.513	0.000
Fraud	0.041	0.01	4.06	0.000
Sfla	5.45E-05	0	9.486	0.000
winter	-0.011	0.01	-1.073	0.283
summer	0.033 [†]	0.009	3.619	0.000
fall	0.001	0.01	0.114	0.909
frame	0.101	0.051	1.972	0.049
masonryframe	0.196	0.052	3.81	0.000
stone	0.186	0.052	3.598	0.000
concrete	0.161	0.052	3.083	0.002
crawlbsmt	0.031	0.019	1.64	0.101
partialbmt	0.047	0.019	2.491	0.013
fullbsmt	0.097	0.011	8.469	0.000

Dependent Variable = Log Home Sale Price

R-Square = .385

F-Stat = 115.29 (significant at .001)

n = 3,442

HOMEOWNERSHIP PLANS AMONG HISPANIC RENTERS: ETHNIC DIFFERENCES OR GEOGRAPHIC DIFFERENCES?

Russell N. James III, Jorge H. Atilés[†]

This research examines changes in the homeownership plans of Hispanic renters from 1998-2007 and some potential causes. From 2000-2005, growth in Hispanic homeownership in the U.S. outpaced other ethnic groups. This corresponds with data from the Survey of Consumer Finances indicating that Hispanic renters experienced a dramatic upsurge in saving for homeownership – relative to renters of other ethnic backgrounds – during the 1998, 2001, and 2004 surveys. This relatively higher propensity to save for homeownership largely disappeared in the 2007 survey. The “bubble” in Hispanic renter homeownership plans corresponded with relative housing price appreciation trends in states with large Hispanic populations such as Southern California and South Florida. It may be that Hispanics were driven to save for homeownership in part due to a perception of relatively high appreciation of the asset (the home), therefore, offering opportunities to achieve greater equity in the near future. This suggests that the move to homeownership planning may have been more of a regional economic trend, rather than an ethnic one.

Hispanic homeownership is becoming increasingly critical to national homeownership policy goals. Between 2005 and 2015, the number of Hispanic households in the United States will grow faster than any other group, with total net increases exceeding non-Hispanic white households (Masnick and Belsky 2006). Consequently, understanding the nature and causes of the Hispanic homeownership gap is of great importance. In 1980, 1990, and 2000, Hispanic households in the United States had the lowest rate of homeownership of any major ethnic group, falling below non-Hispanic white, non-Hispanic black, Asian, and other non-Hispanic households (Cortes, *et al.* 2006). Conversely, more recent data suggest that since 2000,

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Hispanic homeownership levels grew faster than either non-Hispanic white or non-Hispanic black homeownership levels (Cortes, *et al.* 2006). Data from the 2006 Current Population Survey place Hispanic homeownership at 49.5%, above non-Hispanic black homeownership of 48.2%, but still well below non-Hispanic white homeownership of 76% (Callis and Cavanaugh 2007).

Using the Survey of Consumer Finances, we assign renters to a tenure planning category based upon their responses to a series of questions asked in the SCF. The SCF asks participants if in the next five to ten years they expect to purchase a new home. Next, respondents are asked if they are currently saving for the upcoming expenditures previously identified. Based on these responses, renters are classified as planning for a home purchase, planning and saving for a home purchase, or not planning for a home purchase.

The proportion of Hispanic renter households listing “buying own house” as one of the top two reasons for saving went through a relatively dramatic increase. Between 1983 and 2004, this proportion increased from 7.6% to 30.1%. From 1998 to 2004, the proportion of Hispanic renter households listing “buying own house” as a top reason for saving has been higher than the proportion of non-Hispanic black or non-Hispanic white renter households doing so. Such dramatic change suggests that many Hispanic households had begun focusing on saving for a home especially during this period from 1998 to 2004. However, this dramatic difference between Hispanic renters and non-Hispanic renters, essentially disappeared in the 2007 survey. Was this change due to an actual change in the impact of Hispanic status, or rather, a change in the demographics for Hispanic households?

A multivariate probit analysis indicates that the relative propensity of Hispanic renters to save for a home purchase experienced a gradual increase from 1995 (when it was a significant negative factor) until 2004 (when it was a significant positive factor), and then fell back somewhat in 2007 (insignificant). Similarly, a separate analysis shows that Hispanic status was

a significant negative factor in estimating planning to purchase a home (whether saving or not) in 1995. In 1998, Hispanic status was still significant and negative, but of a smaller magnitude. In 2001, Hispanic status was insignificant, and by 2004, Hispanic status was a significant positive predictor of planning for a home purchase. This effect disappeared in 2007 when Hispanic status was, once again, insignificant.

So, what then is behind this Hispanic “bubble” in homeownership plans among renters? One explanation relates to the geographic location of the Hispanic population within the US and the relative rates of price appreciation in those areas. To the extent that Hispanic households were differentially located in states with extremely rapid price appreciation, such as California and Florida, the desire to buy may have been higher during 2004. Similarly, as these states experienced relatively poorer house appreciation results in 2007, this may have diminished the desire to plan for home purchases.

To explore this linkage, the final analysis examines the population-weighted 12-month appreciation rates for both Hispanic and non-Hispanic households during the final quarter of 1995 and each of the four quarters in 1998, 2001, 2004 and 2007. The weighting is achieved by multiplying each state appreciation rate times either the percentage of the overall Hispanic population or the percentage of the overall Non-Hispanic population located in that state.

This analysis shows that in 2004, state-weighted appreciation rate for Hispanics was higher than the state-weighted appreciation rates for non-Hispanics. Further, this gap was the greatest in 2004 than in any other SCF survey year for which OFHEO data is available. Conversely, in 2007, the state-population-weighted appreciation rate for Hispanics was lower than the state-population-weighted appreciation rate for non-Hispanics. This was also true during 1995, corresponding with this SCF survey year as the point of greatest negative association between Hispanic status and planning or saving for homeownership among renters. This series of

results suggests that the impact of Hispanic status may have been largely an artifact of regional price shifts, rather than any true difference in ethnic status.

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

Andrea L. Bentzinger, Christine C. Cook[†]

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. 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). Previous research, only recently has been focused on low-income families who own their homes; even less research has focused on those who live in small towns and rural settings.

This study examined tenure status, whether the participant owns or rents their housing unit, among low-income households residing in rural communities. 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? 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.

Method

Data from the Rural Families' Speak project (NC1011) were used to investigate the predictors of homeownership among low-income families in rural areas. Study participants were

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mothers, eighteen years or older, who had at least one child that was twelve years old or younger. They also had to be eligible for or receiving food stamps, or 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.). 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, the wage a renter household must earn in that specific county in order to afford a two-bedroom apartment at fair market rent, 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. Chi-square and t-test analyses were conducted to compare means between owners and renters and 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 two regression analyses. On average the 403 mothers were 31 years of age, and had 2 children with the youngest child having an average age of 3 years. Over half of the mothers (65.4%) were non-Hispanic White women. Most women reported they were married or were cohabitating (61%). As for educational level, 33.8 percent of mothers had not received their high school diploma or GED, while 39.3 percent had received higher education from training in a vocational school to a graduate degree. Participants' average monthly income was just over 1,300 dollars per month.

Results

Chi-square and t-test analyses showed significant differences between owners and renters on twelve variables: age, number of children, number of family members, monthly income,

marital status, education, partner employment, mortgage/rent costs, monthly utility costs, county housing wage, the number of family members with health insurance and food security score. Owners were significantly more likely to be older, have more children and larger families, have a higher monthly income, have a partner, have a partner that is employed, have higher mortgage/rent costs and higher utility bills, have a lower county housing wage, have more insured family members and finally be food secure.

The logistical binomial regression analysis for the whole sample identified seven significant predictors of tenure status: education level, partner status, Latino status, monthly income, food security score, utility costs, and county housing wage. A second regression of those participants that reported having a partner showed that five variables were significant: education level, monthly income, food security score, utility costs, and county housing wage. The first regression showed that those participants that had a partner were more likely to own their homes and those that were not Latino were more likely to be homeowners. For both logistical regressions if the education level was higher the participant was more likely to be a homeowner as well as have a higher monthly income, be food secure, have higher monthly utility costs, and a lower county housing wage. Table 1 displays the results from the first regression that included 382 participants.

Table 1: Logistical Binomial Regression Analysis Summary for Variables Predicting Homeownership for Low-Income Families in Rural Areas

Variable	Logistical coefficient	Standard error	Odds ratio	<i>p</i>
Participant's age (continuous)	0.03	0.03	1.03	.20
Participant education level (1=less than high school, 2=high school diploma or GED, 3=beyond high school)	0.81	0.21	2.24	.00*
Partner status (0=no partner, 1=partner)	1.11	0.43	3.04	.01*

Participant is Latino (0=no, 1=yes)	-0.89	0.45	0.41	.05*
Participant is African American (0=no, 1=yes)	-0.55	0.67	0.58	.41
Self currently working (0=no, 1=yes)	-0.48	0.32	0.62	.13
Total number of children (continuous)	0.09	0.30	1.10	.76
Age of youngest child (continuous)	0.05	0.06	1.05	.37
Total number of family members (continuous)	0.00	0.25	1.00	.99
Monthly income (continuous)	0.00	0.00	1.00	.00*
Food security score (0=insecure, 1=secure)	0.75	0.31	2.11	.02*
Satisfaction with life (1=very dissatisfied, 2=dissatisfied, 3=mixed feelings, 4= satisfied, 5=very satisfied)	0.16	0.16	1.17	.33
Mortgage/Rent costs (continuous)	0.00	0.00	1.00	.87
Utility costs (continuous)	0.01	0.00	1.01	.00*
Housing wage (continuous)	-0.17	0.07	0.85	.01*
Mother's health risk (continuous)	-0.16	0.17	0.85	.34
Family insurance (continuous)	0.16	0.12	1.17	.19

Cox & Snell $R^2 = .31$

Discussion and Conclusion

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. 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. 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. However, questions remain as to whether they can sustain homeownership and acquire wealth over time, as indicated by the literature (Sherraden, 1991). To help answer these questions, further research should focus on how well these families have done maintaining homeownership, how homeownership has impacted their lives, physically and mentally, as well as if homeownership has helped them to become more self-sufficient and build wealth over time.

References

- Cortes, A., Herbert, C. E., Wilson, E., & Clay, E. (2007). Factors affecting Hispanic homeownership: A review of the literature. *Cityscape: A Journal of Policy Development and Research*, 9(2), 53-90.
- Herbert, C. E., & Belsky, E. S. (2008). The homeownership experience of low-income and minority households: A review and synthesis of the literature. *Cityscape: A Journal of Policy Development and Research*, 10(2), 5-59.
- Housing Assistance Council. (2002). *Taking stock: Rural people, poverty, and housing at the turn of the twenty-first century*. Washington, DC: Author.
- Housing Assistance Council. (2007). *Turning challenges into opportunities: Housing and community development strategies in rural population loss counties*. Washington, DC: Author.
- Schwartz, A. F. (2006). *Housing policy in the United States: An introduction*. New York: Routledge.
- Sherraden, M. (1991). *Assets and the Poor: A New American Welfare Policy*. Armonk, NY: M. E. Sharpe, Inc.

PERCEIVED ASPECTS OF HOME ENVIRONMENT AND HOME MODIFICATIONS BY OLDER PEOPLE LIVING IN RURAL AREAS

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Introduction

As long as the home environment can meet the increasing needs of older people as they age, aging in place is the most desirable option. To maintain autonomy in their current home, however, either environmental changes or behavioral adaptations must generally occur (Oswald & Wahl, 2005). Although researchers have emphasized the benefits of home modifications, home modifications were not common in the homes of older householders (Schafer, 2000).

The major question leading to this study was why a majority of older people do not modify their homes even if they recognize their current home environment might create difficulties in everyday living. A large body of home modification research has tried to answer this question, and many home modification studies have focused on physical and objective factors in understanding home modification behaviors by older adults. Findings, however, were not consistent and sometimes were even contradictory. For that reason, this study focused instead on perceived aspects of home environment in understanding home modification behaviors.

Some recent studies provide meaningful insight by approaching to older people's home modification issues relating to the meaning of home. Tanner, Tilse, and Jonge (2008) reported that the impact of home modifications is positive for majority of the participants by strengthening home. Although the impact of home modifications is positive for the majority of participants, this study also shows the potential for modifications to detract from the meaning and experience of home when personal or social meanings of home are disregarded. Heywood (2005) also insists that some home modifications are ineffective or even harmful if the symbolic nature of home is ignored.

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The purpose of this research was to understand older people's home modification behavior in rural areas focusing on how the perception of current home influence home modification decision. It focused on the perceived aspects rather than physical and objective home aspects as a cause or impact of home modification.

Methods

Data were collected by a questionnaire through 13 senior centers in northwest Tennessee areas in 2008. The response rate was 43.1% with 317 eligible completed questionnaires. The sample of this study is composed of seniors who were age 60 years old and older aging in place in northwest Tennessee areas which are considered most rural areas in Tennessee. The statistical Package for the Social Sciences (SPSS) was used to describe and analyze the data. Chi-square, analysis of variance (ANOVA), and Spearman's correlation tests were employed to analyze data. A confidential level of $p < .05$ was chosen for statistical significance.

Results

The average age of the respondents was 74.5 years old and among them approximately 74% were female ($n = 234$). Slightly half of the respondents ($n=153$) had high school degree. Over the half of the respondents (64.6%) had annual income of \$20,000 or less. Approximately 80% of the respondents described their health condition as fair or good. In terms of housing conditions, almost 71% lived in a single-family detached home, 77% of the respondents owned their homes without (50.8%) or with (26.4%) a mortgage or loan, while 19.2% rented their homes. Over the half (60.4%) of the respondents' homes were built in before 1980, among them 17.6% lived in home built before 1950.

Not surprisingly, almost 80% showed their strong desire to aging in place. However, only 18% responded they had changed or repaired home features within the last 5 years. Seventy-five percent of the respondents thought that their homes were safe enough to be able to get

around their homes. The age of the current home, falling experience within the last two years, experience of using personal help for daily activities are revealed as influential factors on home modification practices for last 5 years. According to Chi-square tests, homes built during 1951 to 1970 were most modified (59.1%) and respondents who had falling experiences and had used personal help for their daily activities did more home modifications than who had not. Other factors did not seem to be related to home modification behaviors with a statistical significance.

Three questions were used to investigate perceived aspects of home environment. These questions are asking about the perception of home capability to meet older people's future needs, home satisfaction, and perception of safety at home (Cronbach $\alpha = 0.824$). Spearman's rho showed that all factors had statistically significant relationships ($p = 0.01$). There are not significant differences of perceived aspects of home environment between those who modified their home features and those who did (See Table 1). This result supports the basic hypothesis of this study that objective and physical home conditions would not strongly influence home modification decision, rather perceived aspects of home environment would be more influential.

Table 1. Mean Comparisons of Perception of Home Environment by home Modifications

	Home modifications	N	Mean ⁴⁾	Std. Deviation
Perception of capability of home ¹⁾	Yes	53	3.91	1.043
	No	239	3.86	1.056
Home satisfaction ²⁾	Yes	54	4.31	1.006
	No	241	4.16	0.993
Perception of home safety ³⁾	Yes	52	4.27	0.819
	No	238	4.17	0.931

Note: 1), 2), and 3) shows questions used to investigate each perception of home environment.

1) How well do you think your home is able to meet your physical needs as you grow older?

2) Are you satisfied with your current home?

3) Do you think your home is safe enough to be able to get around your home?

4) Answer ranges from 1: not well (strongly disagree) to 5: very well (strongly agree)

Conclusions and Discussions

Older people living in rural communities are generally lack of resources necessary for daily life, such as housing, health care, or transportation. Results from this study show that although general physical home environment was not supportive, most of the respondents (75%) showed high residential satisfaction. Especially those aged 80 years and older appear to need attention because they showed a higher home satisfaction and perception of home safety compared to the lower age group. It might be a cause for less home modifications by them. Moreover even if their home environment is improved through home modification, they might not be satisfied with their new environment since home environments involve complicated meanings to individuals, especially older people who had spent in one residence for a long time. These factors should be

considered when some changes are necessary. If it is not possible, other options should be sought in order to minimize the change. Community based personal help service focusing on home maintenance can be a solution since respondents indicated that maintenance or housekeeping services were the most perceived potential problems for the future in their current home.

The results from this study cannot be generalized for the entire elderly rural population, mainly because the sample for this study was not a random sample. However, this investigation has significance in terms of understanding the relationships between the subjective perception of homes and home modification practices in older people.

References

- Heywood, F. (2005). Adaptation: Altering the house to restore the home. *Housing Studies*, 20(4), 531-547.
- Oswald, F., & Wahl, H. (2005). Dimensions of the meaning of home in later life. In G. D. Rowels & H. Chaudhury (Eds.), *Home and identity in late life: International perspectives* (pp. 21-46). NY: Springer Publishing Co.
- Schafer, R. (2000). Housing America's seniors. Joint Center for Housing Studies.
http://www.jchs.harvard.edu/publications/seniors/housing_americas_seniors.pdf
- Tanner, B., Tilse, C., & Jonge, D. (2008). Restoring and sustaining home: The impact of home modifications on the meaning of home for older people. *Journal of Housing for the Elderly*, 22(3), 195-215.

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HOUSING CONCERNS FOR ELDERLY IMMIGRANTS: EXPLORING THE PERSONAL RESPONSIBILITY AND WORK OPPORTUNITY RECONCILIATION ACT OF 1996

Sung-jin Lee, Kathleen Parrott[†]

Introduction

When exploring housing concerns of elderly minority immigrants in the United States, different approaches from those of other immigrants are needed because of possible cultural barriers and financial difficulties (i.e., limited access to government programs and lower homeownership rates). Compared to younger immigrants who are easily Americanized, aging immigrants may struggle with American culture, keeping their old culture and certain expectations to their children (e.g., filial piety in Confucianism). Elderly immigrants, newly arrived and financially dependent on their families, may have limited housing options especially if they prefer independent living for freedom and privacy. These groups may have less savings and insurance from previous employment in their countries of origin (Gorospe, 2006) and be ineligible for U.S. government healthcare funds and supplementary social benefits.

Immigrant ineligibility for government support has been tracked to the enactment of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996, developed in part to ensure that public benefits do not provide incentives for immigration and that immigrants entering the United States be self-reliant (U.S. General Accounting Office, 1998). Although it has been over 10 years since the enactment of PRWORA, there is little research on how/whether PRWORA influenced elderly immigrants' housing in the United States. This paper explores how PRWORA of 1996 potentially influences housing situations of elderly immigrants and suggests how the housing field can appropriately serve such groups' housing needs.

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Importance of PRWORA of 1996 to Elderly Immigrants

From the Social Security Act in 1935 through the welfare reform law of 1996, the immigration status of those lawfully admitted for permanent U.S. residence allowed eligibility for welfare benefits. Under Title IV (Restricting Welfare and Public Benefits for Aliens) of PRWORA, pre-PRWORA immigrants (entered the United States before enactment of the legislation on August 22, 1996) remained eligible for some benefits. After enactment of PRWORA, new immigrants were not eligible for Federal benefits during their first five years of U.S. residency, “until they become naturalized citizens, or unless they have an immigration status excepted from the restriction” (USGAO, 1998). The key Federal programs consist of TANF (Temporary Assistance for Needy Families), Medicaid, Supplemental Security Income (SSI), and the Food Stamp program. New immigrants cannot receive TANF and Medicaid benefits during their first five years in the United States, and no benefits for SSI and the Food Stamp program until they acquire citizenship. Also, PRWORA permitted states the option of denying TANF and Medicaid eligibility to most pre-PRWORA immigrants as well as to new immigrants after five years of U.S. residency (USGAO, 1998). With passage of PRWORA, it was projected that nearly half a million elderly and disabled who obtained benefits would lose their SSI benefits and Medicaid (National Association of Social Workers, 1996).

One of the most critical features of PRWORA was denial of benefits to legal immigrants. When PRWORA was being reauthorized, it was noted that nearly half of the projected savings came from reductions in public benefits eligibility for immigrants (Woodside, 2001). The U.S. General Accounting Office (1998) noted that the law required some sponsors of new immigrants to sign contracts: “Under welfare reform, an immigrant sponsored by a relative must have the sponsor sign an affidavit of support promising to provide financial assistance if needed” (p.6).

Such limited government supports can cause elderly immigrants to struggle with financial resources. Aging minorities could be more dependent on family networks because they have less access to government assistance, which affects aging minorities' housing conditions. One case study of Korean immigrants (Kauh, 1999) revealed that most Korean elderly respondents had never experienced any employment for pay in the United States. Their lack of employment made them ineligible for Social Security benefits, resulting in increased poverty. Their income mostly came from SSI. Therefore, under the welfare reform law change, these elderly would be more dependent on family networks for resources due to less access to government assistance, leading to difficulty pursuing independent living arrangements (which they prefer) and to challenges with their housing quality, leading to dissatisfaction.

Theoretical Perspective

The theory of housing adjustment can be considered when exploring the PRWORA and housing conditions of elderly immigrants. The theory rationalizes the complex processes of American families making decisions about their housing and reveals the relationships of individuals, housing and neighborhoods within the social context (Morris & Winter, 1978). Norms and constraints (e.g., economic resources) are influential forces when a person needs to decide about housing. Elderly immigrants in the United States may express different cultural norms and demographic characteristics, which are closely related to their resources and constraints. Government assistance under PRWORA can be regarded as a major factor which influences such group's income (i.e., resources and constraints), which eventually affects housing access, quality and satisfaction.

To examine elderly immigrants' housing situations before and after PRWORA of 1996 and to track their changing housing satisfaction levels, further study could consider the American Housing National Survey (AHS), which provides the largest regularly administered national

sample that describes people and their homes in the United States, and is conducted biennially in housing units (Montfort, 1998). The AHS allows analyzing relationships among demographic characteristics (i.e., immigration), PRWORA (government assistance) and housing satisfaction levels.

Conclusions

To discuss housing challenges of elderly immigrants in the United States, this paper explores PRWORA, which is closely related to constraints and/or resources of immigrants. In future, housing professionals and governments should consider relationships between public welfare programs with its impact on housing environments of elderly immigrants with limited resources, which may be compounded with their cultural barriers and aging processes. Such groups are likely to be more dependent on family and sponsors, which can lead to potential conflict and to lower housing quality and satisfaction. Recommendations are that housing programs should be conjunctively earmarked in the public income-oriented programs to better serve such groups' demands on housing and that non-profit organizations should be actively involved in helping elderly immigrants' living environment to better improve their quality of life.

