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DIVERSIFYING COHOUSING: THE RETROFIT MODEL

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Cohousing is a compact development of private homes supplemented by shared land and facilities that are collectively owned, designed, and managed. A growing body of research suggests that cohousing promotes personal, social, and environmental well-being. On the whole, cohousing has so far proven to be a niche market for middle-class, white, highly educated, liberal individuals; however, research has not clearly distinguished between traditional cohousing (defined for this study as new-build and industrial- or commercial-reuse developments) and retrofit cohousing (which reuses existing housing stock). This paper presents three studies, each focusing on a different unit of analysis (individual residents, communities, and encompassing geographical areas), that characterize retrofit cohousing as a unique model with greater diversity than traditional cohousing. Compared with traditional cohousing, retrofit cohousing is more often urban and generally smaller (fewer housing units), and it employs a greater variety of legal ownership structures. Residents of retrofit cohousing are also more diverse than residents of traditional cohousing in terms of age (more young people), race, partnership status (more single individuals), employment status, and housing tenure (more renters), and they have fewer household assets on average. However, the retrofit model does not mitigate ideological barriers to cohousing related to political affiliation or education.

INTRODUCTION

Cohousing originated in Denmark in the 1960s. Architects McCamant and Durrett (1988) brought the concept to the United States in the 1980s, and it is now the fastest growing type of intentional community in the U.S. According to McCamant, *et al.* (1994), cohousing is generally characterized by a participatory development process, neighborhood design, resident management, common facilities, non-hierarchical structure and decision making, and separate incomes (*i.e.*, no shared economy). According to George (2006), four characteristics distinguish cohousing from other types of communal living: a neighborhood design that features a central meeting place (courtyard, pedestrian street, or internal atrium), a deliberate size that balances its capacity for intimacy and stability (generally between 20 and 30 housing units in the U.S.), an absence of hierarchy, and separate incomes.

Cohousing communities are typically compact developments with modest homes. A common house is standard and provides cooking and dining facilities for one or more shared meals per week, a quintessential cohousing practice. The common house often includes a guest room, shared laundry, a children's room, space for community meetings, and occasionally office space and/or an exercise room. Chicken coops, sheds, and hot tubs are also frequently seen. Common land typically includes community gardens, open space, and shared parking on the periphery of the neighborhood, connected by shared pathways.

In order to collectively own these common spaces and facilities, most cohousing communities are legally organized as condominiums (CoHousing Partners, LLC, 2006; Fromm, 2000). In these cases, each resident household owns its own private lot and home or sometimes just the land on which the home sits, perhaps with a small private yard. Together, all residents jointly own the common property and facilities. A few cohousing communities are structured as cooperatives, which may or may not have provisions for individual home ownership and equity.

Historically, social and practical benefits, such as resource sharing and child safety, have been central to cohousing. However, cohousing has increasingly become more explicitly oriented toward environmental responsibility (Durrett and McCamant, 2011; Kirby, 2003; Margolis and Entin, 2011; Meltzer, 2000, 2005; Williams, 2005). The size and cooperative culture of cohousing is conducive to a variety of pro-environmental practices, such as collectively obtaining renewable energy, growing food, and recycling.

According to the directory managed by the Fellowship for Intentional Community (FIC), as of 2010, there were approximately 134 established cohousing communities in the U.S. and 176 in the forming stages (FIC, 2010). Most cohousing communities in the U.S. are located on the West and East Coasts. They can be urban, suburban, or rural, though they tend to be located near large cities or in university towns (Margolis and Entin, 2011). Most are multigenerational (there were four senior cohousing communities as of 2010), resident-led development (there are also resident/developer partnership models and developer-driven models), and new build (there are also reuse and retrofit models).

In addition to new build, another form of traditional cohousing is the reuse model, in which existing commercial and/or industrial buildings are adapted for housing. As of 2010, there were two examples in the U.S. of each type: Doyle Street in Emeryville, California, and Marsh Commons in Arcata, California, are industrial reuse; Eastern Village in Silver Spring, Maryland, and Swan's Market in Oakland, California, are commercial reuse. Reuse cohousing is similar to new-build cohousing in terms of resident recruitment, land acquisition, financial risk and time delays for development, and other resource demands that do not apply to or are minimized with retrofit cohousing.

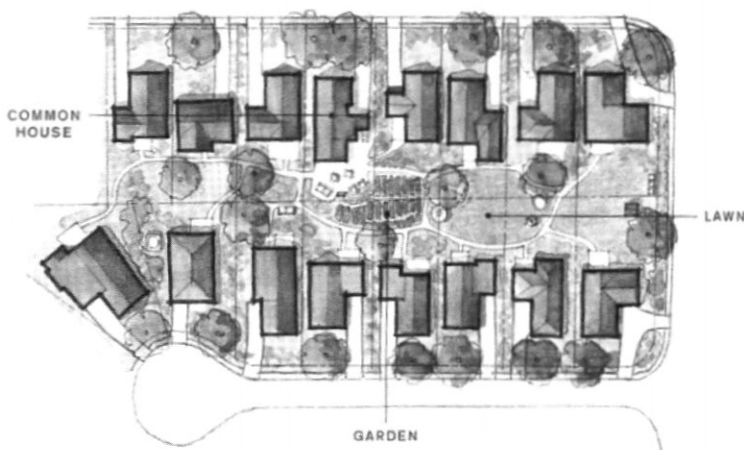


FIGURE 1. Site plan of N Street Cohousing, which grew gradually as 16 neighbors tore down the fences between their properties. (Copyright of The Taunton Press. Reprinted with permission from Chapin [2011:193].)

RETROFIT COHOUSING

Retrofit cohousing refers to the reuse of existing housing stock and is defined for this study as a cohousing community in which at least half of the housing units existed on site prior to the formation of the cohousing community. In retrofit cohousing, residents use, remodel, and add to existing buildings and spaces to accommodate common activities (CoHousing Partners, LLC, 2006). As a result, the legal structure for ownership of common spaces and facilities varies considerably in retrofit cohousing.

At the time of this research, there were 18 retrofit cohousing communities in the U.S. The earliest and most prominent example is N Street Cohousing in Davis, California, which grew within a large, suburban, single-family housing tract, one house at a time, as residents in adjacent lots tore down the fences between their backyards (some joining residents were already living in the housing tract, while others were friends of founders who purchased adjacent units as they became available) (Figure 1). This more organic, gradual growth, whereby founding members create the community where they are already living, is one approach to creating a retrofit cohousing community. Other communities have formed more like traditional cohousing communities, in that a group of interested individuals seek and purchase property and then move in around the same time. Regardless of the founding process, retrofit cohousing communities can grow through two methods: (1) individuals who already live in the neighborhood can join the community and (2) cohousing seekers can either purchase units from community members who are leaving or purchase units that are adjacent to or near other units in the community.

Strobel (2006) described how reuse and retrofit cohousing promote diversity and vitality in social and built form, thus promoting economic sustainability. Borland Green Ecovillage is an example of how retrofit cohousing can be used to revitalize areas with geographically concentrated foreclosures. In that case, a development corporation, working with a core group of prospective cohousers, purchased seven foreclosed houses as part of a project to revitalize the community of East Liberty in Pittsburgh, Pennsylvania (Jones, 2011). Hasell and Scanzoni (2000) considered how cohousing principles could be incorporated into lower-income housing situations in which the collaborative networks and helping behaviors characteristic of cohousing might promote economic self-sufficiency. Their project was, in essence, an experiment with retrofit cohousing.

Williams (2008) predicted that cohousing will become a mainstream option in the U.S. and that the retrofit model has the potential to be a great impetus for more communities adopting cohousing. She advised that the key factors limiting the future market for new-build cohousing are the competitiveness of traditional housing forms and path dependencies in the housing industry, whereby social conventions and economic costs of change create a deviation-countering feedback system. Speculative standardized housing is a proven low-risk market for developers and homeowners in the U.S.; new-build cohousing requires different delivery structures that involve future residents in the process and are more risky for developers and homeowners. Since developers are not involved in retrofit cohousing, it does not compete with existing housing supply mechanisms. However, like traditional cohousing, retrofit cohousing may have trouble fitting into conventional zoning and planning codes. The competitiveness of traditional housing forms may also be less of a barrier to retrofit cohousing since the physical form of a retrofit community is adapted from conventional housing; thus, units in retrofit cohousing communities may be larger than those in new-build cohousing communities and retain more private yard space. Moreover, agreements in retrofit cohousing may entail less collective ownership than in traditional cohousing.

Williams's (2008) research also indicated that cohousing adoptions are promoted through bounded normative influence (Kincaid, 2004), whereby social connections between cohousers and neighbors create a norm in the geographic area proximate to a cohousing community, which results in the gradual growth of the community. Non-members see and hear about a nearby cohousing community; become interested; visit; participate in community activities; rent a unit or become an affiliated member; then eventually join the community, buy a unit, or perhaps create another cohousing community. Retrofit cohousing should fare well in terms of local influence since the physical form, land use, and sometimes community members are already established within the local context when the cohousing community is formed. Williams (2008:285) also noted that retrofit cohousing is accessible to more people than new-build cohousing because it "requires less resources (finance, expertise, and time)," is "more simplistic," and allows people to test the cohousing lifestyle without making "major resource commitments."

DIVERSITY IN COHOUSING

The main criticism of cohousing is its homogeneity; cohousers tend to be white, relatively affluent, and highly educated (Fromm, 2000; Poley, 2007; Williams, 2005). Aging in cohousing is also a concern as children move away and the founding cohort ages in place; moreover, the cost of cohousing is often prohibitive for young adults and young families. Demands on the personal resources of prospective cohousers (*e.g.*, time, energy, expertise, money, financial risk) are generally less burdensome in retrofit cohousing than in traditional cohousing, making retrofit cohousing more accessible to younger people, individuals with lower incomes and fewer assets, racial minorities, and those with less formal education.

Cohousing is praised for being supportive of unconventional household types and fits into a long tradition of progressive and feminist housing models that have reacted against the detached, single-family, suburban dwelling, which they accuse of being unsupportive of current demographics of household composition (Franck and Ahrentzen, 1991) and reinforcing stereotyped gender roles (Hayden, 1982, 2002). Toker (2010) compared cohousing and new urbanist developments (Congress for the New Urbanism, 1999; Katz, 1993) in terms of how they accommodate women and unconventional households (a growing percentage of U.S. households). She found that, compared with new urbanist developments, cohousing attracts more unconventional household types (*e.g.*, single parents, dual-earner couples) and women with more egalitarian gender ideologies. Because becoming a retrofit cohouser generally requires fewer resources than becoming a traditional cohouser, retrofit cohousing may be more accessible than traditional cohousing to single-adult and single-parent households, which may have fewer resources than more conventional two-adult households.

Cohousers also tend to be very liberal in terms of their political affiliations and ideologies (Poley, 2007; Williams, 2005), though some implicit appeals to increase diversity in cohousing have been made. For example, an advertisement distributed by The Cohousing Association of the United States (Coho/US) evoked nostalgic references that should appeal to conservative values, describing cohousing as “like a traditional village or the close-knit neighborhoods of earlier generations” and “a return to the best of small-town America” (Coho/US, n.d.). Compared with other cohousing models, retrofit cohousing may be most compatible with mainstream values of independence, individualism, privacy, personal property, and homeownership since the housing stock adapted for its use remains a physical reflection of dominant cultural norms in many ways.

PRESENT RESEARCH

With the exception of Williams (2008) and Strobel (2006), most of the research on cohousing has not differentiated retrofit cohousing from other cohousing types, despite its unique characteristics. The research presented in this paper is the first to empirically quantify a variety of characteristics that distinguish retrofit cohousing and its residents from traditional cohousing and its residents. The three studies presented in this paper begin to explore the potential of retrofit cohousing to increase diversity in cohousing. The author hypothesized that retrofit cohousers are more diverse than traditional cohousers in terms of age, race, partnership status, income, assets, political affiliation, and educational attainment. (For our purposes, “more diverse” is defined as persons falling into more categories in terms of these variables and/or a more even distribution among categories.) Studies 1 and 3 tested these hypotheses. Study 2 looked at the characteristics of the communities themselves, hypothesizing that retrofit cohousing communities would have fewer housing units and more variable ownership structures than traditional cohousing communities.