References

- Gorospe, E. (2006). Elderly immigrants: Emerging challenge for the U.S. healthcare system. *The Internet Journal of Healthcare Administration*, 4(1). Retrieved May 13, 2009, from http://www.ispub.com/journal/the_internet_journal_of_healthcare_administration/volume_4_number_1_21/article_printable/elderly_immigrants_emerging_challenge_for_the_u_s_healthcare_system.html
- Kauh, T. (1999). Changing status and roles of older Korean immigrants in the United States. *International Journal of Aging and Human Development*, 49(3), 213-229
- Montfort, E. D. (1998). American housing survey. In W. V. Vliet (Ed), *The encyclopedia of housing* (pp.17-18). Thousand Oaks, CA: Sage Publications Inc.
- Morris, E. W., & Winter, M. (1978). *Housing, family, and society*. New York: John Wiley & Sons, Inc.
- National Association of Social Workers (1996). *Personal responsibility and work opportunity reconciliation act of 1996 (Public Law 104-193)*. Retrieved May 13, 2009, from <http://www.socialworkers.org/advocacy/welfare/legislation/summary.pdf>
- U.S. General Accounting Office (1998, July). *Welfare reform: Many states continue some federal or state benefits for immigrants*. (Publication No. GAO/HEHS-98-132). Retrieved May 13, 2009, from General Accounting Office Reports Online via GPO Access: <http://www.gao.gov/archive/1998/he98132.pdf>
- Woodside, C. (2001). *Recommendations for the reauthorization of the personal responsibility and work opportunity reconciliation act public law 104-193*. Retrieved May 13, 2009, from <http://www.socialworkers.org/advocacy/welfare/legislation/recommend.pdf>

THE FIELD GUIDE PROJECT: A TEACHING TECHNIQUE FOR MILLENNIAL LEARNERS

Ann Ziebarth, Carmen Steggell[†]

Housing educators today are faced with a new kind of student—the Millennial Learner. A number of characteristics define this cohort of students; they feel they are special, they are sheltered, and are team oriented. Millennials are confident and highly optimistic, they feel pressured to perform, and are conventional and respect cultural differences (Monaco & Martin, 2007; Howe & Strauss, 1993). These students work well in groups and are technologically savvy. At the same time, they provide challenges to instruction: they demand very specific instructions and expectations for assignments, they respond best to interactive learning, and they insist on immediate and continual feedback on their progress.

The usual teaching style for upper division and graduate courses in many housing studies programs revolves around lectures with discussion based on extensive readings. The readings are typically academic journal articles and/or books on specific topics. The instructor typically expects students to read substantial amounts of material, conduct literature searches in the library, and prepare long detailed reports of 15 to 30 pages at the end of the term. This teaching format often leaves students struggling and uninterested. Instructors are disappointed in term papers that reflect limited critical thinking and the excessive use of websites in reference lists. In this presentation we provide an alternative instructional strategy and report on the effectiveness of a class project jointly conducted at the University of Minnesota and Oregon State University.

Students enrolled in a graduate seminar, “Theoretical Perspectives in Housing Studies”, at the University of Minnesota during the spring semester of 2009 were challenged with an innovative active-learning exercise development a “field guide to housing theory.” The field

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guide, modeled after the “field guide to birds” genre, was designed to address a number of learning objectives, including in-depth understanding of a specific theoretical perspective, oral presentations, collaborative project design, and professional writing experiences that all led to the development of a “print on demand” book.

Each of the nine students was assigned a particular theory. The student presented a brief overview of the theory and led a class discussion on that perspective. Typically, two academic journal articles were assigned each week to provide a common basis for class discussion; however, student presenters supplemented these readings with additional information. The oral presentation was summarized in a two to three page entry for the field guide. The class collectively determined a framework for the summary pages to provide consistency in the book. Each summary included the title of the theory, a photograph of an exemplar who developed or promoted the perspective, a brief explanation of the theory, and a bibliography of academic sources that included background to the theory and applications within the housing field.

To test out the expandability of the project, students in the graduate-level “Theories in Housing” class at Oregon State University contributed summaries to the book as well. While the original plan was to offer the classes jointly, structural constraints limited the involvement of students across campuses.

At the University of Minnesota, additional assignments included weekly annotated bibliographies of three additional academic sources that students would use to develop a final term paper on a theoretical perspective of his or her own choice. While most students used the assigned theory, those students who had previously determined the theoretical perspective for their thesis or dissertation concentrated on that theory for their bibliographies and final paper. As a means of “checking in” with the learning, students were required to submit five brief two to three page reflection papers on readings or class discussions. The reflection papers allowed

students to express their frustration, confusion, or enthusiasm as they discovered theory as a key component of the research process.

At the end of the semester the University of Minnesota and the Oregon State University students' summary pages were edited and formatted by the class instructors. Using a commercial publishing website that provides "print on demand" bound copies, the assignment was turned into a book. Each student received a copy of the *Field Guide to Housing Theory*. As a web sourced book, the instructors anticipate that future editions will expand the theories presented and incorporate additional contributions from students working with other HERA-affiliated instructors.

Overall the course was designed to address students' learning preferences. Clear expectations for assignments were made. Students received on-going feedback. They were able to apply their studies in active learning projects. Finally, they were encouraged to use their technological expertise to create a tangible collective outcome of their work.

Student feedback on the *Field Guide* project was extremely positive. Students reported that the class was an engaging learning experience and expressed a desire to continue meeting for theory discussions even after the semester ended. Students enjoyed the collaborative aspect involved in developing entries for the book and felt that it encouraged them to do better work than otherwise. They liked having the tangible result of their effort and anticipated using the book as they prepare for preliminary exams and develop future research plans.

Following the recommendations by Diana Jonas-Dwyer and Romana Pospisil (2004) we agree that an important component to academic development for instructors includes the need to "become conversant in applying educational design principles" (p. 203). One key principle is to develop teaching techniques that match student's learning preferences. For millennial learners interactive projects and applications to their future professional lives is essential. The

field guide project allowed students to work in groups, employ their technological skills and respond to their desire for continual feedback. As a subject matter housing studies lends itself well to this applied life-long learning approach. The use of active learning pedagogy and “real-world” projects were found to be successful teaching/learning strategies.

References

Howe, N. & Strauss, W. (1993). *Millennials Rising: The Next Greatest Generation*. New York: Vintage Books.

Jonas-Dwyer, D. & Pospisil, R. (2004). The Millennial effect: Implications for academic development.

Monaco, M., & Martin, M. (2007). The millennial student: A new generation of learners. *Athletic Training Education Journal* 2(April-June), 42-46.

**SATISFYING THE BIG MAN ON CAMPUS:
A RENOVATION CREATES HOUSING SOLUTIONS FOR UNIVERSITY ATHLETES**

Paulette Hebert[†]

Purpose and Background

The purpose of this project was to provide a practical and interesting learning experience for design students, to encourage communication between academics, athletics, and administration, and to develop a functional and creative design solution to a southern, public University's housing needs. Inadequate housing for student athletes, budget constraints, and the desire to be more competitive in recruiting football players prompted the University to consider renovating its existing Conference Center into a residence hall. Although this building suffered from deferred maintenance, it offered a substantial amount of structurally sound square footage, conveniently located near University athletic facilities. Therefore, it was selected for renovation.

To effectively realize this project and to continue providing practical experiences for faculty and students, the University commissioned the Facility Design and Management Studio (the Studio) to furnish design services for the Residence Hall Project. The Studio's University-sanctioned mission was to provide on-campus design assistance. The Studio was led by a design educator and was involved with the renovation project from January through December 2006.

The guiding principles of the Studio model reflect Sherry Arnstein's (1969) theoretical work, "A Ladder of Citizen Participation". This publication encouraged participation by "citizen" stakeholders in the decision-making processes made by societies, including planning and design decisions. With the current project, the Studio also achieved stakeholder participation.

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One particular group of project stakeholders, current and potential University football players, required careful design consideration. Kennedy (2005) postulated that a university's facilities are a determining factor in school selection. Although the NCAA requires the co-habitation of student athletes and non-athletes (Boyle, 2005), it was the athletes' physical attributes (height, weight, etc.) that influenced many of the Studio's design decisions for the current project.

Little previous interaction between University athletics and The Studio or other design-related academic programs existed on the Residence Hall Project's campus. Indeed, little collaboration at any university between athletics and academics was found. Powers (2007) discovered that many academics regularly express disinterest in their University's sports programs.

Methodology

The Residence Hall Project represented a year-long collaboration and exploration between the six Studio designers (design and architecture students and faculty) and the University stakeholders (Athletics, Residential Life and Physical Plant). Student participation was invited via flyers posted in the School of Architecture and Design Building. Based on the labor budget allocated by the University to the Studio, all students were offered hourly pay or variable course credit via independent study.

Design inputs were gathered through precedent studies, industry and product literature reviews, materials and furniture sample acquisition and review, field studies, interviews and regular meetings with University stakeholders, interviews with and observations of athletes, reviews of raw physical attribute data (height, weight, etc.) from student athletes, review of the existing building plans, and reviews and documentation of existing field conditions.

Summary of Results

Most of the students elected to receive three hours of studio course credit. The Studio faculty were paid summer salary. Male and female, European-American and African-American, undergraduate and graduate students participated.

The Studio acquired physical data on the University's existing athletes from the University's Athletic Office. These data proved to be some of the most influential information acquired towards the design of the facility. The physical data revealed that, on average, University athletes were 3" taller and weighed 82 pounds more than most men.

Conversations and visits with the athletes revealed additional differences between athletes and the average population. For example, some football players had to dodge low hanging light fixtures and mechanical equipment in corridors or had difficulty maneuvering within existing shower stalls. Some of the furniture originally considered for the athletes would not carry the weight of some of the larger football players. In response, various design modifications to the existing building were recommended by the Studio, including changing ceiling heights and raising existing lavatory counter heights. Further, extra-long and -sturdy bed frames and the use of bowed shower curtains were specified.

As part of a larger, longitudinal study, questionnaires were administered to the participating University stakeholders subsequent to the completion and submission of the design. The questionnaires were sent to the subjects via campus mail. Return was requested via campus mail. Stakeholders' opinions regarding the communication processes and the design deliverables for the applicable renovation projects were sought. Only two useable questionnaires were returned to the researchers for the Residence Hall Project. In both cases, the respondents rated the "overall design work"; "the quality of design solutions"; the "overall

experience of working with the Studio”; and “solving of relevant issues”, including “ergonomics”, “providing for privacy” and “space planning” on this project as “high” or “very high”.

Although the small number of viable stakeholder surveys makes the reliability of the survey results uncertain, the Studio also solicited comments and suggestions from the stakeholders, during meetings with the University’s Residential Life office, the Dean of Students, and the University’s Physical Plant. The majority of the comments received, regarding the consideration of the special population, the athletes, in the Studio’s design, were positive.

Design outcomes of this housing design collaboration included a unique Residence Hall solution which was disseminated to and accepted by the University. Furniture, Finishes & Equipment specifications, price estimates, construction documents, and PowerPoint presentations were provided by the Studio. Currently, the Residence Hall has been partially renovated, per the Studio’s recommendations, but a Post Occupancy Evaluation has not yet been administered.

Reference

- Arnstein S. (1969, July). A ladder of citizen participation. *Journal of the American Institute of Planning*, 35(4), 216-224.
- Boyle, E. (2005, September & October). Integrating student athletes into resident life. *Talking Stick*, 23(1), 23, 27-30, 48.
- Kennedy, M. (2005, December 1). Winning ways. *American School & University*. Retrieved October 1, 2008, from http://asumag.com/Construction/athletics/university_winning_ways_2/.
- Powers, E. (2007, October 16). Assessing the faculty role in sports oversight. *Inside Higher Ed*. Retrieved September 14, 2008, from <http://insidehighered.com/news/2007/10/16/knight>.

THE EFFECTIVENESS OF TECHNOLOGY-ASSISTED LEARNING AND INTERNATIONAL TRAVEL IN COMPARATIVE HOUSING EDUCATION

Katrin B. Anacker, Hazel A. Morrow-Jones[†]

Since 1998 graduate students from the Austin E. Knowlton School of Architecture at The Ohio State University (OSU) in Columbus, Ohio have participated in an exchange program between OSU and the Technical University of Dresden, Germany (TUD). The overall topic is "sustainable urban development". Over the past decade class topics have covered aspects of housing, urban planning, land use and governance, and emergency preparedness among other topics.

Each year the exchange program starts with a jointly taught class in the spring. The students are introduced to each other across the international border using video conferences, e-mail and a web site. The whole class meets via video conferencing and the students work in small groups (usually two from OSU and two from TUD) using the various technologies during the spring term. At the end of the American spring quarter (late May/early June) the OSU students and faculty travel to Dresden for field work and intensive projects. At the end of the German spring semester (mid-July) the German students and faculty come to Columbus for the same kinds of activities.

The outcome of this class is a joint student paper on a topic suggested and guided by the two instructors of the class (one from each country). The goal of this paper is to compare and contrast the difference in planning and policy for a particular topic and it builds on the background research, field projects and previous presentations that the students have done during the time of the course and the trips. The paper is due in the fall after the students have returned to their home country.

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Video conferences are held in different formats at different times. There is an introductory video conference at the beginning of the term where the entire class meets. Then there are two video conferences, in one the American professor lectures about an American topic and in the other the German professor lectures about a German topic. In addition to these full-class video conferences there are small group video conferences among team members. The latter video conferences are arranged by the team members according to communication needs. The teams are encouraged to have as many video conferences as needed.

After three years of observing intercultural communications among the students, it became apparent that some groups communicated more successfully with each other than others. We are interested in exploring the reasons for this variability. The first step was to conduct a literature review. After reviewing the literature in the subfields (a) effective group decision making, (b) anxiety/uncertainty management, and (c) cultural convergence, we decided that Gudykunst's Anxiety/Uncertainty Management (AUM) Theory (1995) is probably a framework that comes closest to our goal, the analysis of successful elements of and roadblocks to intercultural communication in a systematic fashion. AUM Theory is a theory of effective interpersonal and intergroup communication in intercultural contexts based on 47 axioms. These axioms are the frame for the discussion in our results section.

Over four years, from 2002 to 2005, we distributed six questionnaires throughout the exchange season (March/April until September). The first questionnaire was distributed on the first day of class in spring quarter/semester. (OSU typically had an earlier start than TUD, sometimes the difference was a few days, sometimes the difference was a few weeks). The second questionnaire was given out right after the first video conference (which was oftentimes the first day of class at TUD). The third questionnaire was distributed after a video conference lecture by a professor, i.e., when the American professor lectured the questionnaire was given to the German students; when the German professor lectured the questionnaire was given to

the American students. The fourth and fifth questionnaires were given out towards the end of spring semester. These questionnaires focused on (a) general (i.e., e-mail, phone) and (b) small group video conference communication within among members of the small groups (usually two from OSU and two from OSU).

Questions focused on communication via e-mail and via video conferencing, comparing and contrasting these two means of communication with the focus on progress for the project and on communication roadblocks. Several dozen questions were asked in the six questionnaires, for example “What were the ‘ice breakers’ of your first small group video conference?”; “In general, when problems come up during a small group video conference, how do you solve them?” “In general, during a small group video conference, have there been awkward moments?”

While American students answered the questionnaires on paper, German students answers the questionnaires electronically and submitted them via e-mail. All questionnaires were summarized in a MS Word document (for the case of non-numerical answers) and in a MS Excel document (for the case of numerical answers). Non-numerical answers that provided the most fitting answers to the questions were selected for our analysis. For the numerical answers descriptive analyses were undertaken.

Our research questions are as follows: first, what are the elements of successful intercultural communication using technical and non-technical means? Second, what are the (potential) roadblocks to intercultural communication in this setting? Third, what strategies help in case of derailed intercultural communication? Finally, what is the role of technology in enhancing or blocking communication?

Preliminary results indicate that communication in person using non-technical means is the best way to establish working relationships, followed by communication using video conference facilities, communication using the telephone, and communication using e-mail. Main reasons

for roadblocks to intercultural communication are language difficulties and underlying assumptions based on participants' cultures. Strategies to address derailed intercultural communication include asking/answering questions that address the underlying assumptions of the participants. Video Technology enhances communication and has several advantages over telephone and e-mail although personal communication ranks highest. These findings have relevance for international work in a variety of venues including academic partnerships (for both research and teaching), international service learning work and international technology transfer.

THE IMPACT OF HOUSING VALUES ON THE DEMAND FOR REVERSE MORTGAGES

Eileen St. Pierre[†]

With the aging of the baby boom generation, much attention has been focused in the consumer education community on how this generation will finance their retirement given their lack of personal savings, as compared to previous generations. One financial instrument increasingly being considered by individuals, financial planners, and public policy officials is the reverse mortgage. A reverse mortgage is a special type of home loan that allows a homeowner to convert a portion of his/her home equity into cash. There are several factors that determine how much money a homeowner can borrow: homeowner's age, current value of the home and its growth rate in the future, current interest rates, and the amount of equity in the home (Szymanoski, 1994; Quercia, 1997; Skarr, 2008). Generally speaking, the older you are, the more valuable your home is, and the lower interest rates are, the more money you can access. Since the value of the home is such an important factor in determining the cash flow received by the homeowner from a reverse mortgage, it is important to understand how changes in home values have impacted the demand for reverse mortgages.

This study looks at how the surge in home values starting in late 2001 to mid 2006 (the housing bubble), and the precipitous drop in prices since then, affected the demand for FHA-sponsored home equity conversion mortgages (HECMs) in the United States. As of December 2007, approximately 90% of all reverse mortgages were HECMs. It will also assess whether this change in demand was influenced by the age, gender, and state/region of residence of the eligible homeowner(s).

The HECM Single Family Portfolio Snap Shot contains monthly data on HECM loans from January 1990 to April 2009 and has been made publicly available by HUD. It contains

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information on the property location, lender, interest rate, initial principal limit, maximum claim amount, and endorsement month and year. The data set is partitioned into three sub periods: (1) program initiation to the start of the housing bubble, (2) the 2001 to 2006 housing bubble, and (3) current housing crisis and resulting credit crunch. The number of HECM loans is assumed to be a proxy for the demand for reverse mortgages.

In all but four of the 50 states, the number of HECM loans has increased over time. The only exceptions were California, Colorado, Minnesota, and Nebraska; in Period 3, the numbers of loans were below those in Period 2. Given how many new loans are added to the database per month, it appears that the number of loans in these 4 states could soon exceed those in Period 2 by the end of the 2009 fiscal year. On a national basis, it does not appear that declining real estate values are affecting the demand for reverse mortgages. Table 1 contains sample statistics for the top five HECM states in the number of endorsed loans.

An interesting statistic in Table 1 is the number of lenders in each state. During Period 1, the number of lenders was small, ranging from 17 in Colorado to 77 in California. During Period 2, the number of lenders in all of the top five states increased. In California, the number of lenders increased by 205. In Florida, they more than doubled. During Period 3, in less than three years following the bust of the housing bubble, the number of lenders explodes for all states. The numbers are particularly alarming for Florida and California. In Florida, the number of lenders has increased to 872; in California, they now total 797. The market share of the top 5 lenders dropped to 27.61% and 38.18%, respectively, in Florida and California. There is a similar drop in this statistic for all of the top five states. This increase in competition may leave seniors confused about which companies to trust.

The Home Equity Conversion Mortgage Characteristics data set has also been made publicly available by HUD. It contains annual averages of variables from fiscal year 1990 to

2008 including age and gender percentage. A time-series analysis will be performed on this data set. According to preliminary results, the average age of borrowers has been falling over time, with a steady decline beginning after the year 2000. This shows that seniors are relying more on reverse mortgages as an income source for longer periods of time in retirement, not just using this cash flow for emergencies or long-term care needs (Leviton, 2001).

The percentage of single females taking out HECMs has followed the same pattern. The percentages of single male and dual applicants have increased since 2000, with the percentage of dual applicants falling slightly in 2007 and 2008. Past literature has theorized that single elderly women would be the primary users of reverse mortgages. They tend to live longer than men and could use reverse mortgages as their final financial buffer against adversity (Morgan, Megboluge & Rasmussen, 1996; Ong, 2008). However, if the percentage of dual applicants has risen, this could also indicate that reverse mortgages are being used as a more regular source of retirement income. In other words, couples are making this decision together earlier in retirement, not leaving this financing decision as a last resort for the surviving spouse.

Given the declines in the value seniors' retirement portfolios that have occurred in Period 3, the demand for reverse mortgages is expected to increase. It is imperative that seniors and those individuals who are nearing retirement fully understand reverse mortgages. The proliferation of subprime mortgage loans during the housing bubble was fueled by mortgage company greed but also by homeowners who did not understand the documents they were signing. The resulting collapse of the real estate market and its aftermath will continue to be felt in the U.S. and throughout the world for quite some time. Consumer educators need to make sure they counter ads from reverse mortgage lenders with a sound curriculum that provides unbiased and accurate information about the benefits and risks of reverse mortgages.

References

- Leviton, R. (2001). Reverse mortgage decision-making. *Journal of Aging & Social Policy*, 13 (4), 1-16.
- Morgan, B., Megbolugbe, I., & Rasmussen, D. (1996). Reverse mortgages and the economic status of elderly women. *The Gerontologist*, 36 (3), 400-405.
- Ong, R. (2008). Unlocking housing equity through reverse mortgages: The case of elderly homeowners in Australia. *European Journal of Housing Policy*, 8 (1), 61-79.
- Quercia, R. (1997). House value appreciation among older homeowners: Implications for reverse mortgage programs. *Journal of Housing Research*, 8 (2), 201-223.
- Skarr, D. (2008). Financial planner's guide to the FHA insured home equity conversion mortgage. *Journal of Financial Planning*, 21 (5), 68-75.
- Szymanoski, E. (1994). Risk and the home equity conversion mortgage. *Journal of the American Real Estate and Urban Economics Association*, 22 (2), 347-366.

Table 1

Sample Statistics for Top Five HECM States

Period 1: 01/01/90 to 09/30/01

<u>States</u>	<u>Cases</u>	<u>%Total Lenders</u>		<u>Top5%</u>
CA	7364	14.82	77	60.66
NY	4376	8.81	36	58.34
CO	2630	5.29	17	97.12
IL	2492	5.02	30	93.14
NJ	2469	4.97	37	68.86

Period 2: 10/01/01 to 09/30/06

<u>States</u>	<u>Cases</u>	<u>%Total Lenders</u>		<u>Top5%</u>
CA	51683	27.46	282	58.55
FL	16104	8.56	148	61.67
TX	10884	5.78	93	72.08
NY	9131	4.85	50	76.93
MI	6836	3.63	67	74.21

Period 3: 10/01/06 to 04/30/09

<u>States</u>	<u>Cases</u>	<u>%Total Lenders</u>		<u>Top5%</u>
FL	46044	16.07	872	27.61
CA	44110	15.40	797	38.18
TX	16774	5.86	271	46.37
NY	12117	4.23	228	52.04
AZ	10836	3.78	240	53.23

Note. Top5% = market share of top 5 lenders.

“I DON’T’ LIKE THE CARPET...”

INTRODUCTION OF A PURCHASING MODEL

Jessica A. Lloyd, Kathleen R. Parrott, Julia R. Beamish[†]

“I don’t’ like the carpet.” “It doesn’t feel right.” What drives a single woman in her 30s and 40s to purchase a home without a husband or partner?

The desire for homeownership is a long-standing goal for the overwhelming majority of Americans (Rohe & Stegman, 1996; Shay, 2006). Multiple studies indicate that homeownership and a single family detached dwelling are the most powerful cultural norms for housing in the United States (Beamish, Goss, & Emmel, 2001; Dillman, Tremblay, & Dillman, 1979). And for women, marriage has been the traditional path to homeownership, particularly for women. Yet, according to the *State of the Nation’s Housing* (Harvard, 2005), more than one in five homebuyers today is a single woman. In fact, unmarried women make up more than one third of the growth in real estate ownership since 1994 (Harvard, 2005).

In the mist of tough economic times, will single women continue to purchase homes, or will the sharp downturn in the housing market effect their decision to buy? This work explores the unique needs of this population, and presents a purchasing model to better explain and predict the future of this trend.

Methodology and Data Collection

The primary purpose of this study was to explore the current cultural phenomena of unpartnered, never-married women in their 30s and 40s purchasing homes. The secondary purpose was to produce a model representing the factors behind the single woman’s decision to

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purchase rather than rent a home. This study was designed as a qualitative phenomenological study utilizing a constructivist paradigm.