Study 1 used geographic information systems (GIS) graphic analyses to characterize the sociopolitical environment of cohousing and determine whether retrofit cohousing communities are located in more diverse areas compared with traditional cohousing communities. Study 2 compared retrofit and traditional cohousing communities in terms of general community information (*i.e.*, age, size, location, and legal ownership structure). Study 3 compared residents of retrofit and traditional cohousing in terms of their age, race, gender, partnership status, household size and composition, household income and assets, employment status, housing tenure, educational attainment, political affiliation, and duration of residence in cohousing.

STUDY 1: THE SOCIOPOLITICAL CONTEXT OF COHOUSING

For Study 1, the author used GIS analyses of two case-study areas to describe the socioeconomic contexts of two clusters of cohousing communities: a cluster of new-build cohousing communities in the Puget Sound, Washington, area and a cluster of retrofit cohousing communities in the San Francisco Bay Area, California. Since cohousers are typically white, highly educated, relatively affluent, and very liberal, the logical hypotheses regarding the areas surrounding cohousing communities are that they are characterized by moderate to high median incomes, high educational attainment, low racial diversity, and liberal voting records. However, based on the theories regarding retrofit cohousing discussed previously, the author speculated that the areas surrounding the retrofit cohousing communities might be more demographically diverse than the areas surrounding the traditional cohousing communities.

Method

Identifying cohousing communities and case-study areas

The author and research team identified the addresses and development types of the cohousing communities using several sources, including the cohousing directory used by Coho/US and

maintained by FIC (2010), survey data from 80 cohousing communities (Margolis and Entin, 2011), websites developed by individual cohousing communities, and personal communication with cohousing experts (Morris and Cohen, 2012). The information collected was part of a larger database, which will hitherto be referred to as the Comprehensive Cohousing Database and discussed in greater detail in the section on Study 2. The author selected two case-study areas based on the geographic clustering of cohousing communities in those areas: (1) a four-county area in Washington, roughly centered on Seattle and the Puget Sound, that contained eight new-build cohousing communities and (2) the northwest tip of Alameda County in California's San Francisco Bay Area (including the cities of Oakland and Berkeley), which contained seven retrofit cohousing communities. This clustering allowed for the large-scale spatial analysis required to analyze the demographic variables of interest (race, income, and educational attainment) at the census-tract level, which the author anticipated would be fine enough to pick up meaningful patterns. The author individually geocoded the community locations for the comparative case studies and aggregated them by state and county to create national and state maps of the relationship between cohousing location and political affiliation.

Measuring sociopolitical characteristics

The author obtained data from the U.S. Census Bureau (2010a) on racial diversity (percent of population that is white), median household income, and educational attainment (percent of population age 25 or older that holds a graduate or professional degree). The quantities in each variable were used to define layers, which were presented in comparative maps (Figures 2-5). The same graphic representation was used for each variable across the case studies for comparative purposes. Geographic data files for U.S. states, California counties and places, Washington counties and places, and each relevant county's census tracts and area water were also obtained from the U.S. Census Bureau (2010b).

The author measured political-party affiliation using the percentage of votes cast for Barack Obama in the 2008 U.S. presidential election (data sources for counties and states respectively: California Secretary of State, 2008; Newman, 2010). Analyses of the political context of cohousing were conducted at the state level using a national map and at the county level for California, the state containing the most cohousing communities. These maps illustrate the political context of cohousing in general; they do not compare traditional and retrofit cohousing. The author did not obtain voting-records data for each of the census tracts in the two case-study areas.

Results

Race

Generally, the retrofit cohousing communities in the California case study were located in more racially diverse areas compared with the new-build communities in the Washington case study (Figure 2). The majority of communities in the retrofit cluster (four out of seven) were located within census tracts in which less than 40% of the population was white, compared with only one community in the new-build cluster. One retrofit community and two new-build communities were located within census tracts in which 40-59% of the population was white. Two retrofit communities and one new-build community were located in census tracts in which 60-79% of the population was white. Finally, four new-build communities were located in census tracts in which 80% or more of the population was white; no retrofit communities were located in such a census tract.

Median household income

Generally, communities in the new-build cluster were located in higher-income areas compared with communities in the retrofit cluster (Figure 3). Two new-build communities (but none of the retrofit communities) were located in census tracts with a median income of \$75,000 or more. Most of the new-build communities (five out of eight) and two of the retrofit communities were located within census tracts with a median income of \$50,000-\$74,999. Most of the retrofit communities (five out of seven) and one new-build community were located within census tracts with a median income of

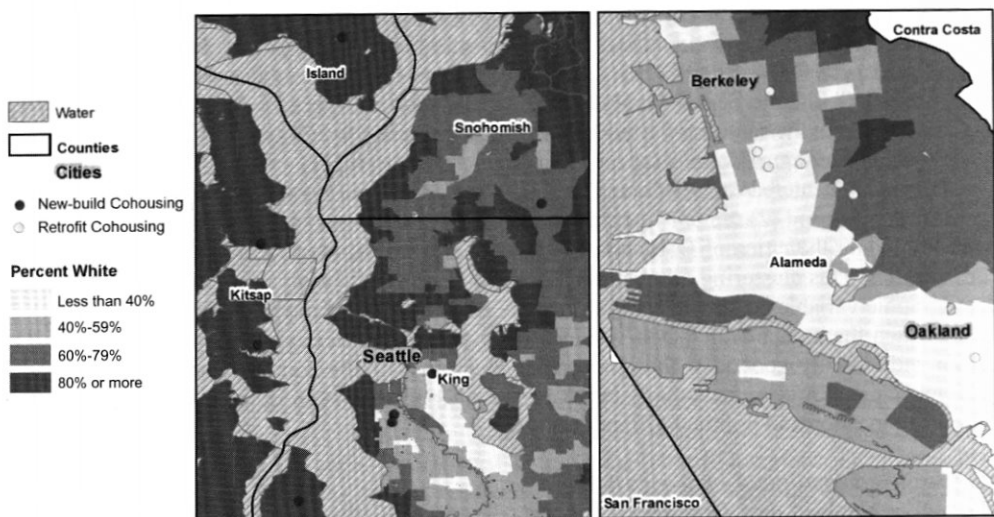


FIGURE 2. Comparison of racial diversity by cohousing type: (left) the new-build cohousing cluster in Washington and (right) the retrofit cohousing cluster in California.

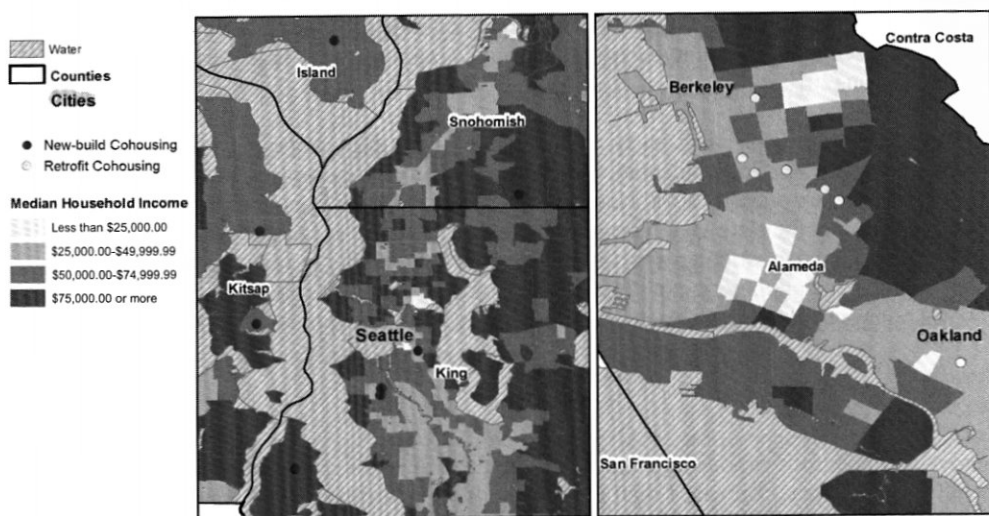


FIGURE 3. Comparison of median household income by cohousing type: (left) the new-build cohousing cluster in Washington and (right) the retrofit cohousing cluster in California.

\$25,000-\$49,999. None of the communities were located in census tracts with a median income less than \$25,000.

Educational attainment

There were no salient differences among the census tracts containing new-build and retrofit communities in terms of educational attainment (Figure 4). Three communities in each case study were located in census tracts in which more than 20% of the population age 25 or older held a graduate or professional degree. Five new-build and three retrofit communities were located in census tracts in which 5-20% of the population age 25 or older held a graduate or professional degree, and one retrofit community was located in a census tract in which less than 5% of the population age 25 or

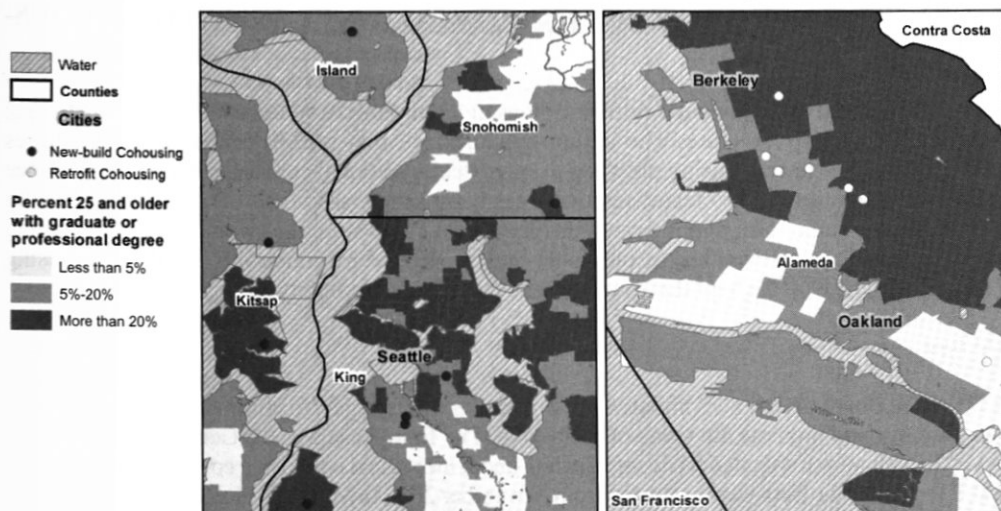


FIGURE 4. Comparison of educational attainment by cohousing type: (left) the new-build cohousing cluster in Washington and (right) the retrofit cohousing cluster in California.

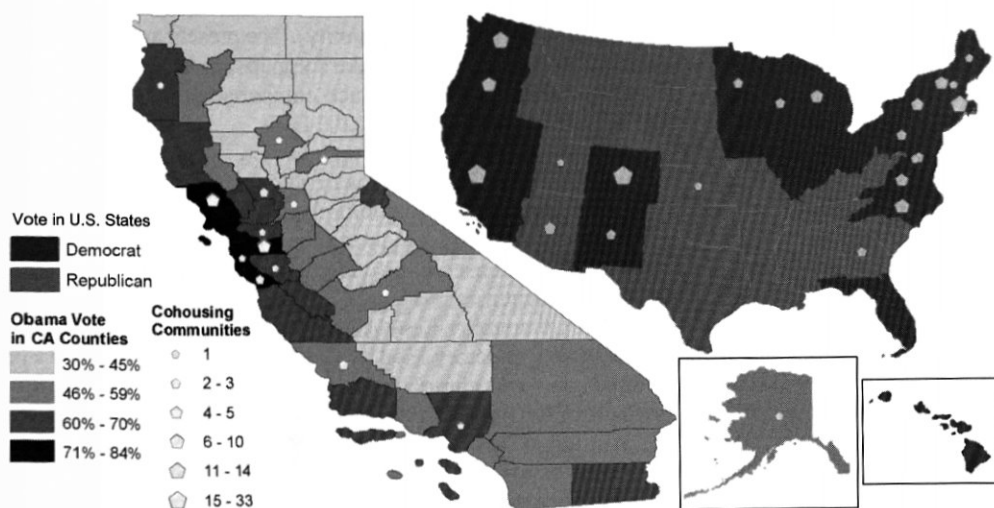


FIGURE 5. Cohousing and voting records: the maps show the prevalence of cohousing communities relative to the voting records of the surrounding geographic regions (county or state) in the 2008 U.S. presidential election. (National map adapted from Newman [2010].)

older held a graduate or professional degree (no new-build communities were located in such a census tract).