Twelve semi-structured, in-depth, audiotaped interviews were conducted with single women in their 30s and 40s who had purchased a home. According to the 2000 US Census, the average age of a first time home-buyer has been steadily increasing from 28 years in 1976, to 32 years in 1999. Thus an age range of 29 to 49 was chosen. Participants were recruited through researcher initiated contact, word of mouth, and snowball referrals. Effort was made to ensure variation among the participant's education, occupations, types of dwelling purchased, and the length of residency.

Results

Twenty-one psychological, social, and behavioral themes emerged in the main body of this study: Eighteen were strongly supported (mentioned by at least half of the participants), while three received moderate support (discussed by at least one fourth of the respondents). Emergent themes were assessed and organized with the guidance of reasoned action theory (Ajzen & Fishbein, 1980). For a complete review of each theme, our data analysis, and participant quotes see Lloyd (2008).

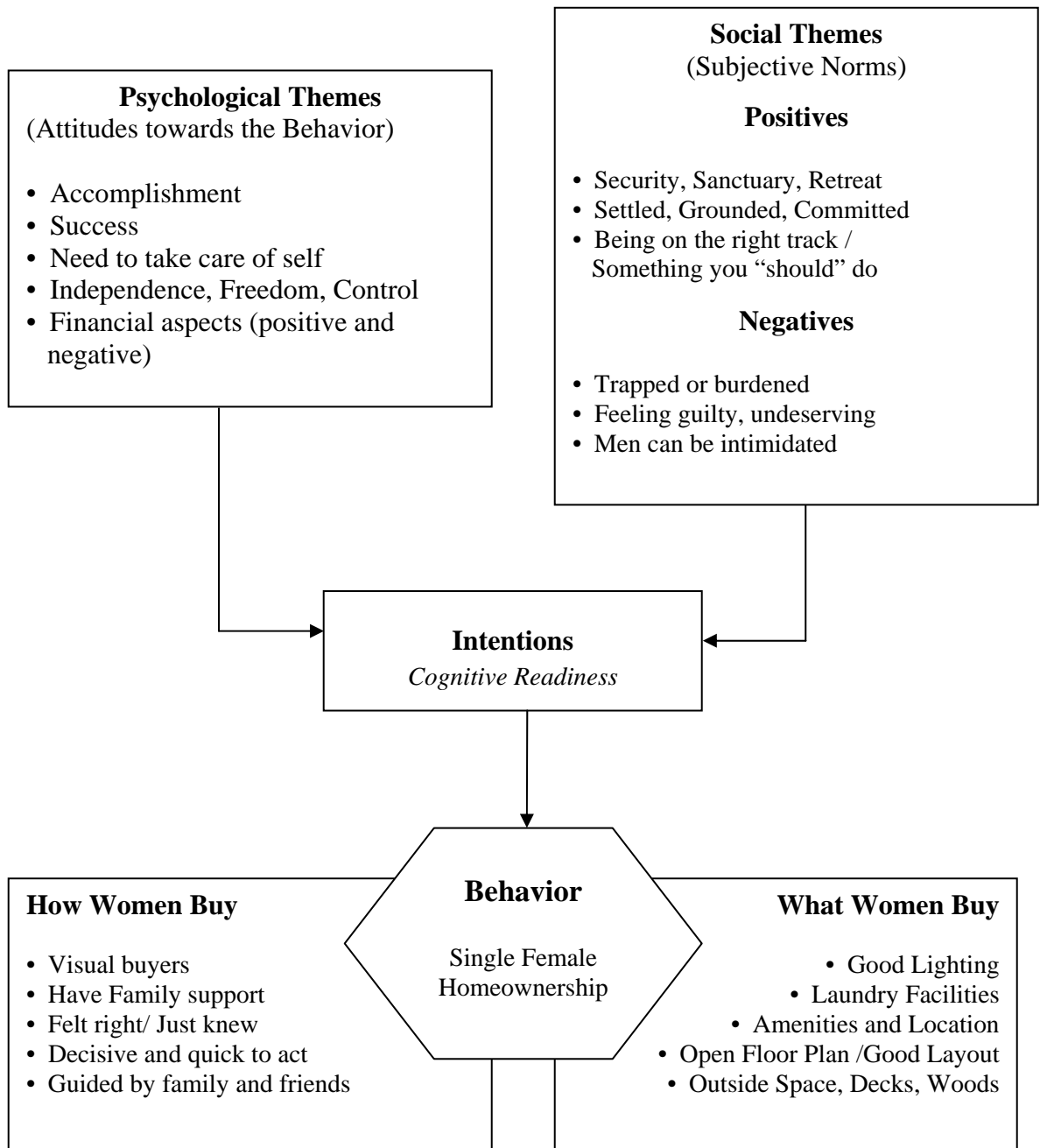
Introduction of the Model

Reasoned action theory examines the methods by which an individual weighs the consequences of their actions (the perceived advantages and disadvantages associated with any given behavior). It states that an individual's behavioral intention is based on: 1) attitudes towards the behavior, or the consideration of a person's collective beliefs, and 2) subjective norms, or beliefs about what others might think.

For this model (Figure 1), attitudes are defined as the collective beliefs the participant holds regarding her sense of accomplishment, success, freedom, control, and the perceived financial aspects of her choice, both positive and negative. As highlighted by Ajzen and Fishbein (1980), attitudes stem from the individual's own perception of the advantages and disadvantages associated with a purchasing decision. Attitudes are comprised of internally held beliefs and the individual's perceived consequences of such beliefs. Attitudes develop as the individual's values, experiences, and internalized gender norms unfold. Attitudes in this model are represented by the psychological themes.

Likewise, subjective norms parallel the study's social themes and have been broken into two categories: positive and negative. Positive norms include the individual's sense of security or settledness, the feeling of being grounded or committed to something, and the feeling of being on the right track. Negative norms include the individual's sense of being trapped or burdened by her home, feelings of guilt, and the idea that men may be intimidated. Unlike attitudes, subjective norms are characterized as externally driven and pertain primarily to the participant's perception of how others perceive her actions. As presented by Azjen and Fishbein (1980), subjective norms are derived from the individual's social environment and dependent on level of importance one attributes to external opinions.

Figure1: The Single Female Homebuyer Purchasing Model: A Reverse Adaptation of Reasoned Action Theory



The model suggests that single women will continue to purchase homes at an increasing rate. To spite tough economic times and the recent downturn in the housing market, this research indicates that the subjective norms and attitudes influencing the single female's intention to purchase a home are only partially related to her financial, investment, or monetary situation. In short, single female homebuyers are acting in accordance with longstanding social and psychological themes, which likely remain uninfluenced by the changing economy.

Limitations of the Model

Due to the nature of qualitative research and the use of a small homogenous sample with a restricted geographic distribution, the transferability of this model is limited. It is acknowledged that our population was relatively homogeneous and that the participants were educated, English speaking, and primarily middle class. The home purchase price ranged between \$80,000 and \$350,000.

Conclusion

This 12 participant study demonstrates that the primal instinct for homeownership is alive and well in the 21st century female. Driven by social and psychological factors, rather than investment or monetary considerations, we believe the single female homebuyer will weather the current housing market downturn with her desire for homeownership intact. Our model, though still in its early stages, serves to explain and predict a continuing increase in single female homeownership even in the face of tough economic times.

References

- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. New York: Prentice Hall.
- Beamish, J.O., Goss, R.C., & Emmel, J. (2001). Lifestyle influences on housing preferences. *Housing and Society*, 28(1&2), 1-28.
- Joint Center for Housing Studies of Harvard University, (2005). *The state of the nation's housing: 2005*, Cambridge, MA: Joint Center for Housing Studies of Harvard University.
- Lloyd, J. A. (2008). *The single female home buyer: A qualitative analysis of social, psychological, and behavioral themes*. Unpublished doctoral dissertation, Virginia Tech, Blacksburg.
- National Association of Realtors, (2006). *Demographic profile of homebuyers in the United States*. Retrieved from: <http://knowhow-now.com/RealEstate-article64041-2006DemographicProfileOfHomeBuyersInTheUnitedStates.html> on May 20, 2008.
- Rohe, W., & Stegman, M. (1994). The effects of homeownership on the self-esteem, perceived control and life satisfaction of low-income people. *Journal of the American Planning Association*, 60.
- U.S. Census, (2000). *Living together, living alone: Families and living arrangements*. Retrieved from: <http://www.census.gov/population/pop-profile/2000/chap05.pdf> on April 24, 2008.

DEVELOPMENT OF CASE STUDIES FOR USE IN TRAINING OF EMPLOYEES IN THE MULTIFAMILY HOUSING INDUSTRY TO PREVENT FAIR HOUSING VIOLATIONS

JaMarcus Fanning, Sue H. Whitaker[†]

On April 11, 1968, President Lyndon Johnson signed the **Civil Rights Act of 1968**. Title VIII of this Bill is also known as the **Fair Housing Act** (of 1968). The 1968 act provides for federal solutions while the 1966 Civil Rights Act provides for private solutions (civil suits). Forty years later, the National Fair Housing Alliance (NFHA) estimates more than 3.7 million instances of discrimination annually against African-Americans, Latinos, Asian Americans, and American Indians in rental and sales markets, but less than 1% percent of these violations are reported or even detected (Simonson, 2004). It should also be noted that this estimate is very conservative in terms of accuracy, since it doesn't take into account discrimination on the basis of sex, religion, color, familial status or other ethnicities. These data do not include discrimination against persons with disabilities, who are the individuals that file the most complaints with HUD each year. There are many other areas of discrimination that are omitted from this statistic (linguistic profiling, insurance, etc.). The estimate of this number might easily break 4 million (Simonson, 2004).

In 2006, between private agencies who reported 17, 347 complaints (*Fair Housing Trends Report 2007*), and public agencies (HUD, state and local government who reported 10, 328 complaints (HUD *The State of Fair Housing, 2006*), there were total of 27,706 housing discriminations complaints that year, up almost 6% from 2005. Housing discrimination is usually broken down into four major areas: Rental discrimination, sales discrimination, lending discrimination and homeowners insurance.

It is apparent however, based on the number of lawsuits, rental discrimination, is the most troublesome of the four. According to the NFHA, rental cases continually make up the main

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source of Fair Housing complaints. In 2006 private Fair Housing groups reported 14,211 complaints of discriminations in the rental market, over 50% of all the complaints for that year (*Fair Housing Trends Report, 2007*). With these statistics it seems imperative that the multi-family industry needs to address this problem.

To address this problem the authors examined actual cases of rental discrimination and created case studies to use in employee training on how to handle various Fair Housing situations with consistency to avoid violating Fair Housing rules and regulations. It is assumed that actual instances explored in the case studies can be better remembered and more helpful than just explaining the Fair Housing rules. In the multi-unit communities, it is usually the company that owns the property that the case is brought against, as well as the individual, be it a property manager, leasing consultant, or even a maintenance tech. The cost of these settlements can range from the tens to hundreds of thousands dollars. This would be a cost a company would like to avoid. These companies can improve their chances of not having a Fair Housing case brought against them by properly training their staff. The case studies will provide a training exercise that will allow the employees to see and respond to examples from actual cases of what to do and what not to do, and how to maintain consistency among all staff when dealing with Fair Housing issues. The protected classes addressed in the cases studies are: disability, national origin, color, race, familial status, sex, age, and religion.

To make the case studies authentic judged cases were used. Following a review of a number of judicated cases the researcher selected a representative sample of cases to develop into case studies. Cases were selected based on the seven protected classes. The case studies were developed in a way they can be used by management in the multi-family housing industry in the training of their employees regarding Fair Housing practices. The topics and protected classes for the seven case studies are as follows:

- Case Study # 1: A Comforting K-9 (disability)
- Case Study #2: 2+1= Eviction? (familiar status)
- Case Study #3: Depends on Where You Are From (national origin)
- Case Study #4: A Double Whammy (race and sex)
- Case Study #5: 'Saved' from Persecution (religion)
- Case Study #6: Still Going Strong (age)
- Case Study #7: Unwanted Affection (sex)

As the case studies were developed the introduction included a brief description of issues related to the case study, providing background and facts of the case, such as who's involved, where, when, followed by the violation. At this point there is a break in the story for discussion, asking respondents what they would do given the facts of the situation. These were sometimes paired with a "what if" question. Then the case study goes into more detail of what actually occurred. This is followed by another break with additional questions to stimulate more discussion. At the end of the case study the court ruling on what occurred is presented. Since the case studies are all based on actual court cases involving Fair Housing violations the researcher feels that the contents of the case studies fairly and accurately depict situations in which the employees in the multi-family housing industry might find themselves as they work with potential residents and other clients. Management companies can feel comfortable using these case studies during the training of new employees.

During the presentation the presenter's will present one case study in a role play situation. The presentation could serve as an example of how to use the case studies in the workplace setting.

References

- Simonson, J. (2004) University of Wisconsin – Platteville, National Fair Housing Alliance, 2004 Fair Housing Trends Report, April 2004. Retrieved 9/3/08 from <http://www.nationalfairhousing.org/Portals/33/reports/2008%20Fair%20Housing%20Trends%20Report.pdf>
- National Fair Housing Alliance. *2007 Fair Housing Trends Report*. April 30, 2007. Retrieved 9/3/08 from <http://www.nul.org/publications/policyinstitute/factsheet/2007-Fair-Housing-Fact-Sheet.pdf>
- HUD. *The State of Fair Housing (2006)*. March 29, 2007. Retrieved 9/3/08 from <http://www.nul.org/publications/policyinstitute/factsheet/2007-Fair-Housing-Fact-Sheet.pdf>

RENTAL APARTMENTS -- A VIABLE OPTION FOR BOOMERS?

Kimberly J. Mitchell, Julia O. Beamish, Rosemary C. Goss, Hyunjoo Kwon[†]

Introduction

Baby Boomers (those born between 1946 and 1964) have influenced housing demand for decades and will continue to do so since they represent 28% of the population. While many developers focus on active adult communities with single-family homes, multifamily housing may also provide a desired option for some Boomers. The Urban Land Institute (Haughey, 2003) predicts that Boomers will downsize when they become empty-nesters and that rental apartments or condominiums could provide an attractive smaller housing option. Boomers may find the conveniences associated with rental apartments (no yard work, “lock and leave” features, no exterior maintenance, amenities such as pools and gyms) to be an attractive alternative to single-family housing. Some may find multifamily housing to be a desirable second home, while others may desire the location and convenience of new multifamily housing in small urban centers.

The purpose of this presentation is to report findings from site visits and focus groups held with Boomer residents currently living in apartment communities. Preferences and satisfaction with community and apartment features are reported.

Sample and Methodology

In March 2009, researchers conducted site visits, interviews with property managers, and focus group interviews with residents age 50 and older in two rental communities managed by the same company in the Charleston, S. C. area. This paper will focus on the findings regarding

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housing preferences from the 12 respondents who participated in two focus groups, and also compare with preferences identified in the National Association of Home Builders' survey *What Renters Want (2002)*. The focus groups lasted one hour and were held simultaneously at one of the study properties.

Background

The 55 and over age group represents 22.4% of the population in the Charleston MSA (U.S. Census, 2006). The mild climate (average temperature of 65.3 degrees F.) and abundant recreational opportunities make this a desirable location for Boomers.

The study properties feature resort-style living near marshes or the river. Property 1 is an eight-year old 360 unit garden style Class A luxury rental community. Each building is a three-story walk-up. Property 1 offers 1, 2, and 3-bedroom apartments averaging 1032 square feet. The club room included a fitness center, media center with theatre seating, video library and business center. Other recreational facilities included a pool with free WiFi, playground, picnic area with grills, and tennis and volleyball courts. The community had parking in front of the apartment buildings and free-standing garages were available for a fee.

Property 2 is a newly constructed Class A garden style rental community with 283 units. Property 2 offers 1, 2, and 3-bedroom apartments averaging 1056 square feet. It is currently 24% occupied. The community offers one elevator building and the remaining buildings are three-story walk-ups. The clubhouse included a fitness center, a business center, and a clubroom with pool table, large screen televisions, and kitchen. A coffee bar was in the lobby area. Recreation areas included a pool with free WiFi, outdoor kitchen, playground, and walking trails. Parking was located under each apartment building.

Results

Community

Focus group participants from Property 1 made positive comments about the swimming pool as a gathering place, the pet policy, walking trails, fitness center, and having garages available for storage. They were also positive about convenience, “safety and security,” predictable costs, “fabulous” maintenance and good management. Negative comments focused on the small fitness center and unused tennis courts.

Respondents from Property 2 were highly satisfied with secondary storage, guest apartments, underground parking, fitness center, business center, welcome center as a gathering place, and classes at the clubhouse. However, they found the pet policy unclear and desired more contact with residents their age.

Apartment Features

Each apartment in Property 1 had a laundry room and screened-in deck/balcony, which was popular with the respondents. They also liked the amount of windows, the views, ceiling height, and the overall quietness of the unit. However, they were less satisfied with room size and desired more in-unit storage. They would have preferred a more open plan, especially with the kitchen and living areas. They did not like the finish selections, such as “popcorn” ceilings, fluorescent lighting, and the kitchen cabinets. They found the bathrooms too institutional and would have preferred a shower rather than the tub. They found the optional fireplace to be a “waste,” the air conditioner to be noisy, and were unhappy that there was not a microwave provided in the unit.

Property 2 was newer and reflected more current design trends such as open floor plans, 10-foot ceiling with crown molding, optional double sinks and separate tubs and showers in the

bath. The units had laundry rooms and unscreened patios/balconies. The kitchens were advertised as “gourmet” and included a pantry closet, built-in microwave, and optional side-by-side refrigerators. The residents in the focus group were pleased with the overall size of the units and the finish materials. They liked the kitchens, bathrooms, storage, patio, and windows. Their negative comments centered on noise (walls too thin and noise from cars in the garages below the units) and cold floors on the first floor. They would have preferred screened patios/balconies and more color on the walls.

Conclusion

The two focus groups had slightly different preferences and satisfaction which seem to be related to the age of the properties. Residents of Property 1 had lived in the community for some time and felt a sense of community with other residents and appreciated management and apartment living in general. They were less satisfied with some of the features, finishes, and designs of the apartments. Residents in Property 2 had lived in their homes for a short amount of time and were impressed by the features and design of the apartment and the community, but they did not feel a sense of community and made no comments about management. These focus groups suggest that multifamily developers that combine and market strong design features and a sense of community with responsive management can capitalize on a segment of the Boomer market that has not considered rental apartments since their twenties.

References

- Haughey, R. M. (2003). *The case for multifamily housing* (2nd ed.). Washington, DC: ULI-the Urban Land Institute.
- Living and Working Here. (n.d.). Charleston Inspired. Retrieved May 14, 2009 from http://www.crda.org/living/local_lifestyle/#weather_climate/
- National Association of Home Builders (2002). *What Renters Want*. Washington, D.C.: Author.
- U.S. Census Bureau. (2005) South Carolina Division of Research and Statistics; Center for Business Research at the Charleston, Metro Chamber of Commerce; and Town of Mount Pleasant. Retrieved May 13, 2009 from <http://www.townofmountpleasant.com/index.cfm?section=10&page=3>
- U.S. Census Bureau. (2006) American Community Survey. Charleston Economic Development.com, Population Characteristics, April 2007. Retrieved May 14, 2009 from <http://www.crda.org/pdf/population.pdf>

DEVELOPING THE HOUSING STUDIES STUDENT'S PROFESSIONAL VOICE

Becky Yust, Marilyn Bruin[†]

Over the past two years the housing studies curriculum has been investigated as part of a pilot initiative at the University of Minnesota (UM) to develop a “writing enriched curriculum” (WEC). The UM’s initiative establishes a process to meaningfully infuse writing and writing instruction into undergraduate curricula via the development, implementation and assessment of a discipline-specific writing plan. Two of the principles on which the initiative was founded are: (1) writing ability is continually developed rather than mastered, and (2) because writing is instrumental to learning, it follows that writing instruction is the shared responsibility of content experts in all academic disciplines. The University has had “writing-intensive” course requirements for over 10 years, but it was felt that those courses alone were not able to fully meet writing expectations of graduates. In contrast, a writing enriched curriculum integrates writing in all forms, and occurs throughout the curriculum, not just in courses with a “W” designation.

In housing studies, we already had a considerable number of writing assignments in our courses. Writing in lower division courses is oriented towards process and development; writing in upper division courses is oriented towards analysis and problem solving. However, while assignments are used as tools for learning, we had been less clear about how that writing is related to the writing expectations in students’ careers.

Working with the staff members of the WEC initiative, we first surveyed local housing professionals to identify critical applied writing skills. We then identified the characteristics of writing in our courses and clarified expectations of writing by the time the students graduate. The characteristics of writing in our courses ensure that students:

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- Skillfully apply field-specific terminology
- Add new insights and information to existing conversation
- Use a professional tone and perspective
- Work critically, analytically, and synthetically with ideas
- Attend to directions
- Appropriately address a variety of audiences, both academic and professional
- Employ a professional “I”, or first-person voice; an authoritative voice that moves beyond subjective reactions

Expectations of writing skills and abilities of our graduates are that they can:

- Use writing and speaking processes to develop ideas
- Develop their personal and professional voices
- Gather and integrate into writing ideas from a variety of sources; enhance credibility by identifying and using accurate information; approach and use source information critically and analytically; and base new ideas on precedent and theory
- Construct persuasive arguments that move readers, convey and inspire passion
- Analyze and synthesize information, evaluate evidence, interpret that evidence, think about future implications for policy and housing trends, and clearly articulate each step of this process to others
- Integrate visuals and numeric information into verbal and written information
- Work and write as a team member on collaborative endeavors
- Respect and accept critical evaluations of writing and be able to respectfully and constructively critique the writing of others

An example of how we have applied our writing plan is in the course, Housing Development and Management, a course taken by junior and senior level students. For the past three years, we, the authors, have co-taught the course and the process of assessing writing across our

curriculum motivated us to modify the assignments to strengthen students' professional writing skills. The assignments model the type of work they will be asked to do in their careers and establish specific audiences to whom the students write for each assignment. Three assignments that have been modified for this course are:

- **A summary of a planning commission meeting** at which a proposed housing development is discussed. The summary must be submitted as though it were a professional memo to the owner of the development company whose project is presented at the meeting. The student writes as an employee of the company to give information of what transpired at the meeting to the owner. The memo is to describe the scope of the presentation, the concerns expressed by the commissioners and citizens in the community, how well the representative did in allaying fears related to the development, changes that had been made from prior input and, finally, what the next steps are for approval.
- **An informational interview with a professional property manager** written as a career center resource to help other students understand the roles and responsibilities of property management as a career.
- **A housing development project proposal** to meet an unmet housing need for a specific site in a community. Once a brief proposal scope is approved by the instructors, students present their ideas through a narrative based on an outline used in funding applications to the Minnesota Housing Finance Agency. The final proposal is written for an imagined board of directors of a company or non-profit organization and is a thorough discussion of the proposed development so that the board can make a determination of whether or not to go forward with the project. It must include a market analysis, financial analyses, description of design and amenities, and marketing and management plans. A poster also is required and

presented during class. The poster is to be typical of one that would be used at a community meeting to explain the main features of the development in order to garner the community's support for the project.

The formal assessment of the housing studies writing plan will occur in two years, but the changes to the assignments in our course have already resulted in higher student achievement. Many students have remarked that they had never done assignments such as these before. And, while some students struggle with fully engaging with writing for an audience other than the teacher, for the students who do so, their work is of much higher quality overall. The amount of work for us, as instructors, has not increased. In fact, reading and grading students' work is more efficient because the assignments are more clearly focused.