Political affiliation

Cohousing is typically found in areas with liberal voting records (*i.e.*, residents tend to vote for the Democratic Party) (Figure 5). Of the 133 cohousing communities in the Comprehensive Cohousing Database, only nine were located in states where the majority of residents did not vote for Barack Obama, the Democratic candidate, in the 2008 presidential election. In California, the counties with the highest percentage of votes for Obama (concentrated in the Bay Area) were home to the greatest number of cohousing communities in the state.

STUDY 2: CHARACTERIZING TRADITIONAL AND RETROFIT COHOUSING COMMUNITIES

Study 2 compared traditional and retrofit cohousing communities in terms of size, location, age, and legal ownership structure. The author hypothesized that retrofit cohousing communities would be smaller (fewer housing units) on average than traditional cohousing communities, since retrofit communities can be created relatively easily by as few as two households, often growing over time. The author also hypothesized that legal ownership structures would vary more among retrofit cohousing communities, as previously acknowledged by cohousing experts (CoHousing Partners, LLC, 2006). No hypotheses were made regarding community age or location.

Method

In 2010, the Board of Coho/US initiated a two-phase research project to inform existing and forming communities and promote the value of cohousing. The first phase was the Coho/US Community-Level Survey, which solicited basic information about individual cohousing communities (Margolis and Entin, 2011). Data were collected from November 2010 to March 2011. Researchers recruited individuals listed as community contacts in the cohousing directory on the Coho/US website (www.cohousing.org/directory) to respond to the survey on behalf of their community. Researchers attempted to contact someone from each of the 118 built cohousing communities listed in the directory at the time of the survey (communities are self-listed, and the directory is managed by FIC). They received responses from 80 of the communities (one contact from each community responded to the Coho/US survey on behalf of his or her community). The present author received permission to use data from the Community-Level Survey to make comparisons between new-build and retrofit cohousing in terms of legal ownership structure. Such comparisons were not made in the report published by the research team (Margolis and Entin, 2011).

The second phase of the Coho/US research project involved the development of the Comprehensive Cohousing Database used in Study 1, which is a more comprehensive listing of U.S. cohousing communities and a database of community-level information. The Comprehensive Cohousing Database effort was led by the present author and used to provide the rest of the data for Study 2 (*i.e.*, size, location, and age of cohousing communities and legal ownership structure for communities that did not respond to the Coho/US Community-Level Survey). The database was created using several sources, including the cohousing directory used by Coho/US and maintained by FIC (2010), websites developed by individual cohousing communities, data from the Coho/US Community-Level Survey, and personal contacts of the research team (*e.g.*, Morris and Cohen, 2012).

For this analysis, the author chose to focus on mainstream cohousing communities; therefore, she excluded senior cohousing communities, cohousing communities in the early stages of forming, and developer-driven cohousing communities (those planned without substantial input from at least a core group of residents). Due to the disparate sample sizes and the small retrofit sample, the author used Fisher's exact tests in lieu of chi-square for testing differences in proportions. Mann-Whitney *U* tests were used in lieu of *t*-tests in cases of unequal variance of the dependent variable among groups and when normality of the dependent-variable distributions was in doubt.

Results

Size

After applying inclusion and exclusion criteria, the author and research team identified 121 cohousing communities in the U.S., containing 2,813 housing units ($M = 23.25$ housing units per community, $SD = 11.29$, ranging from four to 56 units per community). Of these, 103 were traditional cohousing communities, containing 2,625 housing units (comprising 85.1% of U.S. multigenerational cohousing communities and 93.3% of multigenerational cohousing units). Four of the tradi-

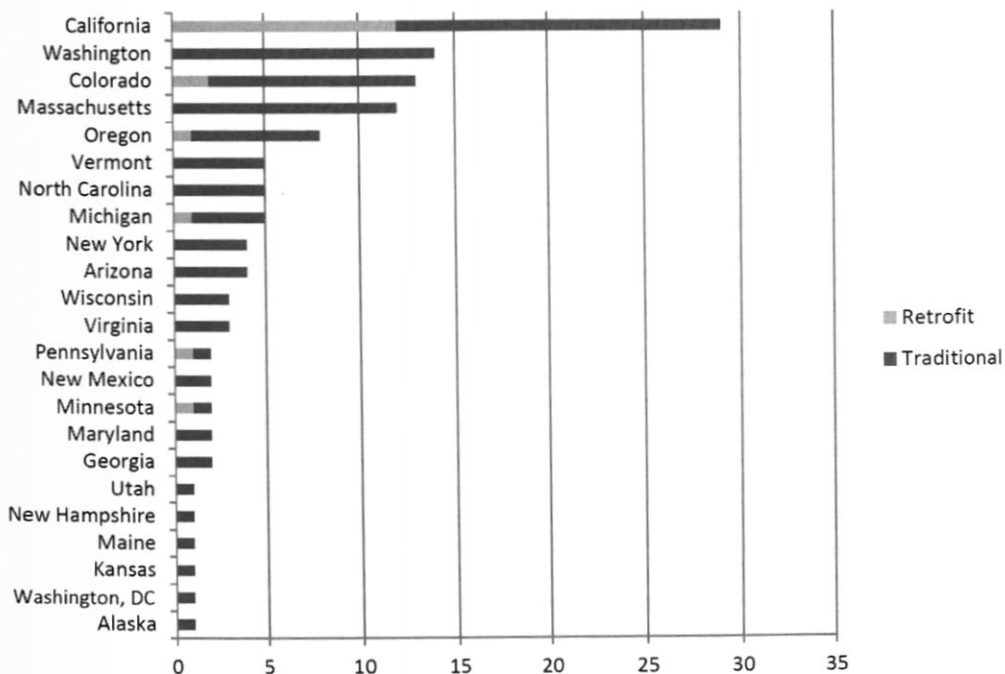


FIGURE 6. Distribution of U.S. cohousing community types by state (and Washington, DC).

tional communities were reuse developments, containing 101 housing units. The other 18 multigenerational cohousing communities were retrofit cohousing communities, containing 188 housing units (comprising 14.9% of U.S. multigenerational cohousing communities and 6.7% of multigenerational cohousing units). On average, the traditional cohousing communities were significantly larger ($M = 25.49$ housing units, $SD = 10.55$, ranging from five to 56 units per community) than the retrofit cohousing communities ($M = 10.44$ housing units, $SD = 5.27$, ranging from four to 22 units per community) ($t[45.41] = 9.29, p < .001$).

Location

The traditional and retrofit cohousing communities also differed significantly in terms of location (Fisher's exact $p < .01$, Cramer's $V^2 = .096$). Of the traditional cohousing communities, 45.6% were urban, 32.0% were suburban / small town / semirural, and 22.3% were rural. Of the retrofit cohousing communities, 72.2% were urban, 27.8% were suburban / small town / semirural, and none were rural. Figure 6 shows the distribution of U.S. cohousing community types by state (as well as Washington, DC); there were 12 retrofit communities (66.7%) in California; two in Colorado; and one each in Michigan, Minnesota, Oregon, and Pennsylvania.

Age

The traditional and retrofit cohousing communities did not differ significantly in terms of their age (i.e., the year they were first occupied) ($t[119] = 1.44, p = .15$). The mean year established for the retrofit communities was 2002; the mean year established for the traditional communities was 2000.

Legal ownership structure

The traditional and retrofit cohousing communities differed significantly in terms of the legal structure of their communal ownership (Fisher's exact $p < .001$, Cramer's $V^2 = .289$). Of the 66 traditional cohousing communities that responded to the Coho/US Community-Level Survey, 95.5% were organized as homeowner, condominium, or townhome associations (HOAs). Of the 18 retrofit

TABLE 1. Summary of the 18 retrofit cohousing communities.

Community Name	No. of Units	City, County	State	Location Type	Legal Ownership Structure	Year Established
Berkeley Cohousing	14	Berkeley, Alameda	CA	Urban	HOA	1994
Borland Green Ecovillage	7	Pittsburgh, Allegheny	PA	Urban	Common space owned by development corporation	2011
Boulder Creek Community	9	Boulder, Boulder	CO	Urban	HOA	2008
Genesee Gardens Cohousing	13	Lansing, Ingham	MI	Urban	Members are planning to create a limited liability company for the common house	2003
Golden Gate Cohousing	6	Oakland, Alameda	CA	Urban	Tenancy in common	2011
Hidden Creek Cohousing	4	Oakland, Alameda	CA	Urban	HOA	2005
Los Angeles Eco-Village	22	Los Angeles, Los Angeles	CA	Urban	Nonprofit ownership; renter-members working on cooperative ownership of land trust and housing	1999
Mariposa Grove	8	Oakland, Alameda	CA	Urban	Condo on community land-trust land	1999
Mayfair Village	19	Denver, Denver	CO	Urban	Limited liability company owners renting to members	2005
Monterey Cohousing	15	St. Louis Park, Hennepin	MN	Suburban	Cooperative ownership for mansion, condo association for townhomes, and a master association that covers both	1992
N Street Cohousing	18	Davis, Yolo	CA	Suburban	None; most homes are part of planned development zoning that prevents fences from being installed	1988
New Brighton Cohousing	11	Aptos, Santa Cruz	CA	Suburban	Tenancy in common	2007
Peninsula Park Commons	9	Portland, Multnomah	OR	Urban	HOA	2004
San Mateo Ecovillage	8	San Mateo, San Mateo	CA	Suburban	Founders own and rent out units	1998
Temescal Creek Cohousing	7	Oakland, Alameda	CA	Urban	HOA	1999
The Orchard	4	Oakland, Alameda	CA	Urban	None	2012
Tortuga	8	Mountain View, Santa Clara	CA	Suburban	Tenancy in common	2007
Triple Point Cohousing	6	Oakland, Alameda	CA	Urban	Mixture of tenancy in common and private ownership	2005

cohousing communities identified in the Comprehensive Cohousing Database, only 27.8% were organized as HOAs. Other forms of communal ownership included cooperative ownership, tenancy in common, community land trust, and nonprofit, while some communities did not use any form of communal ownership. Table 1 provides a summary of the size, location, legal ownership structure, and age of the 18 retrofit communities used in Study 2.

STUDY 3: CHARACTERIZING TRADITIONAL AND RETROFIT COHOUSING RESIDENTS

Study 3 involved data from the Coho/US Resident Survey, which was part of the second phase of the Coho/US research project, subsequent to the Coho/US Community-Level Survey discussed in Study 2. The overall aim of the Coho/US Resident Survey was to make comparisons between the experiences and behaviors of cohousing residents and those of the general U.S. population. The present analysis concerns the comparison of traditional and retrofit cohousers in terms of demo-

graphics (*i.e.*, age, race, gender, partnership status, household size and composition, household income and assets, employment status, housing tenure, educational attainment, and political affiliation) and duration of residence in cohousing.

Method

Community inclusion and exclusion

It was in this second phase of the Coho/US project that the present author led the research team in the development of the Comprehensive Cohousing Database, which was used to identify cohousing communities for Study 3. Again, the interest for this analysis was in mainstream cohousing communities; thus, senior, forming, and developer-driven cohousing communities were excluded.

Participants

As part of the Comprehensive Cohousing Database, the author and research team compiled addresses for housing units within each U.S. cohousing community. To identify unit addresses, the research team used a variety of publicly available sources, including county assessor's office websites, GIS departments, personal communications and investigations, and 411.com (a directory assistance website). From the address database, researchers drew a simple random sample of 1,000 households in new-build and reuse (*i.e.*, traditional) cohousing communities; instructions on the survey requested that only one adult from each selected household complete the survey. Researchers did not attempt to recruit a random sample of retrofit cohousing residents due to the relatively small population of retrofit cohousers compared with the sample of traditional cohousing residents and the desire to compare the two populations. Thus, residents of retrofit cohousing were oversampled; all adult residents from all 18 retrofit cohousing communities were solicited.

Procedure

Participants were recruited via U.S. Postal Service mailings and email. Mailings included an invitation letter, a follow-up postcard, and a reminder postcard. In conjunction with the paper mailings, emails were sent to contacts in each community with a request to forward the email invitation letter and subsequent reminder to members of the selected households within their respective communities. The materials alerted prospective participants that they might receive both a paper invitation and an email invitation but that they should only participate once. It was difficult to find unit addresses for three of the retrofit communities (Borland Green Ecovillage, Boulder Creek Community, and Los Angeles Eco-Village), so we contacted these via email only.