EXPERIENTIAL LEARNING IN HOUSING: THE STUDY TOUR

JoAnn M. Emmel, Kathleen Parrott, Julia O. Beamish,

Rosemary Goss, Kimberly Mitchell[†]

Experiential learning is an effective way to enhance curriculum. One method used effectively in the Virginia Tech Housing program is a study tour. This presentation offers three different approaches to the study tour concept and advice on planning study tours to incorporate a meaningful experience for students and faculty. The three study tours in the Virginia Tech housing program are in residential property management, kitchen and bath design, and international housing.

Study tours are designed as multifaceted educational experiences. They expand students' knowledge of the housing industry through site visits and professional presentations. Students interact with industry professionals to learn about career opportunities, legislative issues, business, marketing, and design. Students also have the opportunity to associate with professionals on a personal level, providing them with valuable networking experiences.

The study tours are credit courses organized by faculty with assistance from University and professional tour offices. Courses are led by multiple faculty with variable faculty/students ratios. Advisory boards also play a critical role in planning and delivery, such as financial support, tour sites, contacts, learning experiences, and access to social and networking activities. Besides achieving the overall goal of supporting students, companies on Advisory Boards have opportunities to showcase their products and company operations.

Many elements establish a successful study tour. Foremost is the preplanning of educational experiences and course assignments. Study sites are researched and balanced to

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provide as rich an experience as possible. Students are prepared through pre-tour meetings, research assignments, and discussion of behavior, dress, and professionalism. Tour requirements and post tour assignments are outlined for students well in advance. Security issues and emergency plans are discussed.

The study tours have varying costs. The financial obligation, along with advanced registration, limits the number of students but establishes student commitment. Some travel scholarships are available. The courses incorporate applied content which involves students in the learning process. This may include: attending lectures; visiting property, corporate, or industry sites; touring museums, factories, and historic sites; or attending trade shows. Prerequisites and/or co-requisites are established for each course to ensure students have the background and maturity for the course content.

Residential Property Management Study Tour

The Residential Property Management (RPM) study tour began as a field trip to the Washington, D.C. metro area over 20 years ago. The experience became part of the senior capstone course, *Contemporary Issues in Property Management*. However, as the RPM program expanded and class enrollment reached 60, it became a challenge to manage the educational and logistical aspects of the tour.

The result was a 1-credit pass/fail course available every spring to seniors enrolled in Contemporary Issues. Recent tours have been to Charlotte and Raleigh, NC, Richmond, VA and Metro DC. Students visit a variety of apartment communities, meet with alumni and Advisory Board members, and attend panels. Students have specific group assignments, including pre-trip reports on the management companies of properties to be visited and post-trip reports on topics such as marketing strategies, resident qualification criteria, clubhouse and model designs, staffing, amenities, and services.

Housing Study Tour: Kitchen and Bath Industry Show

The 1-credit pass/fail Housing Study Tour to the Kitchen and Bath Industry Show is held in a different location each year. Recent tours were to Chicago, Las Vegas, and Atlanta. The study tour includes attending speakers, interviewing preselected exhibitors, viewing design contest winners, participating in industry roundtable discussions, exploring the large exhibit floor, and attending invited social events.

Students meet throughout the spring semester to prepare for the tour. They have pre-tour assignments to research companies and products, and then report on what they found at the show.

International Housing

Global contrasts and comparisons of housing are the overriding themes of the 3-credit, 15 day international study tour, emphasizing planning, design, and marketing of housing and residential products. In the 2007 study tour to Germany and the Czech Republic, students learned about multi-family housing communities and their management through site visits; kitchen and bath design through manufacturing tours; and residential and historic design through tours and museums. Energy/ environmental and cross cultural issues were integrated across the syllabus.

Pre-trip preparation included cultural and language awareness as well as research on companies and sites to be visited. Written and visual trip journals included daily cultural and content observations. A final post trip project analyzed the value of the trip, including suggested improvements for future programs.

Conclusion

Benefits to Students

Students are excited to expand their knowledge beyond the classroom and learn about the current trends in the field. The personal contacts they make are quite valuable. Opportunities for internships and employment often result from meetings on study tours. Students also learn professional behavior. Study tours become an opportunity to transition from a student to a professional – in dress, conversation, and action.

Most students return from a study tour even more enthusiastic about their chosen field of study, their professional future, and with pride in their University and department. The positive responses received from professionals during the tour reinforce their choices.

Benefits to Faculty

Study tours are professional development opportunities for faculty, as learning activities are also experienced by faculty members, who then can share these cross-cultural housing comparisons with students in classes. Faculty also make valuable professional contacts. Additionally, faculty get to know students on a more personal level, leading to future collegial relationships and more knowledgeable recommendations for student job-seekers. Study tours also enhance the reputation of a program among students and professionals in the field.

Challenges

Study tours require planning and organization, and faculty depend on many outside factors to arrange schedules. Tours cost money, and outside funding sources may not be available. Minimum or maximum numbers of participants and the time away from scheduled classes are always issues to consider. Occasionally, student behavior or personal emergencies present

unique challenges. Although these challenges can be difficult, participation in these events is highly beneficial to the students, the faculty, and the program.

THE SELF-PRESERVATION OF WOMEN AGING IN PLACE

Megan Lee, Carmen Steggell, Toshiko Yamamoto[†]

Although the concept of aging in place (AIP) is an established concept in aging and environment research and practice, the complexity and diversity of aging in place issues create many challenges for researchers, educators and AIP providers. The aim of this project was an examination of the current state and dynamic process of aging in place in a self-determined private home environment. In order to understand an individual's current state of AIP, the pathways or experiences of an older adult's past must be considered. This project examined the current state of AIP and the pathways that occurred prior to the current state of AIP. The main research question asked *what is the older adult's current dynamic process of aging in place in her private home?*

Method

The study had two stages of participant recruitment. In the first stage, purposive sampling was used to obtain the primary case study participants from Caucasian non-Hispanic women aged 75 and older who were living alone in a non-institutional environment in the same city. The primary case study participants were identified for recruitment by staff at a local senior activity center and word of mouth recruitment. Participants were cognitively intact, high functioning individuals, as established subjectively by the researcher (Ball et al., 2004). The seven participants represent different housing types, incomes, education and backgrounds. The housing types included an apartment, condominium, manufactured home, mobile trailer and three single family homes.

In the second phase of recruitment, the narrative triangulation sample was recruited from among relatives and friends of the primary study participants. The supporting participants

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provided narrative triangulation for the case studies of the older adults. Twelve supportive participants were involved in the study.

The data collection from each primary case study participant involved multiple types of information gathering over a three month period of time. The primary methods of data collection with the older adults were: (a) multiple informal and in-depth interviews, (b) home tours, (c) photographs of the home, (d) activity logs, and (e) demographic questionnaires. The interviews covered eight main areas: (1) getting to know you, (2) current activities, (3) past history, (4) staying indoors and activities, (5) community and neighborhood, (6) home environment (7) economic, political, and global context, and (8) exit interview. The home tours ranged from ten minutes to two and half hours. During the tour photos were taken of all rooms including the kitchen and bathrooms..Two activity logs were completed per week that documented activities over a 24 hour period. The supportive case study participants were each involved in one semi-structured interview. The interview was conducted either face-to-face or by telephone.

Results

The main finding was the *self-preserving actions that maintain current AIP independence* theme that encapsulated the seven participants' AIP processes. The case studies suggested the women had two characteristics in common. First, the women were aging in place by using a series of self-preserving actions in order to maintain their independence. Second, each woman was actively aware of preserving her AIP independence. In other words, the women knew what they needed and how to achieve their need to maintain aging in their chosen home environment.

The women protected themselves by finding acceptance and letting go of worry and relying on faith and gratitude at the individual level. Primary actions contributing to their independence were financial frugality and remaining socially and physically active.

Six of the seven women were realistic concerning their willingness to leave their current homes if they could no longer care for themselves or their home. The women had different

experiences, but six of the women had learned to accept mobility issues and placed less emphasis on the importance of belongings. An example showing the theme of self-preserving acts in maintaining AIP independence was in Case 1: Charlotte has expressed her desires by executing her legal right and implementing a *Do Not Resuscitate* order. To maintain her current physical environment and lifetime independence, she has chosen to die rather than prolong her life in a long-term care facility.

The self-preservation theme was clearly explicated in their social relationships at the personal level. All seven women had family support through their AIP process, but unexpectedly, five of the seven had negative relationships with their family support systems even though two women had strong ties to their families. All the women had varying concerns about burdening or bothering their busy family members. The sub-theme of AIP situational friendships evolved to capture the social contacts the women enjoyed while participating in community activities. These situational friendships were important in giving the women a sense of connection and purpose that led them to continue participating in activities. Four of the women had companions who provided them with friendship with purpose. Their companions facilitated activities that they were independently unable to do. The strategic development of the companionship relationship illustrated a self-preserving act helping to maintain AIP independence.

The self-preserving actions on the community and neighborhood level provided the women with access to the key activities affecting their lives. It was important to all seven of the women to maintain activity within and outside their homes.

Discussion

The exploratory nature of the research to develop AIP as a theoretical concept sets up future research inquiry. The next step will be to explore the state of AIP in diverse groups such as males, 55 and older, minority groups, and geographically dissimilar populations.

To be optimally prepared for the aging crisis, AIP providers and policy makers will benefit from incorporating two ideas regarding AIP into their deliberation, research, and program delivery by elucidating any given community's AIP diversity, which stems from the varying contexts of individuals' experiences, can be enhanced through the case study approach to identifying the state of AIP in their specific community. As the United States prepares for a dramatic increase in the aging population over the next 20 years, the need to study individuals' AIP pathways and processes becomes more essential in being able to balance policy with practice, theory with lived experience.

Reference

Ball, M. M., Perkins, M. M., Whittington, F. J., Connell, B. R., Hollingsworth, C., King, S. V., et al. (2004). Managing decline in assisted living: the key to aging in place. *Journal of Gerontology Series B: Psychological Sciences & Social Sciences*, 59B(4), S202-S212.

**ENERGY OUR HISTORY, ENERGY OUR FUTURE SCHOOL
ENRICHMENT PILOT PROGRAM**

Amy G. Chilcote, Sarah D. Kirby, Jackie Helton, Ben Silliman, Ed Maxa, Autumn Guin[†]

Introduction

The *Energy Our History, Energy Our Future*, school enrichment curriculum was developed to address issues related to energy, housing, and environmental behavior, while reinforcing essential science and math skills. This 6th grade curriculum, written jointly by 4-H and Family and Consumer Science faculty, aligns with the North Carolina Department of Public Instruction's (NC DPI) standard course of study.

The curriculum addresses two important needs. First, North Carolina's 2006-2007 end of grade tests for 5th and 8th grade science show only 64% of the students are proficient in science. Scores show that as youth age and the rigor of science increases, their proficiency drops to below 25% in high school. If students are to compete in the global economy, it is critical that youth master science, technology, engineering and math skills.

Secondly, there is a great interest in teaching youth environmentally appropriate behaviors. North Carolina 4-H has enjoyed a 68-year relationship with public utilities in North Carolina. These utilities have helped to provide a variety of educational experiences for 4-Hers, particularly in understanding how electricity is produced and delivered to homes. Two North Carolina utility companies possessed a strong desire to help youth discover the social, economic and environmental benefits of energy efficiency and energy efficient behaviors. This curriculum, with seed money from these utilities, gives students an understanding of how individual decisions and actions affect their community, nation and world.

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Description of the Project

For curriculum adopted by schools in the state, it is vital that it address NC DPI requirements for the targeted grade level. The *Energy Our History, Energy Our Future* addresses the following requirements, stating that as a part of the curriculum, students will:

- Evaluate data for qualitative and quantitative relationships associated with energy transfer
- Determine how convection and radiation transfer energy
- Analyze heat flow through materials or across space from warm objects to cooler objects until both objects are at equilibrium
- Analyze response to heat to determine the suitability of materials for use in technological design

The curriculum challenges students by conducting investigations and examining models that build an understanding of the characteristics of energy transfer. The six learning modules are designed to improve student proficiency and understanding of:

- Personal energy use
- Efficiency and effectiveness of various types of lighting
- Phantom energy use
- Energy transfer
- Retrofitting techniques
- Renewable and non-renewable energy sources

As a part of each module, students work in teams to build, improve and test the efficiency of a small model “home”. Through various experiments, students learn about stack effect, air pressures, temperature differentials, heat flow, and insulation values. The purpose is for

students to understand the relationship between various behaviors and building practices and their impact on energy efficiency. In addition, to testing their model “homes”, students were challenged with implementing energy efficient strategies at home.

Methodology

Six counties were chosen to pilot test the curriculum. Selection was based on their previous experience in providing energy education, willingness to participate in piloting the curriculum, and location in the sponsoring utilities’ service territory. Counties formed pilot teams consisting of a Family and Consumer Science Agent, a 4-H Agent, and up to three 6th grade science teachers. Pilot counties were given \$1,000 to support the testing and implementation of the program. Funds could be used to pay for substitute teachers, purchase additional curriculum kits, travel to training, or provide other items that supported the county to conduct the pilot. In the fall of 2008, pilot counties were given training on how to use the curriculum and were provided with copies of the curriculum, training tools, and resources necessary to implement the pilot curriculum. Teachers received six hours of Continuing Education Units (CEUs) for attending training and participating in the pilot.

Results

Sixth Grade teachers (N = 21) from four of the six counties in western North Carolina completed the evaluation component of the project. Teachers trained students (N = 455) and completed a 40-item survey on their training and teaching experience. Students completed pre- and post-tests including 15 items on energy concepts and five open-ended questions.

Students were familiar with several concepts at the start. Table 1 reveals youth knowledge for pre and post-tests and percentage of knowledge gain for energy concepts.

Table 1. Youth Knowledge Test

Concept	Percent Correct at Pre-test	Percent correct at Post-test	Percent Gain
Conduction	22	54	32
Purpose of weather stripping	30	53	23
Stack effects	44	62	18
Weather stripping	56	74	18
RH factor	44	56	12
Phantom Energy	56	65	9
Ethanol as biomass	34	43	9
Incandescent	51	58	7
Clothes dryer effects	51	57	6
Switch	66	73	7
Watt	82	85	3

Post-test results reflect an upward trend, as would be expected from an effective intervention. Items with the highest pre-test scores tend to show the smallest gains in percent of correct answers.

Pre- and post-tests included several open-ended questions on energy conservation. Most students were able to supply complete and accurate responses to verbal questions but many omitted or submitted incorrect answers to the mathematical calculation item.

Teachers were also asked to estimate student knowledge gains in energy conservation behaviors at home. On average, these findings are reported in Table 2.

Table 2. Teacher Estimates of Energy Conservation Competencies

(1 Very Deficient; 5 = Very Proficient)

	Avg. Pre-test	Avg. Post-test	Avg. Gain
Energy Use	1.57	3.90	2.33
Bulbs	1.95	4.38	2.43
Phantom Energy	1.19	3.81	2.62
Heat transfer	1.62	3.90	2.28
Weather stripping	1.57	4.19	2.62
Sources of Energy	1.52	4.14	2.62

Teachers also reported the following behavior changes that influenced energy consumption in the home:

- 21 teachers reported 146 students changed an average of 17 bulbs from incandescent to CFL or LED
- 20 teachers reported 225 students started turning off lights and appliances when not in use
- 19 teachers reported 145 students made efforts to reduce energy waste at home

Conclusions

The curriculum is currently being revised for release statewide in the fall of 2009. Based on teacher comments some modifications in the curriculum and training may improve delivery and learning. Research indicates that lecture or structured rehearsal of key concepts is a necessary correlate of inquiry or discovery learning (Hmelo-Silver, Duncan, & Chinn, 2007). The pilot found that students could be effective in engaging their schools, families, peers, and the greater community in saving energy.

Energy efficiency education provides an opportunity for multidisciplinary real-world learning skills for classrooms that speaks to 21st century education, which focuses on preparing students for a more global work environment. By aligning with the Standard Course of Study for science, curriculum can be developed that addresses both the educational needs of students in specific subject matter areas, while reinforcing environmental responsibility and the social, economic and environmental consequences of individual behaviors.

References

- Department of Public Instruction. (n.d.). The ABC's accountability model. Retrieved May 25, 2009, from <http://abcs.ncpublicschools.org/abcs/>
- Hmelo-Silver, C.E.; Duncan, R.G.; & Chinn, C.A. (2007). Scaffolding and achievement in problem-based and inquiry learning: A response to Kirschner, Sweller, and Clark. (2006). *Educational Psychologist*, 42(2), 99-107.

TRANSITION NICHES

Rick L. Bartholomew[†]

Transition Niches, an alternative interior partition building system for urban living and space planning, is a creative solution and opportunity to assist in increasing home ownership during and after the current worldwide economic challenges. Home ownership is still a high priority issue within American culture, particularly with Generation X-ers and the Millennials. This trend, as evidenced during the past ten years in many large metropolitan areas across the United States, is reinforced by the financial support and commitment of assistance and lending institutions that are creating opportunities for urban regeneration and development, and home ownership. New uses for turn-of-the-century mid-rise buildings and the traditional office towers or high-rises are being renovated due to corporate down-sizing, cyber space technology, and home-based businesses, thus dictating the not-so-necessary office space allotments. The primary new use of these building types is the need for unique living accommodations and home owners to fill those spaces.

Research of current office systems components, technology, and design attributes has revealed adaptation opportunities for the urban residential housing market. The current design development of this housing issue will reinforce Transition Niches' system furnishings as viable products in redefining interior space and home ownership, but also, the capability to be disassembled, re-configured, and/or relocated to another site. The elimination of hard wall construction will result in a lower initial home unit cost and acquisition process, because one can add to the division of space as needed and/or as finances are available.

The potential commercialization of Transition Niches, collaborating with industry, will have a marketing position of being functionally versatile, power and plumbing adaptable, easy to install, sustainably sensitive, and aesthetically fashionable-furniture art for the home. In addition, the

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components will be building code compliant with integrated plumbing, power, lighting, sound insulation, and interchangeable decorative “style” trim and detailing. Many of these wall construction and furnishing components are every day issues for developers, architects, designers, and contractors when participating in mid and high-rise renovation projects, especially in encouraging and marketing urban living environments.

In Europe, urban developers have investigated ways to encourage high-rise housing for decades. Traditionally, the United States has followed European housing ideas, so we might soon be seeing an increased interest in high-rise housing in this country. Pusca (2006) stated, “The debate surrounding high-rise housing thus includes many different aspects, from the extent to which high-rise housing continues to be a solution to population rise and city living, to the stigma associated with living in a high-rise building in certain parts of the world, the safety of old high-rise buildings in Central and Eastern Europe, and the refurbishment or demolition of high-rise buildings surrounded by crime, poverty and gloomy living conditions. One thing is certain, the appearance of high-rise housing has significantly changed the social environment of modern cities affecting everything from cultural traditions, to lifestyles, neighborhoods and personal relationships. One may say that high-rise housing has played an important role in the formation of a new kind of social solidarity or lack thereof. While critiques of high-rise housing abound, the question remains of whether this kind of housing can be improved in order to fulfill its initial promise as the housing of the future” (page 1).

High-rise and mid-rise development has seen significant regeneration in the Netherlands that parallels the new kind of social solidarity. The renovation of mid-rise buildings has been attractive to young starter households and households with children because of the close proximity and ease of access to outdoor and public space. The vertical combination of three or four levels allows for “ownership” of roof top gardens and play space. And in high-rise living, accommodations have been appealing to the elderly, retirees, and young professionals that could include one and two-family households. These renovations are more luxurious and in

prime locations with a higher degree of privacy, views, and personal “image”, as well as improved security, management, and maintenance, and health care assistance. Environmental concerns are eased due to the shortage of affordable land reducing urban sprawl, air quality, and transportation issues. Significant strides have been accomplished in renovation sustainability through the use of “sustainable demolition and reuse cycle” of building product waste, creating new products or a developer and government program of “disassembly and reuse”. The trend is the need for more high-rise and mid-rise housing. (High-rise Housing in the Netherlands, 2004, Current Developments and the Outlook).

This resurgence of urban center development and living is also changing the mind-set of the American housing culture to satisfy the need for close proximity of work and social activities as population target markets are changing, while others are being reinforced. Mid-rise and high-rise renovation construction has significant higher quality construction methods and materials due to stricter code compliance regulations than single family home development. And these building types already have adaptable building core infra-structures resulting in overall construction costs savings. The re-regulation of lending institutions, lower interest rates, population target markets, and over-built office tower space available throughout the United States creates an economic opportunity for mid and high-rise urban living.

Transition Niches has the potential as a solution to assist in increasing home ownership in mid and high-rise urban living, and of its wall and system furnishings for one’s lifestyle needs. It is the intent of this housing issue to share with interested audiences, the research and design development of Transition Niches that has the initial interest and support from members of the office systems furnishings industry. The projected goals for presentation will include a hypothetical case study and installation site, update on collaborative industry interest, potential for commercialization, copyright status, and projected reference materials and tools for use by housing professionals.

References

- Pusca, A. (2006). High-rise Housing: Should high-rise be encouraged? International Debate Education Association, (p. 1).
- Roeloffzen, R., Lanting, R., Scholten, Dr. N. P. M. (2004). Current developments and the outlook. High-rise Housing in the Netherlands: Past, Present and Sustainability Outlook, (pp.74-91). Delft: TNO Bouw.
- Research/Design Development Sponsorship- Workspace Resource, Tulsa, OK. -Scott-Rice, Tulsa, OK.

**INVESTING IN THE NORTHSIDE THROUGH HOMEOWNERSHIP:
THE HOUSING NEEDS AND PREFERENCES OF RESIDENTS**

“There are a lot of slum lords over here.

. . . but there are a lot of people that fix up their places, too.”

Casie Mazilly Moen, Haden Bowie, Marilyn J. Bruin, Ph.D.[†]

The purpose of the project was to better understand the lived experiences of residents in a neighborhood destabilized by the housing credit and foreclosure crisis. We were particularly interested the tenure goals of current residents and potential homeowners in a Minneapolis neighborhood with an estimated 600 vacant foreclosed housing units. We used a community-based research process to develop recommendations to improve policies and programs to provide affordable, stable housing for Northside residents.

A Participatory Action Research (PAR) framework guided the study. Research questions were co-developed by community members and trained researchers; responsibilities for collecting information, interpreting data, and developing findings were shared between community and university collaborators. The PAR process was designed to empower subjects or participants based on the assumption that individuals best articulate their own needs and are the most reliable source of information to inform the development of sustainable solutions to community issues (Bailey, et al., 2009).

The project received a seed grant from Office of the Senior Vice President for System Academic Administration at the University of Minnesota to support the University Northside

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Partnership. The University Northside Partnership, founded in 2007, to worked collaboratively in *the community to create and support programs* in north Minneapolis to:

- Improve reading skills and learning outcomes for young children;
- Support job training and business opportunities;
- Develop research-based treatment and programming for children and families struggling with depression, child abuse, violence, and other barriers;
- Increase adult literacy and access to higher education; and,
- Meet identified needs and interests of the community (Bailey, et al., 2009).

Methodology

Four focus group interviews collected opinions from residents and providers in the community (Lichtman, 2010). Interviews took about one hour; participants received a \$20 gift card. Participants were asked about perceived barriers to homeownership, perceived benefits of homeownership, suggestions for programs and incentives to support homeownership, as well as the strengths and concerns of the neighborhood. Data collection concluded when the study reached theoretical saturation (Glaser, 1978).