The Resident Survey was administered using SurveyMonkey, a popular online survey service often used in survey research. Pilot testing indicated that the survey took approximately 30 minutes to complete. Survey responses were anonymous, but participants were given the option to enter a raffle if they provided their email address to the lead researcher.

Instrument

The Resident Survey consisted of 39 items, including (1) questions drawn from three major national surveys (the Census Bureau's American Community Survey, American National Election Studies surveys, and the World Values Survey), (2) previously validated psychological measures, and (3) novel questions designed to collect information specifically relevant to cohousing residents (*e.g.*, participation in cohousing activities, length of residence, satisfaction with the community). The survey items pertained to housing characteristics, demographics, civic engagement, travel behavior, satisfaction with cohousing, quality of life, participation in cohousing activities, values, connection to nature and community, place attachment, social support, and health.

Results

The research team recruited 1,000 participants from the random sample of traditional cohousers, plus an estimated 210 participants from 14 retrofit cohousing communities. (The latter is an estimate

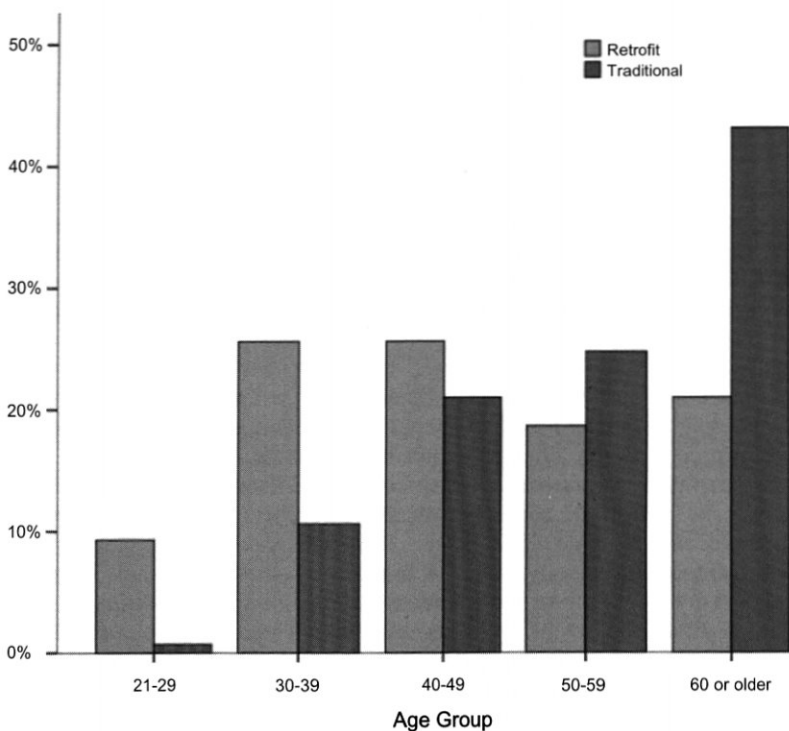


FIGURE 7. Age of residents in traditional and retrofit cohousing.

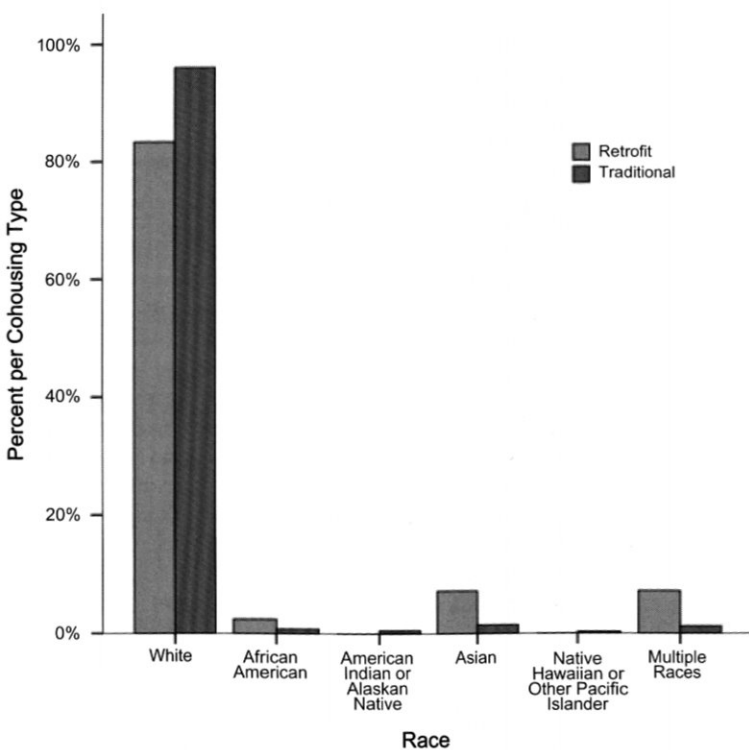


FIGURE 8. Race of residents in traditional and retrofit cohousing.

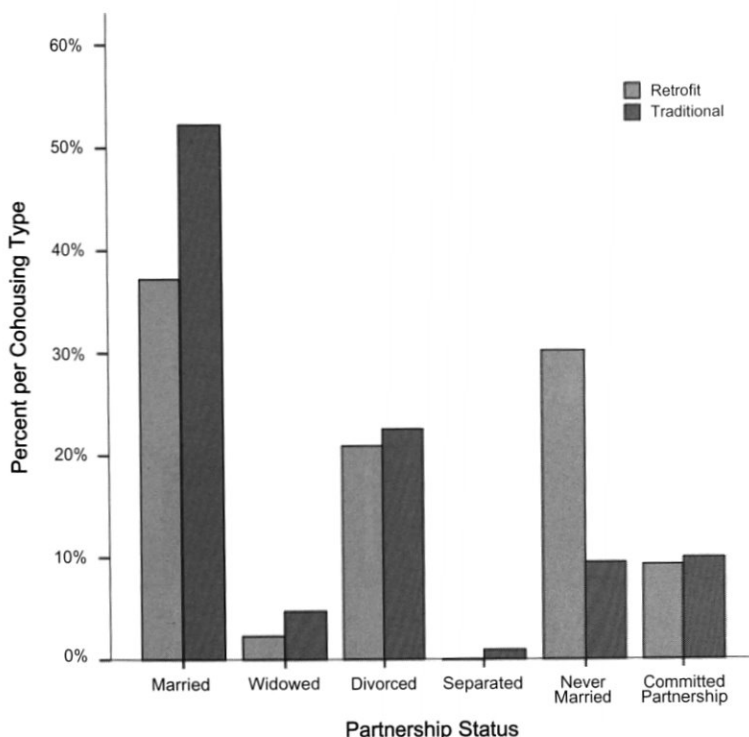


FIGURE 9. Partnership status of residents in traditional and retrofit cohousing.