Digital recordings of interviews were transcribed and reviewed by researchers and two community partners. Data were interpreted through a process of coding and categorizing participant input into dominant themes (Lichtman, 2010). Dominant themes were summarized in a power point presentation presented to the community. Attendees at the community meeting received handouts for note taking; one individual at the community presentation provided feedback.

Findings

Themes around what could encourage homeownership included:

- Housing was very high quality; needed to be preserved and protected.
- Housing was more affordable compared to other metropolitan neighborhoods.
- Neighborhood was accessible to downtown Minneapolis and was not disrupted by airport noise.
- The identity of the neighborhood, historically African American, was a source of pride.

Themes that emerged describing perceived barriers to homeownership included:

- Loss of local businesses adversely affected neighborhoods. Protecting neighborhood jobs for community residents was a priority. The community did not offer enough safe, family-friendly, public spaces. *“I tell my kids Friday nights is ya’ll’s night, we’ll go to the movies, whatever you want to do, but all we can do is get in the car, get on the highway, go to the movie, get back onto the highway, and park our car at home. Instead of going, in my community, to a bowling alley up the street where I could see people from my community. . . We have to go out to other people’s community. They don’t come in to our community.”*
- Crime was an ongoing issue exacerbated by the foreclosure crisis.
- General resentment about a lack of city investment in public infrastructure including police protection and public schools.

Participants shared a variety of additional housing concerns including concern and confusion about the distribution of housing vouchers throughout the city and regulation of the program. Faith communities were an important front-line resource mitigating the foreclosure crisis. A strong theme expressed was frustration about not being heard by the city and a lack of

adequate support for foreclosure prevention. Focus group participants noted that homelessness was growing in their neighborhood, even as the rate of home vacancies accelerated.

Focus group participants overwhelmingly agreed that renters were not being notified of foreclosure-related evictions in a timely manner, nor were they receiving adequate support to find new housing. Some participants identified economic and racial discrimination as a factor in choosing their current place of residency. Some concluded it was easier to find housing on the Northside because landlords accepted tenants with negative rental or personal histories who were denied housing in other communities. “Slumlords” were perceived as a necessary evil, as they were the only ones willing to lease to households with poor credit or criminal histories.

Conclusions

Our research approach was qualitative; we did not attempt to generalize the findings. However the themes were powerful. Participants recognized many positives in their neighborhood, however many felt isolated and neglected by city government. African American participants wanted to preserve their neighborhood identity. One community leader remarked, “*I like that this community because it looks like me.*” The need to build trust between Northside residents, the University, and the City was great. Tackling critical issues such as crime, infrastructure, unemployment, low educational attainment within a context that respects the values of diversity and history would help build trust but solutions were elusive.

However access to new investment in housing and economic recovery may provide the neighborhood support to tackle the complicated issues of developing and preserving affordable healthy homes and promoting sustainable homeownership. The seed grant inspired researchers and community partners to continue working on proposals for research and programming. A new study about the impact of foreclosure on parents and children as well as local business and community well-being was initiated. A collaborative was formed to develop a

holistic pilot program combining job training to rehab abandoned houses into energy efficient, affordable, comfortable homes with life skills training such as financial literacy, pre- and post-homebuyer education.

References

- Bailey, D., Koney, K.M., Uhly, K., Bediako, T., Bruin, M., Helter, J., Kivnick., H., McDowell, A., Milon, B., Propes, B. & Zulu-Gillespie, M. (2009). *The alignment of leadership development and participatory action research (PAR): One process and product from the University Northside Partnership*. Minneapolis, MN: University of Minnesota, Office of System Academic Administration.
- Glaser, B.G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. Mill Valley, CA: Sociology Press.
- Lichtman, M. (2010). *Qualitative research in education: A user's guide*. Thousand Oaks, CA: Sage Publications.

RESIDENTIAL LIGHTING: HISTORY, ENERGY EFFICIENCY, AND HEALTH EFFECTS

Greg Potter, Joseph Laquatra[†]

Introduction

In 2001, lighting accounted for 8.8% of domestic electricity consumption, constituting the fifth largest use of electricity in U.S. homes (Latta, 2007). By the mid-twentieth century residential lighting had become so reliable and commonplace it had begun to be taken for granted, seldom thought of unless it was not working. Today, however, in a climate of high energy prices and energy insecurity, lighting has become a critical element in any residential energy saving strategy. To get a glimpse of where domestic lighting technology may be going, or perhaps where it should go, reviewing its beginnings and development will be useful.

Historical Context

Historically, the technology of domestic lighting ranges from the simple burning stick, first used domestically around 1 to 1.5 million years ago (Stevens, 1988), to today's sophisticated light emitting diodes. Propelling lighting development along this path have been various factors, including greater light output, increased efficiency and convenience, less maintenance, lower initial and operating costs, and safety.

For most of the time artificial illumination has been used, it has been obtained directly through combustion. The first period of progress in domestic lighting began when a primitive human noticed that grease from cooking meat burned brightly when it dripped into the fire, perhaps in the Paleolithic period (Kehoe, 1998). This simple observation led to the first oil lamp, probably nothing more than an overturned sea shell filled with grease and a wick of dried grass (Lapp, 2004). The rushlight followed, and in turn, the candle (Phillips, 1999).

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Despite drawbacks, gaslight was such a leap forward in convenience, and so widely accepted, that it became a fixture in the 19th century, so much so it popularly symbolizes the period itself, often referred to as “The Gaslight Era” (Schlereth, 1992). For those who had gaslight, there were no more smoky candles to snuff or lamp wicks to trim and replace and no need for constantly bringing candles or lamp oil home.

Electric lighting was the greatest innovation in residential lighting since the domestication of fire. For the first time in history, artificial illumination did not depend on flame. The cleanest, most convenient, and safest light yet developed, the electric light revolutionized home life and society at large (Koolakian, 1976). And for the first time, the energy efficiency of lighting was of paramount importance: Edison realized that his light would not succeed unless it could compete economically with gas (Israel, 1998).

Although other forms of electric light were introduced after Edison’s original lamp, incandescents dominated lighting in the home for nearly a century because of their simplicity and cheapness (Brunner, 2006). By the late 1920s, the incandescent lamp had been essentially perfected and has remained largely unchanged since.

Lighting research in Europe and America began around 1900 and culminated in 1939 when the General Electric company introduced the Lumiline[®] fluorescent lamp (Gorowitz, 1981). Although substantially more energy efficient and longer lived than incandescent lamps, early fluorescents produced a harsh, cold light. They were also more complicated to use, because they required special fixtures and a bulky electromagnetic ballast to operate.

In 1945, General Electric introduced the Circline[®] fluorescent lamp (Gorowitz, 1981). With its shorter tube formed into a small circle, this lamp was more convenient to use in the domestic environment, and was the first form of fluorescent lamp to be used to any significant degree at

home. It was not until the 1990s and the introduction of the compact fluorescent lamp that fluorescent lighting could begin to rival the incandescent lamp in domestic lighting.

Lighting and Energy Efficiency

In the compact fluorescent lamp (CFL), improvements in phosphors have resulted in lamps that produce more pleasant light. Small electronic ballasts, a compact tube arrangement, and incorporation of a screw base allow CFLs to be used in ordinary fixtures. CFLs are now in a position to outnumber incandescent lamps in residential lighting uses.

The search for increasingly efficient lighting continues. The latest technology is that of the Light Emitting Diode (LED). Although the phenomenon on which the LED is based was reported as early as 1907 (Round, 1907), it was not until 1962 that General Electric developed the first practical LED (Port, 2005). Made commercially available shortly after, LEDs initially were available only in red and were just bright enough for use as indicator lights and instrumentation displays. The more recent development of white light emitting LEDs of higher power has enabled the technology to be adapted for interior lighting. Although LEDs use $\frac{1}{4}$ of the electricity used by CFLs, and their life span is 10 times that of a CFL, the initial high purchase cost is preventing widespread use at this time. CFLs represent only 20% of light bulb purchases in the U.S. (Conner, 2009).

Lighting and Human Health

Human responses to lighting have been the subject of substantial research. Zilber (1993) noted that changing lighting conditions between spaces in a home should be gradual. He speculates that trips and falls by the elderly in halls and stairways may be partially due to inadequate lighting of those areas. As one moves from a brightly lit room to a darker space, that person can be essentially blinded. Zilber (1993) also reported that light influences people in ways other than making vision possible. One such influence is Seasonal Affective Disorder

(SAD), a condition brought on by shortening periods of daylight during the fall and winter. One treatment of SAD involves exposure to full-spectrum fluorescent light. On this topic, though, Tonello (2008) cautioned that psychological conditions are affected by mood, motivation, and behavior, which are shaped by factors other than lighting. For this reason Tonello (2008) recommends that relationships between lighting and human health be studied in a holistic context, with a view that includes numerous environmental variables in addition to lighting. Overall, however, research generally supports the views that lighting affects mood, work performance, well-being, and alertness (Tenner, 2003).

Nuzum-Keim and Sontheimer (2009) discussed concerns about ultraviolet light exposure from people with certain photosensitive dermatologic and systemic diseases. These authors measured ultraviolet A (UVA) and ultraviolet B (UVB) leakage from incandescent bulbs and CFLs. They found that UVA leaks were higher from incandescent bulbs and UVB leaks were higher from CFLs, but the lower leaks of combined UVA and UVB were from shielded CFLs. They concluded that minimizing exposure to UVA and UVB by photosensitive people would have a small but measurable effect in minimizing risks of developing some illnesses.

Conclusion

In addition to consumers of lighting products, students and practitioners of interior design can benefit from knowledge of lighting in its historical context because this enriches perspectives on the topic. The importance of energy efficiency and healthy housing issues makes the connection between lighting and these topics critical to understand.

References

- Brunner, K. (2006). LEDs for general lighting applications, *Proceedings of the Symposium on Photonics Technologies for 7th Framework Program* Wroclaw 12-14 October. Available at: http://www.opera2015.org/deliverables/D_4_3_Wroclaw_Symposium/articles/7_Brunner%20-%20LEDs%20for%20General%20Lighting%20Applications.pdf.
- Conner, M. (2009). The direction of light. *EDN Europe*, March: 17-22. Available at: <http://web.ebscohost.com.proxy.library.cornell.edu/ehost/pdf?vid=2&hid=3&sid=ad27c097-7aa1-474f-a135-7765b5656067%40sessionmgr8>.
- Gorowitz, B. (Ed.). (1981). *A century of progress: The general electric story*. Schenectady: Hall of History Foundation.
- Israel, P. (1998). *Edison: A life of invention*. New York: John Wiley & Sons.
- Kehoe, A.B. (1998). *Humans: An introduction to four-field anthropology*. New York: Routledge.
- Koolakian, R.G. (1976) *The beginning of the incandescent lamp and lighting system: A biographical account by Thomas Alva Edison*. Dearborn: The Edison Institute.
- Lapp, E.C. (2004). Clay lamps shed new light on daily life in antiquity. *Near Eastern Archaeology*, 67 (3): 174-175.
- Nuzum-Keim, A.D. and Sontheimer, R.D. (2009). Ultraviolet light output of compact fluorescent lamps: comparison to conventional incandescent and halogen residential lighting sources. *Lupus*, 18 (6): 556-560.
- Phillips, G. (1999). *The tallow chandler's company*. Cambridge: Granta Editions.
- Port, O. (2005). Nick Holonyak: he saw the light. *Business Week Online*, May 23. Available at: www.businessweek.com/magazine/content/05_21/b3934030.htm.
- Round, H.J. (1907). A note on carborundum. *Electrical World*, 49: 309.
- Schlereth, T. J. (1992). Conduits and conduct: home utilities in Victorian America, 1876-1915, in Foy, J.H. and Schlereth, T.J. (eds.) *American home life, 1880-1930: a social history of spacers and services*. University of Tennessee Press.
- Stevens, W. K. (1988). Fossils date use of fires 1 million years. *New York Times*, December 1. Section A (9).
- Tenner, A.D. (2003). A healthy future for office lighting? *Journal of Light & Visual Environment*, 27(3): 42-46.

Tonello, G. (2008). Seasonal affective disorder: Lighting research and environmental psychology. *Lighting Research and Technology*, 40(2): 103–110.

Zilber S.A. (1993). Review of health effects of indoor lighting. *Architronic*, 2(3): 4-11.

SUSTAINABLE HOMEOWNERSHIP IN FLORIDA

Hyun-Jeong Lee, Michael S. Gutter[†]

Background

Purchasing a home and maintaining homeownership have been an “American Dream” for a long time. In the United States, homeownership reflects upward socio-economic status and that owning a house has been considered a great financial asset (Varady & Lipman, 1994). During recent economic downturn, however, this American Dream was seriously hit and home foreclosure has been one of the issues that have dominated the news. The purpose of this paper is to overview emerging issues related to housing affordability and sustainable homeownership in Florida (Fla.) and to discuss outreach education approaches to assist families to maintain their homeownership.

Housing Values in Florida

A recent National Association of REALTORS[™] (2009) report indicates that home prices in Fla. have sustained substantial losses over the last two years. The Miami/Fort Lauderdale/Miami Beach area saw a loss in median sales price of 32.3% from fourth quarter 2007 through 2008. Similar declines were also seen in other areas. Orlando metro area saw 27.1% decline in median sales price from 2007 to 2008. The decline in home value leads to a decline in equity for many. This price decline and subsequent utilization of Home Equity Lines of Credit have led to numerous families being upside-down in their mortgages – owing more than their homes are worth. In addition, as of early 2008 around 12% of mortgages in Fla. were adjustable-rate mortgages. The factors above combined with a depressed economy, and changes in mortgage payments have led to a record number of foreclosures.

Foreclosures in Florida

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A recent real estate industry report indicates that Fla. had the second highest state total of foreclosures during 2008 with 385,309 properties having a foreclosure filing which comprises 4.52% of total housing units in Fla. compared to national average of 1.84% (RealtyTrac, 2009). That is, one in 22 units in Fla. was foreclosed in 2008. This represented a 133% increase from 2007 and 412% increase from 2006. To see metropolitan area foreclosure rates in the same year, foreclosure rates of five Fla. metropolitan areas were ranked within top 15 among metropolitan areas nationwide.

Housing Cost Burden in Florida

According to the 2006 American Community Survey, homeownership rate in Fla. was more than 70% while nationwide homeownership rate was 67%. About 45% of homeowners with mortgage spent 30% or more of their household income on their mortgage payments and were considered to have “housing cost burden” (Table 1). Not only homeowners but also renters in Fla. were found to have more housing cost burden than average Americans.

Table 1. Households with Housing Cost Burdens by Tenure Type: Florida and the U.S.

Tenure type	Households with Housing Cost Burdens	
	Florida	U.S.
In owner-occupied units	33.4%	30.3%
With mortgage	44.9%	36.9%
Without mortgage	14.8%	16.1%
In renter-occupied units	52.0%	46.0%
In TOTAL occupied units	15.4%	15.0%

Source: 2006 American Community Survey

Consumer Outreach Education

The President’s American Recovery and Reinvestment Act of 2009 (Recovery Act) provides assistance to households with difficulty managing their current mortgage through refinancing or loan modification opportunities. However, without proper financial management practices, homeownership cannot be maintained. Basically, when one has an appropriate mortgage and

appropriate home value, the keys for foreclosure prevention and sustainable homeownership are learning and practicing financial management skills and timely communication with your lender. Also, thorough preparedness should be made before purchasing a home. Preparedness for homeownership includes making informed decision for housing choices that fits for a household's situation, setting up a budget plan for long-term mortgage management, and finding manageable mortgage plans.

Thus, outreach education programs have important roles to assist consumers to make an informed decision on housing choice that fits their situation, to prepare homeownership thoroughly, and to prevent foreclosures. Outreach education programs need to be focused not only on post-purchase financial and property management but also on pre-purchase education so that consumers can prepare for one of the biggest financial investments in their life. Before purchasing a Prospective homebuyer needs to have sufficient knowledge on differences in housing options, their housing affordability, long-term financial management for mortgage and other housing expenses, and how to maintain their property after the purchase. First-time homebuyer education workshops are examples of the pre-purchase education. After a home purchase, a self-assessment tool to evaluate one's own foreclosure risks would be also helpful to have them stay alerted. In addition, guidance to reliable assistance programs should be provided to prevent consumers be defrauded by deceptive practices.

References

- National Association of REALTORS (2009). *Median Sales Price of Existing Single-Family Homes for Metropolitan Areas*. Retrieved June 1, 2009, from <http://www.realtor.org/wps/wcm/connect/a0a78e804d0074afa729ef8d0a12d865/REL08Q4T.pdf?MOD=AJPERES&CACHEID=a0a78e804d0074afa729ef8d0a12d865>
- RealtyTrac (2009). *Foreclosure Activity Increases 81 percent in 2008*. Retrieved June 1, 2009, from <http://www.realtytrac.com/ContentManagement/pressrelease.aspx?ChannelID=9&ItemID=5681&acct=64847>
- Varady, D. P., & Lipman, B. J. (1994). What are renters really like?: Results from a national survey. *Housing Policy Debate*, 5, 491-531

MY FLORIDA HOME BOOK AND HOMEBUYER EDUCATION PROGRAMS IN VOLUSIA COUNTY, FLORIDA

Kathleen M. Bryant, Hyun-Jeong Lee[†]

Introduction

Purchasing a home and maintaining homeownership have been an “American Dream” for a long time. As you can see from census data, the U.S. homeownership rate now exceeds 67 percent. That is, more than two thirds of occupied housing units were occupied by homeowners. Homeownership in the United States has been emphasized since mid-1700s when Thomas Jefferson brought Rural Ideal Concepts indicating “each colonist should reside in his/her own home and a plot of land” (Crull, Bruin, & Hinnant-Bernard, p. 258, 2006). In addition, American homeownership has been supported by government policies including income tax deduction for mortgage interest that started in 1913.

Becoming a homeowner is one of the most important investments a family can make. Homeownership has many benefits. However, the home purchase process and maintaining homeownership are overwhelming and require financial preparation and planning. According to research, the barriers to becoming a homeowner include lack of savings or down payment, low credit scores and credit blemishes. Furthermore, additional obstacles encountered by this group include the lack of knowledge about financing, when and how to work with realtors, as well as how to find and access available services. The purpose of this paper is to introduce *My Florida Home Book: A Guide to First-Time Homebuyers in Florida*, a homebuyer education curriculum, and homebuyer education efforts in Volusia County, Florida, how they assist Volusia County residents to be successful homeowners.

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My Florida Home Book – Homebuyer Education Curriculum

My Florida Home Book (MFHB) is based on an older version homebuyer published in mid-1990s. With efforts of 19 University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) State and County Extension faculty members, the MFHB was published in June 2008 as a more uniform, concise tool that could be used in a statewide first-time homebuyer education program. The book consists of two parts: Part I. *Becoming a Homeowner* and Part II. *Taking Good Care of Your Home*. In addition, MS PowerPoint presentation slide sets compliment the handbook. MFHB curriculum meets the criteria specified by the State Housing Initiative Partnership (SHIP) for first-time home buyer education.

Homebuyer Education Efforts in Volusia County, Florida

SHIP program was established in 1992 to provide funds through documentary stamp tax revenue from the sale of homes to assist in meeting specific housing needs of very low, low, and moderate income families and individuals. The purpose of the SHIP program is to expand the building and restoration of affordable housing in the state. Counties and cities apply to administer the funds to qualified families and individuals. Eligible applicants must not have owned a home in the past three years or have not had a home foreclosure in the past seven years; household income limits for family size are set by program administrators. Applicants must also complete an approved six to eight hour homebuyer education class.

Extension Agents across the state provide hundreds of home ownership education and home care and maintenance classes each year. The County of Volusia certifies approximately two hundred potential homebuyers and sixty homeowner maintenance clients per year. Homeowner maintenance clients are those families and individuals who qualify for housing repair funds under the county's Housing Rehabilitation program. First-time homebuyer education classes are conducted monthly with an average enrollment of 20 to 25 participants.

The Extension Family and Consumer Sciences agent partners with local Realtors™, title agents, Florida Department of Financial Services, and Extension Horticulture agents to provide a comprehensive educational program.

Through the pre-purchase homebuyer programs, participants learn about: (1) their readiness for homeownership; (2) finding the right home for their family; (3) the home purchase process; (4) how to work with housing professionals; (5) additional financial aspects of owning a home; and (6) legal rights. In addition, home care and maintenance class participants (1) learn how to maintain a healthy home; (2) conduct regular home inspections and maintenance; (3) get to know the indoor and outdoor features of their home; and (4) how to operate their home efficiently and save utility costs for energy. MFHB and accompanying education slide sets becomes a valuable resource for both pre-purchase education and home care and maintenance education programs.

Since 2002, 1,100 Volusia County residents have completed the pre-purchase homebuyer education classes and received the certificate of completion and 85% of them purchased a home. One hundred and ten (110) clients have completed home care and maintenance education classes and 55% have had their homes rehabilitated or re-built to bring them to livable conditions.

Conclusions

MFHB curriculum and education slide sets provide a comprehensive approach to first-time homebuyer education. The six- to eight-hour pre-purchase education classes help potential buyers gain confidence and knowledge about the process of buying a home, giving them a more satisfying experience. Participants receive the MFHB to keep as resource material. In 2008, there were 10 sessions of the first-time homebuyer education classes were offered to 167 households. Post evaluations show that as a result of this educational class, participants have

more knowledge about life as a homeowner and feel more comfortable with the purchasing process: Ninety three percent of the class participants reported increase in their knowledge and 62% reported increased in confidence on making housing decision and home purchase process.

Volusia County Down Payment Assistance administrators attribute the first-time homebuyers education for a low foreclosure rate ($\leq 5\%$) among this group of homebuyers. The two-hour home care and maintenance education workshop enhances homeowners' knowledge and skills to maintain and care for their home and furnishings.

Reference

Crull, S. R., Bruin, M. J., & Hinnant-Bernard, T. (2006). Homeownership. In J. L. Merrill, S. R. Crull, K. R. Tremblay, Jr., L. L. Tyler, & A. T. Carswell (Eds.), *Introduction to housing* (pp. 257-290). Upper Saddle River, NJ: Pearson Education, Inc.

SMART GROWTH IN A RURAL COMMUNITY

Martha W Keel, Mary Rogge[†]

The Smart Growth Network, a collaboration of private sector, public sector, and non-governmental partner organizations, defines Smart Growth as development that serves the economy, community and the environment. A partnership between the Appalachian Regional Commission and the University of Tennessee afforded Cocke County, a rural community in east Tennessee, the opportunity to introduce both students and community stakeholders to concepts and applications related to sustainability and community participation in planning and decision-making. Through a participatory process, citizens of Cocke County identified three of the Smart Growth principles defined by the Smart Growth Network for their community to emphasize. The three principles are: 1) Preserve Open Space, Farmland, Natural Beauty and Critical Environmental Areas; 2) Foster Distinctive, Attractive Communities with a Strong Sense of Place; and 3) Encourage Community and Stakeholder Collaboration. Grant funding from the United States Environmental Protection Agency was procured to launch a 2006 outreach and education initiative, targeted to children in kindergarten through eighth grade.

Project team members included University faculty and Extension staff, a non-profit community development agency, and Cocke County school personnel, all of whom contributed to a variety of educational and activity-specific approaches to achieve the Smart Growth objectives determined by the community.

One of the most important and noteworthy aspects of the project was the central role of local youth (aged 18-29) in developing and implementing programming for the students (in grades K-8). The young adults were instrumental in helping students:

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- 1) Understand and prioritize Smart Growth issues in their community, including ways in which those issues impact human health;
- 2) Plan, create, implement and evaluate Smart Growth education programs via art-based performances for their peers, families, caretakers, school and childcare personnel, and other policy and decision makers, with a focus on the health-related ramifications associated with “not-smart” growth;
- 3) Identify and utilize smart growth experts (with assistance from EPA) for technical assistance in staging a kick-off educational workshop to promote greater understanding of Smart Growth principles for parents, teachers, and other community stakeholders;
- 4) Select and develop a local initiative to improve conditions related to at least one specific Smart Growth issue with direct effects on children’s health; and
- 5) Disseminate information, make presentations, lead discussions, and raise awareness about Smart Growth concepts at a wide-ranging variety of community forums.

Curriculum was crafted to work with K-8 youth on various projects. Lessons were delivered during 4-H club meetings at the school, and projects and activities were conducted during the summer in locations throughout the community. Youth were encouraged to express their thoughts and ideas concerning Smart Growth via art, a focus that resulted in the creation of posters, songs, and photography, as well as the production of a play. The project grant provided \$5,000 in financial assistance for the youth to develop and implement their programming.

A major component of the project, selected by the students, was the construction, operation, and sustainability of a greenhouse located at Grassy Fork Elementary School. Students learned

firsthand about sustainability and the challenges of encouraging development, while ensuring minimal impact on the health and well-being of the community.

Another significant project component was a day-long event entitled “Smart Growth Showcase.” The entire school participated, as did more than 100 parents and other invited guests. Included in the guest list were local government officials, community-based and non-profit organizations, and other local decision makers. Students performed music and an original play they created to communicate Smart Growth concepts. The day’s event included, as well, hosted tours of the school and the greenhouse and an exhibit of student-produced artwork. Older students (those in grades 5-8), their parents, and other community members participated in small roundtable discussions, utilizing a nominal group process to establish action steps for subsequent Smart Growth efforts. Working in six groups of eight to ten participants each, roundtable groups developed plans that were shared with all in attendance.

Yet another important outcome of the project was the development of Smart Growth Performance Indicators for program impact evaluation. Short- intermediate-, and long-term indicators were crafted using a cross-sectional research design. Data collection strategies included focus groups with program developers, program staff, and project participants. Facilitated telephone interviews and self-administered surveys also contributed to the collection of a broad cross-section of community input. Finally, a content analysis was conducted to evaluate the effectiveness of newspaper articles, documents, marketing materials, and other program strategies.

Cocke County’s experience serves as a compelling example of the way in which communities can explore creative solutions to raising awareness and working towards Smart Growth principles with little budget, relying instead upon community buy-in and human resources.

BENEFITS OF REMODELING FOR HOME ACCESSIBILITY:

CASE STUDIES ONLINE

Mary H. Years[†]

Introduction and Background

A well-designed home environment can make a tremendous difference in the lives of people with disabilities. Hammel, Jones, Smith, Sanford, Bodine, and Johnson (2008) and Hammel, Jones, Gossett, and Morgan (2006) found that people with disabilities who live in homes that are convenient and accessible have increased levels of community participation. The researchers also found that homes with accessible entrances that allow people with disabilities to come and go as they please lead to increased levels of social interaction, as well as higher scores for life satisfaction.

Given the positive benefits of an accessible home environment, the Iowa Department of Public Health (IDPH) was interested in documenting *practical* methods Iowa consumers had used to remodel their home environments to make life easier and to share this information with the general public. The challenge was to find examples of *affordable* modifications that were still aesthetically appealing. The IDPH provided grants of approximately \$25,000 to Iowa State University Extension (ISUE) over a two year period to create a Web-based portfolio with photographs and stories illustrating modifications consumers with disabilities had made to improve home accessibility.

Methods

The project included four major components: (1) interviews with consumers who had made home modifications to accommodate the needs of a family member with a disability, (2) home modification stories—with photographs—posted on the Web, (3) a Webinar to share the stories with service providers and consumers, and (4) an evaluation of the Webinar.

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Consumer Interviews

A graduate student in the Department of Human Development and Family Studies at ISU was hired to interview the consumers and to take photographs of the home modifications they had made to accommodate the needs of a family member with a disability. Eleven interviews were completed. Each interview included the following components:

- Consumer profile: A brief description of the nature of the person's disability.
- Accessibility problems: A checklist of housing features that created problems for the consumer.
- Accessibility solutions: A room-by-room description (with photographs) of home remodeling changes that were made.
- Financing: What funding sources—both public and private—they used to pay for the remodeling changes.
- Challenges: A description of the biggest hurdles they faced in completing the remodeling project.
- Lessons learned/Advice for others: A description of what worked—and didn't work—during the remodeling process, what they would do differently next time, and their advice for others who are undertaking a similar remodeling project.
- What difference it made: Consumers described how their lives had changed—for the better—since they had made home modifications.

Home Modification Stories

Each of the 11 home modification stories, along with photographs, was posted on the ISUE Web site on Universal Design and Home Accessibility:

www.extension.iastate.edu/UniversalDesign/Stories/. Table 1 indicates the types of home modifications each family made to accommodate specific types of disabilities.

Table 1: Types of Home Modifications and Disabilities

<i>Name</i>	<i>Home modifications</i>	<i>Disabilities</i>
Brett	Bedroom, Bathroom, Garage, Entrance	Cerebral Palsy
Carolyn & George	Whole House	Elderly
Gene	Entrance, Bathroom, Car	Polio
Jean	Bedroom, Bathroom, Garage	Neuropathy
Melanie	Gardens, Bedroom, Bathroom, Kitchen	Arthritis
Nancy	Bathroom, Kitchen, Office, Living Room	Polio
Neal	Bathroom, Bedroom, Living Room	Cerebral Palsy
Pam	Whole House	Quadriplegia
Rachel	Whole House, Deck	Mental Retardation
Sally	Whole House, Decks	Elderly
Sandy	Whole House, Garage	Multiple Sclerosis

Webinar

A 90-minute Webinar was broadcast from ISU on March 5, 2009. The target audience focused on consumers with disabilities and professionals at the Iowa Centers for Independent Living, the Iowa Department of Elder Affairs, and the Iowa Department of Human Services. The program included the following topics:

- Introductions and project description.
- Overview of remodeling solutions consumers used.
- Consumer stories (selected consumers and family members discussed remodeling stories in person).
- Summary of lessons consumers learned.
- Questions and answers via chat line.
- Additional resources on universal design and home accessibility.

Seventy-three people registered for the Webinar, but only 44 people actually logged in for viewing. After the Webinar was over, a number of individuals asked whether the Webinar would be available for viewing. The completed Webinar has been archived at:

<http://connect.extension.iastate.edu/p53505583/>.

Webinar Evaluation

An electronic survey instrument with 10 questions was sent out via Survey Monkey to the 44 Web participants on March 24, 2009. A reminder message to complete the survey was sent on March 30, 2009. Twenty-seven participants completed the evaluation—a 61.4 percent response rate. Findings from the survey include the following:

- Most Webinar participants were service providers who work with consumers who have a disability (72%), 28 percent were a friend or family member of a person who has a disability, and 12 percent were consumers who had a disability (respondents could check more than one category).
- Overall, the Webinar was very well received. Survey highlights include the following:
 - Two-thirds (66.7%) of the respondents rated the Webinar “above average” when compared with other educational programs on home accessibility issues they had attended.
 - Nearly two-thirds (63.0%) of the respondents rated the overview of home modifications made by Iowa families as “very useful.”
 - Ninety-two percent of the respondents were “very likely” or “likely” to tell others about ideas learned in the Webinar (92.0%); another 72 percent were “very likely” or “likely” to help consumers they work with make a home modification.
 - More than half (51.9%) would be “very interested” in participating in another Webinar on home remodeling to improve accessibility.

Conclusions and Recommendations

- Consumer stories are an effective way to communicate ideas about home modifications to improve accessibility. Posting them on the Web makes them more widely available to consumers and professionals.

- Photos of the home modifications provide a rich collection of slides that can be used in a variety of educational programs.
- There is a strong interest in holding future Webinars on home accessibility topics.
- Webinars are a cost-effective way to disseminate information about ways to improve home accessibility.

References

- Hammel, J., Jones, R., Smith, J., Sanford, J., Bodine, C., & Johnson, M. (2008). (2008). Environmental barriers and supports to the health, function, and participation of people with developmental and intellectual disabilities: Report from the State of the Science in Aging with Developmental Disabilities Conference. *Disability and Health Journal*, 1, 143-149.
- Hammel, J., Jones, R., Gossett, A., & Morgan, E. (2006). Examining barriers and supports to community living and participation after a stroke from a participatory action research approach. *Topics in Stroke Rehabilitation* 13, 43-58.

OLDER ADULT AND CAREGIVER DYADS' PERCEPTIONS OF AGING-IN-PLACE SUPPORTS

Carmen D. Steggell, Atiya Mahmood, Toshiko Yamamoto, Megan Lee[†]

BACKGROUND

As the proportion of older adults increases in the U.S., society and families are presented with new challenges. The average person in the U.S. who reaches age 65 today is expected to live for an additional 18.7 years (Federal Interagency Forum on Aging Related Statistics, 2008). As they age, most people remain in their own homes (rented or owned) and both they and their family caregivers consistently express the wish that the older adult will “age in place” (Gitlin, 2003). As environmental adaptations and support services are increasingly needed, informal caregivers most often provide the needed care (Grant et al., 2004). Care is provided chiefly by families (spouse and/or adult children), and secondarily by friends or neighbors. For dependent older persons, these informal caregivers provide over 80% of home care (Binstock & Cluff, 2000) and this role is projected to expand as our society ages (Czaja, Eisdorfer, & Schulz, 2000).

It is generally accepted that the home environment is closely related to older adults' well-being (Evans, Kantrowitz, & Eshelman, 2002). Environmental gerontology has been guided by the concept of person-environment fit (Lawton, 1999) and extensive work has been done on techniques to assess congruence between person and environment. However, objective measures of the physical setting do not take into account the essential meanings and experiences related to “home” (Gitlin, 2003).

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Home modifications and assistive devices may compensate for declining functional capacity, but decisions must take into account both objective measures of need and the perceptions of the user and the decision makers (Oswald et al., 2007). Because informal caregivers are heavily involved in decisions regarding older adults' living situations, it is important to understand potential discrepancies between their perceptions. In fact, older adults' assessment of needed modifications and their comfort level with a variety of technologies that may provide assistance may differ substantively from those of their informal caregivers. The purpose of this study was to investigate similarities and/or differences of these perceptions among dyads consisting of an older adult and their informal caregiver.

METHOD

Older adults and their informal caregivers were recruited from a list of research volunteers associated with the Center for Healthy Aging Research. Both members of the dyads were interviewed by two researchers in the home of the older adult. After introductions and presentation of the Informed Consent, a questionnaire was administered to each. Participants were given the choice to complete the paper-and-pencil questionnaire or to have it read to them. All of the caregivers and all but two of the older adults completed the questionnaire on their own in.

Because the sample was small and non-random, we employed nonparametric techniques in data analysis (Vaske et al., 2002). Nonparametric procedures test the likelihood that two groups (older adults and the caregivers) are from populations with the same distributions on the variables under examination. Using Chi-square and Wilcoxon Matched-Pairs Signed Ranks tests, we examined perceptions between the older adult and the caregiver regarding (1) home modifications already made; (2) home modifications desired for the future; (3) general

perceptions of technology; (4) familiarity, and comfort level with computers; and (5) other technologies in the residence.

Description of the Sample

Fourteen older adult / informal caregiver dyads participated in the study in 2007. Our sample was white non-Hispanic, with education and income levels above the median of the general population. The older adults ranged from 71 to 93 years of age; the majority were female, widowed, and lived alone. All were cognitively intact, and the majority reported fair to good health. Their informal caregivers ranged in age from 44 to 89. Half were the daughters of the older adult; others were spouses, friends or neighbors, and siblings. Self-reported time spent in caregiving was variable from 1 to 20 hours a week, and the reported physical burden of caregiving was low to moderate.

RESULTS

We asked each member of the dyad what actual home modifications had already been made to the older adults' home and what modifications were planned or desired for the future. In general, both members of the dyad agreed on the changes that had already been made to the home. However, caregivers were more likely ($p \leq .1$) to recommend that future changes be made the home than were the older adults.

Familiarity and use of current technologies (i.e., microwave, DVD player, voice mail, cell phone) may lead to willingness to try additional technologies. Although both groups used a microwave oven at about the same rate, there were significant differences ($p \leq .05$) in the use of DVD players, voice mail, and cell phones, with caregivers reporting more use than the older adults. Regarding general perceptions of technology (i.e., interest in exploring; confidence in using), older adults had significantly more positive attitudes ($p \leq .05$). Because computer-based communications technologies have been proposed as a potential support for aging in place, we

asked about participants' familiarity and comfort with computers. Although both older adults and caregivers in our sample were quite familiar with computers, caregivers were significantly ($p \leq .05$) more familiar and more comfortable with their use.

CONCLUSIONS

The older adults and their caregivers in our study were united in their desire to facilitate aging in place. Individual perceptions and subjective assessments of the home environment, and knowledge and comfort with incorporating new technologies that may be useful in supporting independence were somewhat different. Informal caregivers have a strong influence on decision that are made regarding the home environment for people aging in place. In order to maximize the safety and well-being of older adults as they age in place, it is important to recognize potential differences in perceptions.

REFERENCES

- Binstrock, R.H. & Cluff, L.E. (2000). *Home care advances: Essential research and policy issues*. New York: Springer.
- Czaja, S., Eisdorfer, C., & Schulz, R. (2000). Future directions in caregiving: Implications for intervention research. In R. Schulz (Ed.), *Handbook on Dementia Caregiving: Evidence-based Interventions for Family Caregivers* (pp. 283-320). New York: Springer.
- Federal Interagency Forum on Aging Related Statistics (2008). *Older Americans 2008, Key Indicators of Well-Being*. Washington DC: U.S. Government Printing Office.
- Evans, G.E., Kantrowitz, E., & Eshelman, P. (2002). Housing quality and psychological well-being among the elderly population. *Journal of Gerontology: Psychological Sciences*, *57B*, 381-384.
- Gitlin, L.N. (2003). Conducting research on home environments: Lessons learned and new directions. *The Gerontologist*, *43* (5), 628-637.
- Grant, K. R., Amaratunga, C., Armstrong, P., Boscoe, M., Pederson, A., & Wilson, K. (2004). *Care for/ caring about: Women, home care and unpaid caregiving*. Aurora: Ontario: Garamond Press.
- Lawton, M.P. (1999). Environmental taxonomy: Generalizations from research with older adults. In S.L. Friedman & T.D. Wachs (Eds.), *Measuring Environment Across the Life Span* (pp. 91-124). Washington DC: American Psychological Association.
- Oswald, F., Wahl, H.W., Schilling, O., Nygren, C., Fange, A., Sixsmith, A., Sixsmith, J., Szeman, Z., Tomsone, S., & Iwarsson, S. (2007). Relationships between housing and healthy aging in very old age. *The Gerontologist*, *47* (1), 96-107.
- Vaske, J.J., Gliner, J.A., & Morgan, G.A. (2002). Communicating judgments about practical significance: Effect size, confidence intervals, and odds ratios. *Human Dimensions of Wildlife*, *7*, 287-300.

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HOUSING LEGISLATIONS: MEETING THE NEEDS OF INDIVIDUALS WITH DISABILITIES

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Individuals with disabilities are often refused housing arrangements and experience discrimination in the housing market (The Urban Institute, 2005). According to a U.S. Census Bureau (2000), 49.7 million Americans (19.3% of population) disclosed a long-lasting disability. About 33.1 million (18.6%), of these are said to be between the ages of 16-64 and according to Steinmetz (2006), 52% of people over 65 have a disability that negatively affects physical mobility.

Historically American society's prejudices and misconceptions of individuals with disabilities have led to the isolation of the physically and mentally disabled from many aspect of society. Many disabled individuals have had to live with family members or reside in institutional settings. Through housing legislation and programs, policy makers have attempted to eliminate barriers to housing for individuals with disabilities and improve the supply of housing options. The purpose of this paper is to provide a brief synopsis of various federal and state/local policies and programs designed to provide housing for people with disabilities and discuss implications for housing and people with disabilities.

Section 504

Government involvement in addressing the housing needs of people with disabilities started with Section 504 of the Rehabilitation Act of 1973. This law prohibited discrimination against people with disabilities in all federal programs. Through Section 504, Public Housing Authorities (PHAs) are responsible for the housing accommodation needs of individuals with disabilities in public housing. . Additionally, PHAs provide social programs to help participants with life or job skills to encourage independent living. Currently, there is an inventory of 1,300,495 rental

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properties managed by the 3,400 PHAs in the U.S. About 5 million persons are housed in the 2.5 million units. According to Little (2002), 43% of all public housing households are elderly and disabled residents: 24% are disabled non-elderly and 30% are older adults with disabilities. Little also reports that there is a lack of accessible units in public housing and low participation by individuals with disabilities in social programs and believes PHAs need to better assess the needs of individuals with disabilities and cater to them.

Section 811

Section 811, Supportive Housing for Persons with Disabilities Program, is a U.S. Department of Housing and Urban Development (HUD) program with the sole purpose of providing supportive housing for low income individuals with disabilities (Congressional Research Services, 2008). Section 811 provides capital grants and project rental assistance to nonprofit developers (Schwartz, 2006). Before capital grant funds are awarded, the developer must demonstrate that supportive services have been approved by regulatory agencies where the services will be rendered. A 2007 report by HUD, reported that a total of 26,656 units have been constructed with Section 811 capital grants and were receiving rental assistance.

Fair Housing Amendments

Through the passage of the Fair Housing Amendments Act (FHAA) of 1988, Congress aimed at eliminating discriminatory practices against individuals with disabilities in housing related transactions (HUD, nd) in the private market. This legislation places people with disabilities under a protected class of previous Fair Housing legislation. It prohibits discrimination, requires property managers to make reasonable accommodations and modifications to existing rental housing (Corkery, 2005). The FHAA increases the supply of accessible units through the design requirements of the Fair Housing Accessibility Guidelines (FHAG) for newly constructed

multifamily units (built after 1991). Currently, HUD does not have a mechanism to track the number of accessible units built since the law went into effect.

In April 2007, HUD reported that out of approximately 10,328 housing discrimination grievances reported during that year, about 40% were disability related. The Urban Institute (2005) reported that leasing agents often refuse to fulfill housing accommodation requests made by individuals with disabilities. Several lawsuits have been brought against multifamily housing providers in an attempt to clarify the requirements of the law and the FHAG. According to Corkery (2005), the Equal Rights Center of Washington reported that these housing providers continue to not have accessible routes, doors, bathrooms, and kitchens in newly constructed buildings.

Visitability Laws

While the FHAA covers multifamily units, visitability legislation covers privately owned single-family, detached homes. Visitability laws are state and local ordinances with the goal of building supportive and accessible home environments that accommodate guests, friends and families in wheelchairs. The ordinances encourage the integration of individuals with disabilities into their communities (Nishita, Liebig, Pynoos, Perelman, & Spegal, 2005). Although states and localities have enacted these laws, there is no lead agency with enforcement authority to implement and enforce the laws. In addition, the authors reported that accessibility guidelines requirements are not congruent throughout the states.

Summary

The Supreme Court Olmstead decision in 1999 concluded that unnecessary segregation of people with disabilities in institutions constitutes discrimination. Executive Order 13217 encouraged states to house qualified individuals in community-based settings rather than institutions. However, the Congressional Research Services (2008) reported that the biggest

challenge to achieving this order is the lack of affordable and accessible housing in the community. While policy makers have sought to increase the amount of accessible housing to individuals with disabilities through legislation at the federal level and through state and local ordinances, it is difficult to determine the number of accessible units actually built. Furthermore, criteria to evaluate the quality, accessibility, and affordability of housing provided by the government and the private sector needs to be considered to determine the full effectiveness of these policies for people with disabilities.

Policies tend to be fragmented according to disability types, housing types and market. In order to evaluate existing programs and policies a better understanding of the success and impact of these programs and policies is needed. This evaluation should consider the needs of the users as well as those of housing providers.

References

- Congressional Research Services. (2008). Section 811 and other HUD housing programs for persons with disabilities. Retrieved May 19, 2009, from http://assets.opencrs.com/rpts/RL34728_20081103.pdf
- Corkery, M. (2005, November 16). More apartment landlords are likely to face disability-access suits. *The Wall Street Journal*, p. B.6.
- Covert, S. (1990). *A Facility is Not a Home: A Report on the Housing Symposium. August 24-25, 1989 Durham, New Hampshire*. Durham: University of New Hampshire, Institute on Disability.
- Department of Housing and Urban Development. (nd). Fair Housing Act. Retrieved December 05, 2008, from <http://www.hud.gov/offices/ftheo/FHLaws/yourrights.cfm>
- Department of Housing and Urban Development. (2007). Housing discrimination complaints at an all –time high. Retrieved November 25, 2008, from <http://www.hud.gov/news/release.cfm?content=pr07-032.cfm>
- Johansen, T.H. (2007). An exploratory study of disabled tenants' level of satisfaction under the Fair Housing Amendments Act. *Journal of Interior Design*, 32 (2), 28-45.
- Little, B.S. (2002). Public housing accommodations for individuals with disabilities. *Journal of Health & Social Policy*, 16 (1/2), 93-107.
- Malone, J & Hinchery, J.W. (2006). Multifamily housing developers see increase in FHA and ADA litigation. *Real Estate Finance Journal*, 21(3), 34-44.
- Nishita, C., Liebig, P.S., Pynoos, J., Perelman, L., & Spegal, K. (2007). Promoting basic accessibility in the home. *Journal of Disability Policy Studies*, 18, (1), 2-13.
- Schwartz, A. F. (2006) *Housing policy in the United States: An introduction*. New York: Routledge.
- Smith, S.K., Rayer, S., Smith, E.A. (2008). Aging and disability: Implications for the housing industry and housing policy in the United States. *Journal of the American Planning Association*, 74 (3), 289-306.
- Spegal, K. & Liebig, P. (2003). Visitability: Trends, approaches, and outcomes. Retrieved April 21, 2009, from <http://www.usc.edu/dept/gero/nrcshhm/research/pages/VA%20PAPER.pdf>
- Steinmetz, E. (2006). American with disabilities: 2002 Current population reports, P70-107). Washington, DC: U.S. Census Bureau.
- The Urban Institute. (2005, May). Discrimination against persons with disabilities: Barriers at every step. Retrieved April 7, 2009, from http://www.huduser.org/Publications/pdf/DDS_Barriers.pdf

U.S Census Bureau (2003). People: Disability. Retrieved November 20, 2008, from http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pageId=tp4_disability

CONNECTING RESIDENTIAL DISSATISFACTION AND COGNITIVE DECLINE IN OLDER ADULTS: A LONGITUDINAL ANALYSIS

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This paper investigates the relationship between housing dissatisfaction and subsequent cognitive decline in community-dwelling older adults. Longitudinal data from a survey of over 15,000 Americans above age 50 indicated that a poor rating of the physical condition of one's dwelling unit at baseline predicted significantly more rapid cognitive decline in the following years. The relationship was true even after controlling for a variety of other baseline factors such as wealth, income, education, health, family status, neighborhood safety, depression, and initial cognitive ability. Physically inadequate housing may have a direct effect on the rate of cognitive decline in older adults. Addressing housing inadequacy for older adults may thus produce a wider range of societal benefits than previously realized.

Research has suggested a relationship between the built environment and cognitive function. For example, studies of institutionalized adults have suggested that specific environmental features, such as contact with nature, can contribute to positive outcomes for those with cognitive impairment or dementia (Hernandez, 2007). Poor housing quality has also been found to be predictive of poor cognitive outcomes for minor children (Obasanjo, 1998). This link between near environments and cognition is a common finding in animal studies as well. Researchers found that in strains of mice designed to replicate Alzheimer's disease symptoms, long-term housing in an enriched physical environment (with, e.g., platforms, passageways, and lofts) resulted in improvement of cognitive function (Costa, 2007).

The following analysis considers the possibility of such a link between a perceived deficit in the physical quality of one's residence and subsequent cognitive decline. Following Morris and

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Winter's (1978) causal model of housing-deficit induced stress, this paper's hypothesis is that subjective housing deficits in community-dwelling older adults will have a negative impact on subsequent cognitive decline. This study examined data from the 1998, 2002, and 2006 Health and Retirement Study (HRS) and respondents over age 50 who completed cognitive tests in the 1998 survey and also in the 2002 survey (n=13,829) and/or the 2006 survey (n=11,687).

A subjective housing deficit was measured by the respondents answer to the question, "How about the physical condition of your (house or apartment/house/ apartment), would you say it is in excellent, very good, good, fair, or poor condition?" Responses were coded as "1" for "poor," "2" for "fair," "3" for "good," "4" for "very good," and "5" for "excellent." Cognition was measured by the combined score on the delayed and immediate word recall test.

Control variables were introduced including neighborhood safety, CES-d (depression), volunteer status, working status, charitable donor, education (years), age, household assets, household income, married, number of children, health (self-rated), cancer, stroke, heart problems, and initial score on the word recall tests.

Higher housing satisfaction is significantly associated with better subsequent cognitive changes when compared with "poor" housing quality. However, when comparing among the higher categories (such as "excellent" v. "very good"), there is little difference. For example, in the four-year time frame, a "good" rating is associated with a .5 question improvement in subsequent recall test scores as compared with a "poor" rating. However, a "very good" rating produces no greater level of improvement than did the "good" rating, and an "excellent" rating shows only modestly different gains of about .57.

It appears that there is little difference in subsequent cognitive scores associated with "good," "very good," or "excellent" housing, but rather dramatic differences in subsequent cognitive scores associated with being in housing in "poor" physical condition. This finding

suggests that potential gains to be made in subsequent cognitive decline may come, almost exclusively, from targeting the small percentage of housing with the lowest physical quality. Given that only 1.7% of housing was rated as “poor,” this segment generating the most notable differences was relatively small. Nevertheless, the magnitude of the impact on subsequent cognitive decline associated with “poor” quality housing is difficult to ignore. In both the four-year and eight-year time frames, the difference in cognitive decline associated with being in “poor” quality housing instead of “good” quality housing is roughly equivalent to six years of age, as determined by the coefficient for age at baseline.

In 1978, Morris and Winter proposed a model suggesting that housing-deficit induced stress could lead to negative mental health outcomes. The present analysis provides evidence that supports this assertion particularly where cognitive decline is the mental health outcome of interest.

References

- Costa, D., Cracchiolo, J., Bachstetter, A., Hughes, T., Bales, K., Paul, S., Mervis, R., Arendash, G., & Potter, H. (2007). Enrichment improves cognition in AD mice by amyloid-related and unrelated mechanisms. *Neurobiology of Aging*, 28(6), 831-844.
- Hernandez, R. O. (2007). Effects of therapeutic gardens in special care units for people with dementia. *Journal of Housing for the Elderly*, 21(2), 117-152.
- Morris, E. W., & Winter, M. (1978). *Housing, family, and society*. New York: John Wiley & Sons.
- Obasanjo, O. O. (1998). *The impact of the physical environment on adolescents in the inner city*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, MI.

Table 1.

Rating of housing physical condition and subsequent change in cognition scores with controls
OLS analysis of the HRS (1998, 2002, 2006)

Baseline variables	Recall score Δ (4 years)	Recall score Δ (8 years)
House condition "fair"	0.3088 (0.2169)	0.6227 (0.2280)**
House condition "good"	0.5000 (0.2070)*	0.6757 (0.2175)**
House condition "very good"	0.4953 (0.2079)*	0.6690 (0.2184)**
House condition "excellent"	0.5742 (0.2112)**	0.6164 (0.2219)**
Neighborhood safety	0.0549 (0.0282)	0.1240 (0.0297)***
CES-D (depression)	-0.0361 (0.0151)*	-0.0430 (0.0159)**
Volunteer	0.3015 (0.0549)***	0.2135 (0.0572)***
Working	-0.0634 (0.0593)	0.1699 (0.0606)**
Charitable donor	0.0645 (0.0557)	-0.0052 (0.0583)

Baseline variables	Recall score Δ (4 years)	Recall score Δ (8 years)
Education (years)	0.1198 (0.0094) ^{***}	0.1614 (0.0100) ^{***}
Age	-0.0863 (0.0033) ^{***}	-0.1157 (0.0037) ^{***}
Household assets (\$10k)	0.0004 (0.0004)	0.0007 (0.0004)
Household income (\$10k)	0.0072 (0.0034) [*]	0.0055 (0.0037)
Married	-0.1509 (0.0578) ^{**}	0.0177 (0.0614)
Number of children	0.0028 (0.0117)	0.0189 (0.0123)
Health (self-rated)	0.1475 (0.0261) ^{***}	0.1763 (0.0275) ^{***}
Cancer	0.0889 (0.0832)	0.2028 (0.0890) [*]
Stroke	-0.4658 (0.1174) ^{***}	-0.3304 (0.1346) [*]
Heart problems	-0.0411 (0.0675)	-0.0469 (0.0735)
Baseline (1998) recall score	-0.5536 (0.0078) ^{***}	-0.6362 (0.0083) ^{***}
Intercept	8.0486 (0.3586) ^{***}	8.9684 (0.3813) ^{***}
R-square	0.2693	0.353
N	13829	11687

**EVALUATING AND DOCUMENTING THE GLOBE AT NIGHT:
LIGHT POLLUTION AND SKY QUALITY AT STUDENT HOUSING SITES**

Paulette Hebert, Sylvia Chaney[†]

Introduction

The term, *light pollution*, is a relatively recent addition to modern vocabulary. Some are becoming increasingly concerned with light pollution – wasted up-light streaming skyward, the glow of street lights intruding through bedroom windows, and the possible health implications associated with the regular disruption of circadian rhythms (International Dark-Sky Association, n.d.; Hebert, 2003). Light pollution is found in the dictionary, as “light pollution – *noun*; 1. unwanted or harmful light, as from bright street lights or neon signs; 2. *Astronomy*. artificial illumination of the sky that sets a limit on the faintness of stars that can be observed or photographed. Origin: 1970-75” (Dictionary.com, 2009).

In an attempt to track light pollution, the GLOBE at Night program is currently in its fourth year of soliciting, recording, and analyzing the “measurements of night-sky brightness by citizen scientists around the world” (National Optical Astronomy Observatory [NOAO], 2008, ¶ 1). GLOBE at Night is an international collaboration of government, education, research and non-profit organizations, lead by GLOBE (Global Learning and Observations to Benefit the Environment) and the National Optical Astronomy Observatory (GLOBE at Night, 2009a). This program is especially of interest in 2009, since this year has been deemed the International Year of Astronomy (IYA), (NOAO, 2008). Astronomers are concerned about light pollution, because it prevents them from being able to see and study the stars.

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In 2007, 8,491 observations were made by the GLOBE at Night participants in 60 countries worldwide (Ward, 2007). In 2008, observations were made by GLOBE at Night participants in 62 countries, but the exact data are not yet available (GLOBE Program, 2008).

The researcher has hypothesized that light pollution exists at student housing sites on and near the researcher's University campus. Previously, at least one unsolicited complaint regarding light pollution at a student housing site on the University campus, has been recorded: "...I have to thank [the University] for the stadium; it provides a constant light at night that keeps me awake at all hours..." (Allen, 2005). In the professional literature, the Illuminating Engineering Society of North America acknowledges that athletic facilities may produce light pollution and offers some suggestions for the implementation of ordinances that could curtail the times sports lighting may operate. "During post-curfew hours, lighting which is non-essential, such as that of sports facilities... could be extinguished..." (Obtrusive Light Subcommittee, 2000, p. 7).

Purpose

The purpose of this research was to determine whether empirical evidence of light pollution could be found and documented at student housing sites on campus and near campus. In consideration of this phenomenon, objectives of the current study included: to raise lighting design students' awareness of light pollution; to measure and document sky quality at 19 different University housing sites; to submit data to the GLOBE at Night program for inclusion in the international longitudinal data set; and to photo-document the lighting conditions at the studied sites. The latter was not requested by GLOBE at Night, but was added by the instructor. This was an attempt to ensure that students considered the visual effects of lighting at the housing sites. Participation in this data collection activity also provided students with an opportunity to participate in an annual and international study.

Methodology

Undergraduate and graduate students at a large university in the mid-west, who were currently enrolled in the Design, Housing and Merchandising Department's required Environmental Design course, gathered the data. A large number of the Environmental Design course's teaching modules focus on lighting design. Students were offered extra credit to participate during the GLOBE at Night's program period, March 16-28, 2009.

After in-class training on data collection procedures individual students visited 19 different University student-housing sites that the instructor had marked on maps. These included single- and multi-family units, dormitories, and group housing. Viewing and data collection occurred between 9 p.m. and 12 a.m. in the Central time zone. Participants documented sky quality by manually comparing their unaided views of the constellation, Orion, to star charts that represented Orion under various viewing conditions. Viewing conditions (magnitude ratings) were measured on a scale of 1 to 7 ("1" indicating heavily light polluted skies with few stars visible, and "7" indicating "dark skies" (no pollution)).

Each participant viewed Orion at the assigned site and rated the condition/level from the chart that best represented what they saw. In addition, they recorded cloud cover, sky condition, and the name, address, latitude, and longitude of the student housing site. Viewers' use of eyeglasses and contact lenses was allowed but telescopes and binoculars were prohibited. Participants were trained in the procedures by the instructor in the classroom, prior to their data collection in the field.

Findings

Although analysis is still in progress, the research found evidence of light pollution at student housing sites. On a scale of 1 (heavily light polluted) to 7 (dark skies, no pollution), the mean magnitude reading was 2.53, or light pollution. Both the median and the mode were 3.00. The

design students submitted 19 of the 14,063 usable observations published in the GLOBE at Night 2009 worldwide data base (GLOBE at Night, 2009b). A review of the worldwide data base revealed mean magnitude readings of 3.68, a median of 4, and a mode of 3, suggesting that the local observation site is more light polluted than the world at large.

Conclusions and Implications

The students were able to make a meaningful contribution to GLOBE at Night's international, longitudinal data set of light pollution and sky quality readings. Beyond the empirical observations collected by the students, no other observations for the area under consideration were found in the international data set. Further, the students produced visual documentation via photography to supplement their field observations. This project filled a gap in the current light pollution knowledge. Additional measurements and photography could be made annually by the students enrolled in the Environmental Design course. Comparisons over time could generate knowledge about the growth or waning of light pollution. Further studies, regarding the implications for student health and wellbeing, as influenced by light pollution and sky quality relative to housing sites, are needed.

References

- Allen, D. (2005, August 25). Thanks, Oklahoma State, for robbing me. *The Daily O'Collegian*, p. 4A.
- GLOBE at Night. (2009a). *Sponsors*. Retrieved April 20, 2009, from <http://www.globe.gov/GaN/sponsors.html>.
- GLOBE at Night. (2009b). *GLOBE at Night 2009 Full Dataset*. Retrieved July 29, 2009, from <http://globe.ucar.edu/GaN/GaN2009.xls>.
- GLOBE Program. (2008, May 12). GLOBE at Night 2008 observed around the world. Retrieved April 22, 2009, from http://www.globe.gov/star/GN_2008.
- Hebert, P. R. (2003). Light trespass and facility design and management. *International Facility Management Association's 2003 World Workplace Japan Conference Proceedings* [Disseminated on compact disc].
- International Dark-Sky Association. (n.d.). *Frequently asked questions*. Retrieved April 20, 2009, from <http://www.darksky.org/mc/page.do?sitePageId=61045&orgId=idsa>.
- Dictionary.com. (n.d.). Light pollution. *Dictionary.com Unabridged (v 1.1)*. Retrieved March 24, 2009, from [http://dictionary.reference.com/browse/light pollution](http://dictionary.reference.com/browse/light%20pollution).
- National Optical Astronomy Observatory (NOAO). (2008, April 22). *Globe at night 2008 results a solid step toward IYA 2009* [Press Release]. Retrieved March 24, 2009, from <http://www.noao.edu/outreach/press/pr08/pr0805.html>.
- Obtrusive Light Subcommittee of the IESNA Roadway Lighting Committee. (2000). *Light trespass: Research, results and recommendation, TM-11-00*. New York: The Illuminating Engineering Society of North America.
- Ward, D. (2007). *2007 Globe at Night analysis summary*. Retrieved March 24, 2009, from <http://www.globe.gov/GaN/GaN2007AnalysisSummary.pdf>.

SPACE AND BEHAVIOR: POST-OCCUPANCY EVALUATION OF SENIOR HOUSING

Marilyn J. Bruin, Lois Cutler, Laura Lien, Sahar Awliya, Seon Choi, Diana Krogstad, Jodene Riha, Amanda Smoot, Hae Young Yun[†]

Introduction

This abstract summarizes projects from a graduate seminar on systematic post-occupancy evaluations (POE) of senior housing. Students reviewed research and theoretical literature to develop evaluation tools. Working in teams of two or three, they collected and analyzed data, kept journals, and submitted progress memos; students and instructors reviewed drafts and provided feedback to synthesize findings into recommendations. Teams evaluated three unique settings: 1. A large care center dining room; 2. A care center shower/tub room; and, 3. Sun porches and kitchenettes in an assisted living complex.

Methodology

Data Collection

Teams developed data collection plans based quality of life domains (Cutler & Kane, 2004). To evaluate the dining rooms, Team One observed meals and recorded behavioral maps, conducted a focus group with four residents, and interviewed an assistant administrator. Interview questions measured residents' perception of comfort, autonomy and choice, and dignity.

Lacking specific literature, Team Two designed a POE to guide recommendations in efficiency, satisfaction, and well-being of residents and staff regarding a shower/tub room used by 52 residents. Systematic observations included recording trace measures on a worksheet

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adapted from Association of University Directors of Estates' *Guide to Post-Occupancy Evaluation* (2006). Students also interviewed seven residents and five staff members.

To better understand perceived under-use of sun porches and kitchenettes, Team Three focused on principles of safety and universal design to identify issues of privacy, social interaction, independence, and autonomy. The POE included casual observation, data recorded in checklists and behavioral maps, and a focus group.

Findings

Observing the dining room, Team One noticed residents often arrived thirty to forty-five minutes before the meal. Seating was assigned; one resident commented: "I went where I was told to go". Although a seating chart was posted, there was a great deal of shuffling and rearranging of residents and chairs. A focus group participant commented: "Waiting, you twiddle your thumbs—I am missing my shows". Residents expressed a lack of choice but did not want to bother staff. One woman commented: "Food can be asked to be heated, but I don't ask. I don't want to make waves". When a diner requested dessert, staff replied loudly that she was diabetic and not allowed while others at her table had dessert.

Resident enjoyment of the shower/tub room revolved around the outcome of being bathed; aesthetics appeared to have little influence on resident well-being. Residents in favor of the space thought it was friendly, comfortable, and had a "good atmosphere". Neutral responses included "no colors jumping out at you", changes "probably could not be made under the circumstances", and it is "just a room, nothing fancy." A major finding included the residents' perceived lack of control over potential changes in their environment. A sense of place appeared stronger in individual rooms but lacking in shared spaces such as the shower/tub room. Residents felt little authority over the shared spaces, making it difficult to exert control over the aesthetics or the bathing process. Team Two noted discrepancies between responses

from residents and staff, suggesting differences in perceived control. The staff more fully realized the aesthetic aspects of the room, while residents were more concerned with the bathing process.

Team Three's analysis of focus group interviews at the assisted living facility revealed that eight of fifteen participants had used and enjoyed a porch. The sun porches also scored well on the observation checklist; they provided space for visiting and were described as places to relax and enjoy nature. The chief complaint was that they became hot late in the day or cold in winter. Five of fifteen participants had used a kitchenette; many stored ice cream in the freezer or played games at the table. No suggestions were offered, but several participants commented the space was too small for anything else.

Recommendations

To reduce the scale of the dining room and create a more dignified ambiance, Team One suggested installing a movable room divider to create two smaller dining areas. Their additions of lightweight, slatted dining chairs and tables with a thick circular base for a foot rest were also recommended. Square tables with flip-up sides would offer informal flexibility while circular tables could accommodate formal celebrations. Team One also suggested that residents select from a menu with staff serving hot meals from steam tables or providing deli items from a cooler served on attractive dinnerware.

Team Two developed a range of recommendations since remodeling bathing spaces is costly. Simple low-cost suggestions included adding decorative hangers, a changing area, temporary storage for assistive devices, and personalized lockers for toiletries. More costly recommendations included improved ventilation, aesthetic shower chairs, and less institutional and intimidating tubs that maintain water temperature. Additional items to promote a homey or

spa-like atmosphere included a towel warmer, a vanity table, mirrors, heat lamps, pictures, and plants.

The assisted living facility's porches and kitchenettes were well-designed, contradicting an assumption that they were not used due to inaccessibility. Although residents expressed overall satisfaction with the porches and kitchenettes, universal design recommendations could increase the safety, comfort, and hypothetically use of the spaces. Adding ceiling fans, window treatments, and operable windows with an awning could prevent glare and lower the temperature in the porches during the summer. Retrofitting a kitchenette as a soda parlor with self-serve ice cream could promote social interaction among residents and encourage visits from family and friends.

References

Cutler, L.J., & Kane, R.A. (2004). *Practical strategies to transform nursing home environments: Towards better quality of life. Workbook* (prepared under a grant from the Retirement Research Foundation). Minneapolis: University of Minnesota, National LTC Resource Center.

Association of University Directors of Estates & Higher Education Funding Council for England. (2006). *Guide to post-occupancy evaluation*. Westminster, UK: AUDE and University of Westminster.

AN INTER-NEIGHBORHOOD ANALYSIS OF PRE-FORECLOSURE DATA ACROSS TIME PERIODS

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Introduction

The issue of foreclosure has become one of the preeminent housing issues in recent years. While foreclosure is a seemingly random event, much of the publicity surrounding the foreclosure crisis has been rooted within the simultaneous discussion of the subprime lending issue. This creates the impression that foreclosure is largely relegated to low- and moderate-income populations, which may even cause a backlash from the lending industry, due to perceived riskiness of these populations (Immergluck 2009). In addition, many of the families who become seriously delinquent on their mortgage payments are directed to credit counseling agencies, which cater largely to populations of moderate income or lower. This particular research centers on the income distribution of foreclosure. As such, it helps illuminate the fact that foreclosure is a problem that affects a large swath of families, not specifically those in low-income settings.

Using data from xxx and xxx Counties and from Melissa Data Corp., some of the recent trends in foreclosures from mid-2004 to early 2008 are examined. Specifically, we examine both the growth rate of pre-foreclosure properties in high- and low- income neighborhoods, as well as the differences in probabilities that these income groups can avoid foreclosure.

Data Collection and Methodology

The data used for this particular project consist of properties that are in pre-foreclosure phase. Specifically, this means that the foreclosure process has been set in motion, and that the homeowner has been given a window of opportunity to either sell the property in the open

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market or refinance in order to save the property. We are able to delineate low- income neighborhoods as those below 80 percent of the area median income, consistent with levels used from previous research (Van Order and Zorn 2001) and defined by statute (Zhu and Meeks 1994). A dummy variable *high_in* was created to account for this measure. Moreover, a time variable *time_m* is introduced for the number of months after June 2004, the starting point of this particular analysis.

The following regression is performed.

$$\text{count} = \beta_0 + \beta_1 \text{time}_m + \beta_2 \text{high_in} + \beta_3 \text{time}_m * \text{high_in}$$

where count is the number of pre-foreclosures within the neighborhood each month.

For the high income neighborhood (*high_in* = 1):

$$\text{count} = \beta_0 + \beta_1 \text{time}_m + \beta_2 + \beta_3 \text{time}_m$$

thus:

$$\text{count} = \beta_0 + \beta_2 + (\beta_1 + \beta_3) \text{time}_m.$$

For low income neighborhoods, *high_in* = 0 hence the terms of β_2 and β_3 disappear, so

$$\text{count} = \beta_0 + \beta_1 \text{time}_m.$$

In the high-income neighborhood, if $time_m$ is increased by 1 unit, count is increased by $(\beta_1 + \beta_3)$ units. It represents the change of the number of pre-foreclosures per month in high-income neighborhoods, thus serving as the growth rate of high-income neighborhood foreclosures. By the same token, if $time_m$ is changed by 1 unit in low-income neighborhoods, count is changed by β_1 units. β_1 represents the change of the number of pre-foreclosures per month in low-income neighborhoods, hence the growth rate of pre-foreclosures in low-income neighborhoods. The value of β_3 tells us how much the difference is between the two neighborhood types. If the estimate of β_3 is positive, $(\beta_1 + \beta_3)$ is bigger than β_1 . It implies the growth rate of high-income neighborhood is bigger than that of low-income neighborhood. On the other hand, if the estimate of β_3 is negative, $(\beta_1 + \beta_3)$ is smaller than β_1 . It implies the growth rate of high-income neighborhood is smaller than that of low-income neighborhoods.

Additional analysis was performed to determine which households would be most adept at avoiding foreclosure once they became delinquent on their mortgages. To accurately determine whether a property actually did go to foreclosure proceedings, we consulted with the xxx County Assessor's Office to inspect the sales history of the property, and if a foreclosure did indeed occur.⁵ Because of the size of the property database (over 20,000 observations), a random sample of 109 properties was chosen for inspection.

Logistic regression is performed on the probability that a property avoids foreclosure. Because we do not know what factors contribute to the escape of foreclosure, a variable selection process is required to eliminate unrelated variables. We employ this variable selection process through stepwise regression.

⁵ xxx County data on foreclosures was not readily available at the time of submission of this abstract.

Data Analysis

From the plots shown in Figures 1(a) and 1(b), both counties have similar trend lines regarding growth of foreclosures by income class. High-income neighborhoods have bigger growth rates than low-income neighborhoods for both counties. The p-values of β_3 are very small for both counties, which indicate a significant difference of growth rates between high- and low-income neighborhoods. In addition, the estimates of β_3 (Tables 1(a) and 1(b)) for both counties are positive, which means the growth rate of high-income neighborhoods is significantly bigger than that of low-income neighborhoods.

There are 97 observations available for the investigation of whether pre-foreclosure properties ultimately avoid foreclosure altogether.⁶ Let p be the probability that the mortgagor avoids foreclosure altogether. Using stepwise selection procedures in Table 2, the estimated coefficient of Prior Sale Price is positive which means higher house price leads to a higher chance of escape from foreclosure.

Conclusion and Implications

From the regression results, we find that early stage distressed properties in high income neighborhoods have grown at a faster rate than those in lower-income neighborhoods in both counties. Using data from xxx County alone, we find that higher-income households are more able to avoid foreclosure once the foreclosure process has been initiated. As mentioned earlier, the results showing the growth rates of foreclosures by income status highlight the difficulties that medium- to higher-income families are facing in the most recent housing crisis. Because many of the Neighborhood Stabilization Program grants introduced by HUD are prioritized toward first addressing lower-income populations, it would appear that government policy may be avoiding a wide swath of communities in need during this time of crisis. Regarding the issue

⁶ The authors intend to add more observations into the analysis by the time of the conference.

of avoidance of foreclosure by higher-income groups, the results are not altogether surprising given that this population has a human and social capital advantage over their lower income counterparts. Still, it might be instructive to future researchers to more closely monitor these particular higher-income households to determine how they maneuver out of foreclosure situations.

References

Immergluck, D. (2009). *Foreclosed: High-risk lending, deregulation, and the undermining of America's mortgage market*. Ithica, NY: Cornell University Press.

Van Order, R., & Zorn, P. (2002). The performance of low-income and minority mortgages. In Retsinas and Belsky (eds.), *Low-Income Homeownership: Examining the Unexamined Goal*. Washington, D.C.: Brookings Institution Press.

Zhu, L., & Meeks, C.B. (1994). Effects of low-income families' ability and willingness to use consumer credit on subsequent outstanding credit balances. *Journal of Consumer Affairs*, 28(2), 403-422.

Figure 1(a): Number of Pre-foreclosures in xxx County for high- and low-income neighborhoods

Number of Pre-foreclosure in Cobb County against Month for high (1) and low (0) income

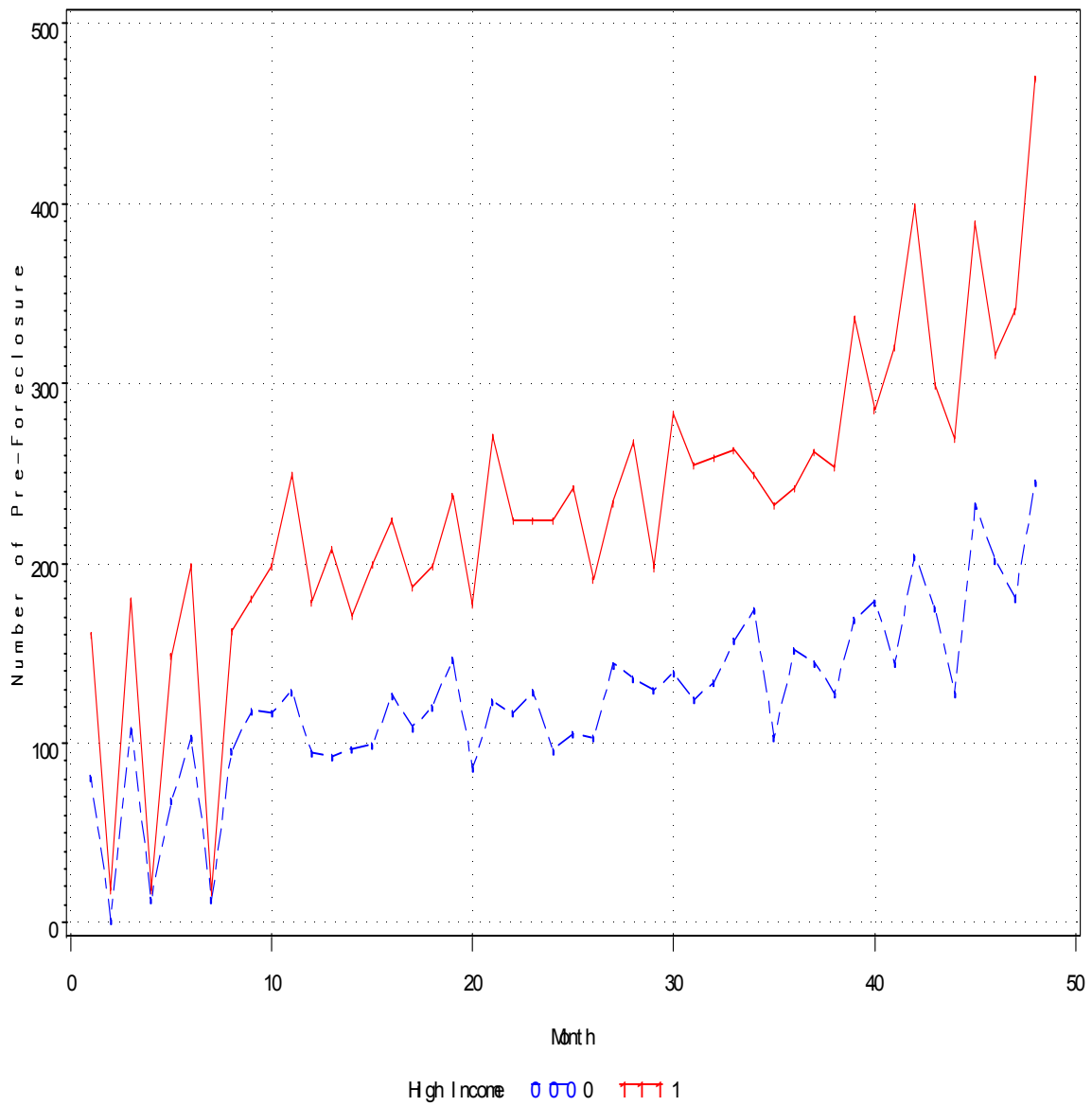


Figure 1(b): Number of Pre-foreclosures in xxx County for high- and low-income neighborhoods

Number of Pre-foreclosure in Gwinnett County against Month for high (1) and low (0) income

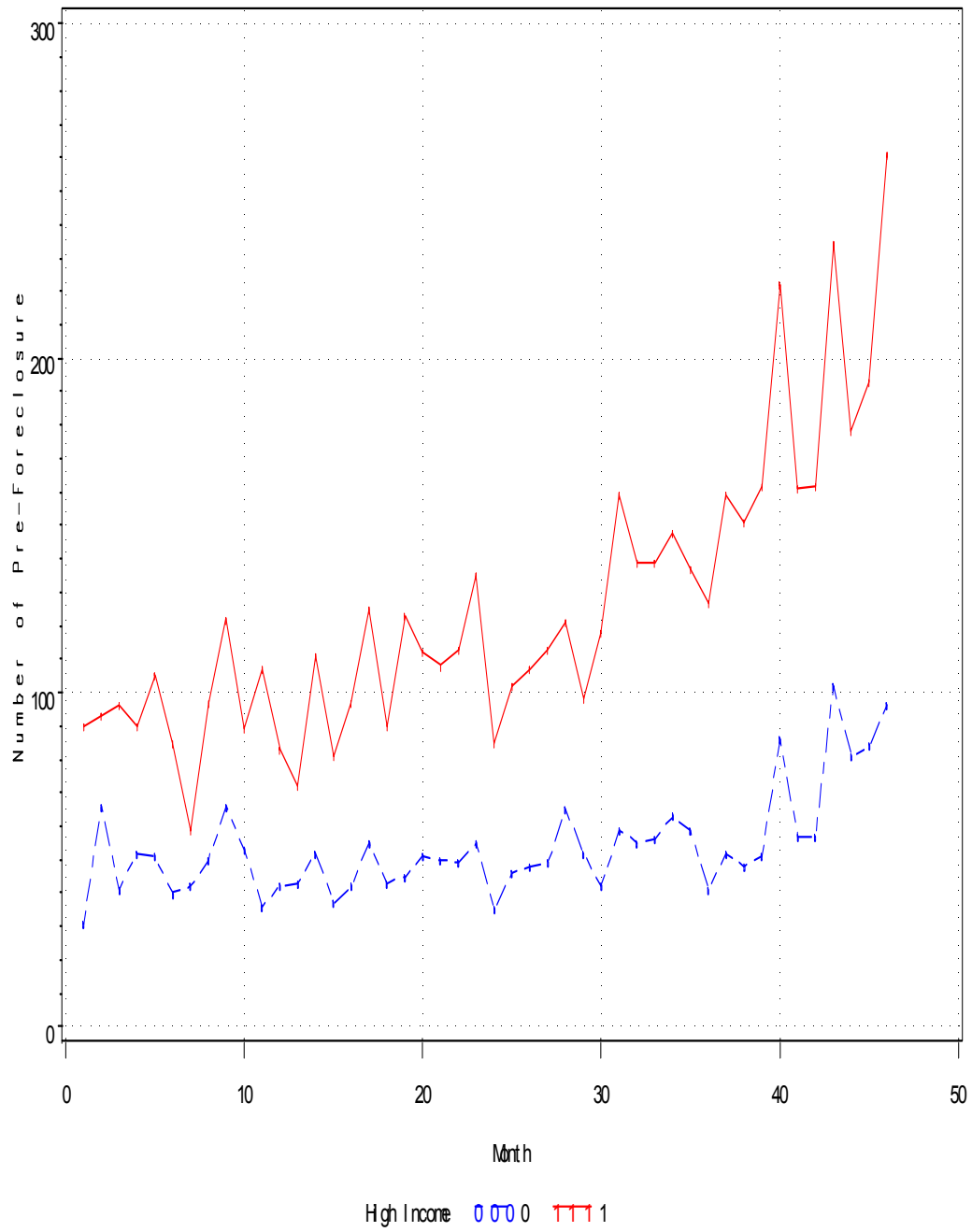


Table 1(a): *Pre-foreclosure growth rate estimate of xxx County*

Parameter	Estimate	Std. Error	t-value	p-value
β_0	40.97163	12.52926	3.27	0.0015
β_1	2.16017	0.44516	4.85	<.0001
β_2	84.13298	17.71905	4.75	<.0001
β_3	3.47416	0.62955	5.52	<.0001

Table 1(b): *Pre-foreclosure growth rate estimate of xxx County*

Parameter	Estimate	Std. Error	t-value	p-value
β_0	33.51014	6.06132	5.53	<.0001
β_1	0.63602	0.22457	2.83	0.0057
β_2	36.31884	8.572	4.24	<.0001
β_3	1.9485	0.31759	6.14	<.0001

Table 2: Stepwise selection regression model for avoidance of foreclosure, xxx County

Parameter	Estimate	Std. Error	Chi-Sq	P-value
β_0	-1.6616	0.5168	10.335	0.0013
β_1	6.10E-06	3.11E-06	3.8551	0.0496

$$\log\left(\frac{P}{1-p}\right) = \beta_0 + \beta_1 \text{Prior_Sale_Price}$$

SUSTAINING WATER CONSERVATION AFTER THE RAINS RETURN

Pamela R. Turner[†]

The water we consume at home comes from surface water (lakes, rivers and streams) or groundwater (wells). The majority of the population (70%) receives their water from systems that use surface water (EPA, 2008). Water is a self-sustaining resource, so when it stops raining and snowing, water becomes scarce. Add to that a growing urban population and the area can easily be facing a water shortage. This is when policy makers enact strict outdoor watering restrictions, raise prices and implement public education campaigns to encourage people to conserve water. When the rains return and people no longer live with the threat of running out of water, interest in water conservation often subsides and people resume their previous water use habits. The purpose of this paper is to examine the impact on consumer behavior of non-price household water conservation programs and discuss ways to sustain the water conservation message when the rain returns.

Price and non-price conservation methods have been used to achieve lower water consumption by individuals and families. Non-price methods focus on reducing consumption through behavior modification and the installation of water-saving devices. A major challenge with these methods is helping consumers realize that by reducing their consumption they save money and expand the life of existing water supplies.

Research on the effectiveness of non-price conservation measures is limited. One study suggests that non-price programs can be effective in reducing demand, but the authors were unable to distinguish between the effectiveness of different types of programs (Michelsen, McGuckin & Stumpf, 1999). Other researchers found that the use of water-saving devices can have a significant impact on reducing water demand (Geller, Erickson & Buttram, 1983). In a

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separate study, water-saving features that were installed saved 44 million gallons of water each day (Mayer & Deoreo, 1999).

The University of Georgia water conservation program was implemented in the midst of a severe drought. Objectives of the program were to: (1) increase knowledge about water use and ways to conserve water; (2) provide information on low- and no-cost ways for consumers to conserve water; and (3) encourage water conservation practices and behavior changes. The educational message was simple and direct, highlighting five ways to save water - (1) Wash full loads of laundry and dishes; (2) Always turn off running water; (3) Take shorter showers; (4) Eliminate any and all leaks; and (5) Reduce the flow of toilets and showerheads. Several educational tools were used, including a one-hour interactive program, an exhibit and news releases. A post-test was developed to evaluate the program. Questions related to behavior before the drought and intent to change behavior after participating in a program. A pre-test was not administered since there was wide-spread media coverage of the drought.

Over a 12 month period, 80 programs on indoor household water conservation were conducted reaching more than 1,600 consumers. Of the programs evaluated, the majority (95%) of participants were females with an average age of 49. About half of those attending a program reported some water conservation practices prior to the drought. After attending the program, about 70 percent reported that they would be more likely to adopt water conservation practices such as washing full loads of laundry, turning the water off while brushing teeth and taking 5 minute showers. Over half of the respondents who had not installed a low-flow showerhead or toilet prior to the drought, indicated they were “very likely” or “somewhat likely” to do so after participating in the program.

In May 2009, the rains returned and the drought was over. Not surprisingly, media coverage and interest in water conservation decreased. There was a general feeling that people would

stop conserving water because they no longer saw a need to limit use and were unaware of the environmental benefits. Studies have shown that there may be a direct link between environmental beliefs and conservation behavior (Corral-Verdugo, Bechtel & Fraijo-Sing, 2003; Gilg & Barr, 2006). Barr (2003) suggests that environmental behavior is influenced by personal situations, psychological perceptions and personality characteristics, and environmental values. Policies and programs need to take into account the complexity of human behavior and should be holistic in nature, rather than focusing on individual behavior changes (Gilg & Barr, 2006). Integrating water conservation with other conservation programs provides a holistic approach to influencing environmental behavior.

In the current market, consumer attitudes and beliefs are shifting towards improving personal health, community and natural environment through sustainable or eco-friendly products and services. There have been green movements in the past, but now consumers seem to be maintaining a focus on environmental and health issues despite the recession. Taking advantage of this newfound interest, a program focusing on changes people can make to conserve natural resources, improve the indoor environment and save money was developed. Water conservation has been integrated into the new green focus, highlighting low- and no-cost ways to save both money and water. Outcomes of the new water conservation program are yet to be seen.

References

- Barr, S. (2003). Strategies for sustainability: citizens and responsible environmental behavior. *Royal geographical Society*, 35(3): 227-240.
- Corral-Verdugo, V., Bechtel, R.B. & Fraijo-Sing, B. (2003). Environmental beliefs and water conservation: an empirical study. *Journal of Environmental Psychology*, 23, 247-257.
- Environmental Protection Agency Office of Water (2008, November). Factoids: drinking water and ground water statistics for 2008. (Publication No. EPA 816-K-08-004). Retrieved May 31, 2009, from <http://www.epa.gov/safewater/data>
- Geller, E.S., Erickson, J.B., & Buttram, B.A. (1983). Attempts to promote residential water conservation with education, behavioral and engineering strategies. *Population and Environment: Behavioral and Social Issues*, 6, 96-112.
- Gilg, A. & Barr, S. (2006). Behavioral attitudes towards water saving? Evidence from a study of environmental actions. *Ecological Economics*, 57: 400-414.
- Mayer, P.W. & Deoreo, W.B. (1999). *Residential end uses of water*. Denver, CO: American Water Works Association Research Foundation.
- Michelsen, A.M., McGucking, J.T. & Stumpf, D. (1999). Non-price water conservation programs as a demand management tool. *Journal of the American Water Resources Association*, 36(3), 593-602.

TEACHING SUSTAINABILITY AND HISTORIC FURNISHINGS THE WIKI WAY

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Wiki technology has been around since the mid-1990s. When Wikipedia, by far the largest wiki thus far, debuted on the Internet in 2001, thousands of people began coming together in an on-line community to share and create knowledge on millions of topics. Anyone can anonymously write an article for Wikipedia, and anyone can anonymously edit another person's writing. Surprisingly, most of the articles are written in a style similar to an encyclopedia entry, and are, for the most part, accurate (Giles, 2005). Today, there are almost three million articles on Wikipedia (Wikipedia, 2009), up from just under 1 million in 2006. The increasing popularity of this on-line learning community is something housing educators can use for self-directed learning.

Wikipedia can serve as a wonderful model for the housing educator who wishes to engage students in problem-solving and critical thinking. Having students collectively thinking, sharing and writing on a given topic is precisely what college educators hope will happen when students participate in group projects. The challenge with using wikis to foster these activities, though, is establishing a secure on-line forum for students where they can easily collaborate and create an original project.

In 2009, Adobe launched Buzzword (2009), a free on-line wiki that is user friendly and easily accessible through the Internet. By signing up for a Buzzword account, students can create just about any type of document using the word processing commands of Buzzword, or they can "cut and paste" a document into the Buzzword platform. Moreover, Buzzword users can share the document with others in a variety of ways. They can allow others to have complete access to the document, essentially serving as co-authors. They can invite others to serve as reviewers

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and only be allowed to make editorial comments about the document that appear as “bubbles” at the side of the screen. Finally, others can be invited to read the document without having the ability to change it.

Using wiki technology, two different assignments were created in two different classes that allowed students to collectively contribute to a graded project. The first was a wiki “book” on sustainable housing. The major objective of this project was to have students research resources, building practices, products and services that are currently available to create sustainable housing. Moreover, the students were to practice their writing skills, use emerging technology, and practice professionalism by working in groups.

Students were required to sign up for topical groups, based on their own interests in sustainable residential design. Some of the topics included were: construction methods, flooring, windows, and kitchens, among others. Each group was given a wiki site, and an outline of key concepts that should be covered in their project. Concepts included the following: Problems/issues related to the topic, current research, products currently available, household behavior, the role of the interior designer, and a resource list. Beyond the outline, students could do whatever they wanted and they were encouraged to be creative. Students compiled information about their topic on their respective wiki sites, incorporating text, pictures, charts, web links, and other graphics to illustrate the key concepts. After the chapters were completed, they were presented to the rest of the class. The instructor then compiled all the chapters into a wiki “book” on housing sustainability and invited all students to be readers. In that way, students could see what the other groups had created and could use the information they had gathered in other classes.

The second project was a portfolio of historic furniture, architecture, and interiors, which was compiled by 33 students enrolled in an historic furnishings course. The objectives for this project were to recognize distinguishing features of period furnishings, architecture, and

accessories and to discover good sources of information related to historic interior design components. Students were required to post 10 examples of furniture, interiors, home accessories or art from various historic periods. Along with the example, students were required to write a short description, which could include interesting facts about the example, notable characteristics, location, designer, construction or materials. They were also required to cite any references used in finding and describing the example. All students were invited to be co-authors on this project and so they could post their own examples as well as add information to other examples.

Both assignments were very well received by the students in each class. With the wiki book on sustainability, students appeared to divide the work of the project up by assigning each group member a certain aspect of the project, which were then compiled, however, students appeared to engage in quite a bit of collaboration on the different parts once they were posted by the individual group members. The students really tried to make their chapters a cohesive document, possibly more so than if they turned in a paper copy.

The response to the historic furnishing wiki assignment was almost immediate. Students began posting items the day they received the assignment. They were very confident in making comments on each other's postings, and they experimented in creating unique postings by using different fonts, colors, and picture arrangements. Several students included pictures of themselves with the historic building or interior, and shared their own reflections of visiting these historic sites. In addition, the postings and descriptions became more elaborate as the semester progressed. Students were not only finding pictures of historic furnishings, buildings and interiors, but they were researching multiple resources so they could include as much information as possible about their examples.

Wiki technology is already a major component of Web 2.0 (Adie, 2006), and will continue to be an important resource for the academic community. Students could benefit from the use of wikis as they study housing topics that are constantly evolving like sustainability, indoor air

quality, management, and design. With emerging wiki technology sites like Buzzword, housing educators can easily guide students in critical thinking exercises that will prepare them to be the creators and collaborators of housing knowledge in the future.

References

- Adie, C. (2006). *Report of the information services working group on collaborative tools*. Retrieved May 28, 2009 from <http://www.vp.is.ed.ac.uk/content/1/c4/10/46/CollaborativeToolsAndWeb2%200.pdf>
- Forte, A. & Bruckman, A. (2009). *From Wikipedia to the Classroom: Exploring Online Publication and Learning*. Retrieved June 1, 2009, <http://www.cc.gatech.edu/~aforte/ForteBruckmanFromWikipedia.pdf>from:
- Giles, J. (2005). Internet encyclopaedias go head to head. *Nature*, 438, 900-901.
- Parker, K.R. & Chao, W.T. (2007). Wiki as a teaching tool. *Interdisciplinary Journal of Knowledge and Learning Objects*. 3, 57-72.
- Wikipedia (2009). Wikipedia: Size of Wikipedia. Retrieved on May 28, 2009, from http://en.wikipedia.org/wiki/Size_of_wikipedia

GREEN REGIONAL ENERGY EXTENSION NETWORK (GREEN)

Barbara Buffaloe[†]

American citizens are increasingly recognizing a new global reality—that each of us needs guidance to reduce our CO2 foot print and prepare to make a living – and a life – in a world where natural resources are being reallocated by Earth’s changing climatic system. A collaborative team of educators from the Cooperative Extension systems in two states, Iowa and Missouri, have established a capacity building project, named the Green Regional Energy Extension Network (GREEN), as an efficient and sustainable means of harnessing the land-grant Extension system to provide critical environmental education to thousands of citizens, with a focus on the underserved.

The specific objectives are to form a mission and vision statement for the coalition, assess available sustainability resources and market those to extension educators, raise the visibility of the GREEN coalition as a resource clearinghouse among extension educators, and inspire extension educators to think creatively about the ways in which their own programming can incorporate sustainability thinking.

The GREEN coalition came about from a discussion between Iowa Extension Specialists and Northern Missouri specialists during the 2008 Galaxy conference. Earlier in 2008, South Eastern Iowa Extension administrators administered a survey entitled “Going Green: Where Should SE Extension Contribute” to their regional audience. The results of the survey showed that their audience wanted to make changes in their energy lifestyles and that Extension should lead the charge in educating them. Iowa specialists brought this discussion to Galaxy along with a white paper authored by the National Network of Sustainable Living Educators (NNSLE), entitled *A Vision for Relevance*. This white paper argues that “the time is now for Extension to engage individuals & communities for environmental stewardship, through sustainable living

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education”. Specialists throughout southern Iowa and Northern Missouri began holding conference calls in October 2008 to begin the discussion of partnering together to address the need for sustainable living education in Extension programming. It was soon apparent that a face-to-face was needed to get together and flesh out the discussion further. GREEN Coalition members had a kick-off meeting in March 2009 to establish the mission and aim for the group. Areas of focus, including expected outcomes, marketing, professional development, current resources evaluation, program development & funding, and team development were established to ensure the work of the coalition stay on task. Members shared ideas of existing program materials’ sustainability content. All members have been involved in decision making with a high priority placed on open communication.

Lessons learned during this process include the typical “it’s hard to communicate unless you’re face-to-face”, the word “sustainable” is very controversial and hard to define with preconceptions already established before coming together, and that there is potential for alienating some audiences if they view their lifestyles are viewed as irresponsible. The coalition hopes to improve this mentality.

The author would like to educate other housing educators on the GREEN coalition, their mission, and lessons learned (so far), and start the discussion for increasing the capacity of the group to cover more regions. Because home is the perfect place for change to begin, housing educators are in a unique position to engage citizens to understand, solve problems and make informed decisions in response to climate change.