because we recruited all adult residents in the retrofit cohousing communities, but we did not know how many adults there were in each household.) At the time of this research, there were 18 known retrofit cohousing communities in the U.S., but one community gatekeeper (the contact person listed on the community website) declined to pass along the survey invitation to residents, and three other communities could not be reached prior to the data analysis. Based on average sample sizes and household composition measures in the following analyses, the response rate of traditional cohousers ($n = 433$) was roughly 43%. This represents a little over 10% of the adult population in traditional cohousing (estimated at 4,259). The response rate of retrofit cohousers ($n = 44$) was about 21%, representing 16% of the adult population in retrofit cohousing (estimated at 275). All responses were used in the analyses, and pairwise exclusion was used for cases of missing data; therefore, the sample sizes vary in the results reported in this section.

Respondents represented 111 cohousing communities, including 14 retrofit cohousing communities. In Study 3, the Frog and Song Cohousing neighborhoods, both part of Ecovillage Ithaca, were considered part of the same community (they were considered separately in Study 2). Logistic regression and multinomial logistic regression were used to test differences in means and proportions respectively. These tests allowed the individual data to be clustered by cohousing community in order to account for within-community similarities.

Demographics

Based on the results of the Resident Survey, retrofit cohousers were, on average, significantly younger than residents of traditional cohousing ($t[107] = -2.96, p < .01$; traditional: $n = 425$; retrofit: $n = 43$) and composed of a more even distribution of age groups (Figure 7). The median age group was 40-49 years for retrofit cohousers and 50-59 years for traditional cohousers. Retrofit cohousers were also significantly more racially diverse than traditional cohousers ($z = 3.69, p < .001$; traditional: $n = 423$; retrofit: $n = 42$). Only 4.0% of traditional cohousers identified as a race other

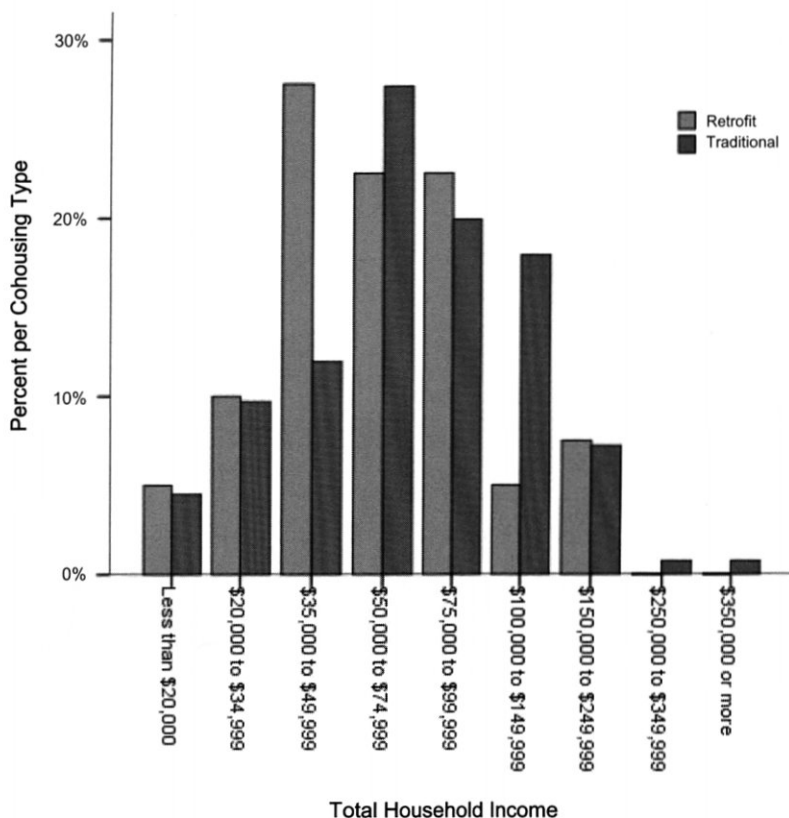


FIGURE 10. Total household income of residents in traditional and retrofit cohousing.

than white, compared with 16.7% of retrofit cohousers (Figure 8). There was no significant difference in gender between traditional and retrofit cohousers ($z = .47, p = .64$; traditional: $n = 422$; retrofit: $n = 43$); women made up the majority in both groups (72.3% of traditional cohousers and 69.8% of retrofit cohousers).

Retrofit and traditional cohousers differed significantly in terms of partnership status, with retrofit cohousing containing more single persons ($z = 2.26, p = .02$; traditional: $n = 421$; retrofit: $n = 43$) (Figure 9). In traditional cohousing, 62.2% of respondents were coupled (*i.e.*, married or in a committed long-term relationship), compared with only 46.5% of retrofit cohousers. This difference is due to the larger percentage of never married persons in retrofit cohousing (30.2% compared with only 9.5% in traditional cohousing). There were no significant differences between traditional and retrofit cohousers in terms of household size ($t[107] = 1.87, p = .06$; traditional: $n = 474, M = 2.462, SD = 1.361$; retrofit: $n = 48, M = 3.02, SD = 2.02$) or number of children under age 17 per household ($t[107] = -1.05, p = .30$; traditional: $n = 472, M = 1.66, SD = 1.06$; retrofit: $n = 48, M = 1.54, SD = .80$).

Residents of traditional cohousing communities reported higher household incomes and total assets than did residents of retrofit cohousing (Figures 10-11). The difference was not significant for income ($t[107] = -1.86, p = .07$; traditional: $n = 402$; retrofit: $n = 40$). The median household income range for both groups was \$50,000-\$74,999. However, the difference was highly significant for assets ($t[107] = -2.86, p < .01$; traditional: $n = 388$; retrofit: $n = 36$). The median range of total

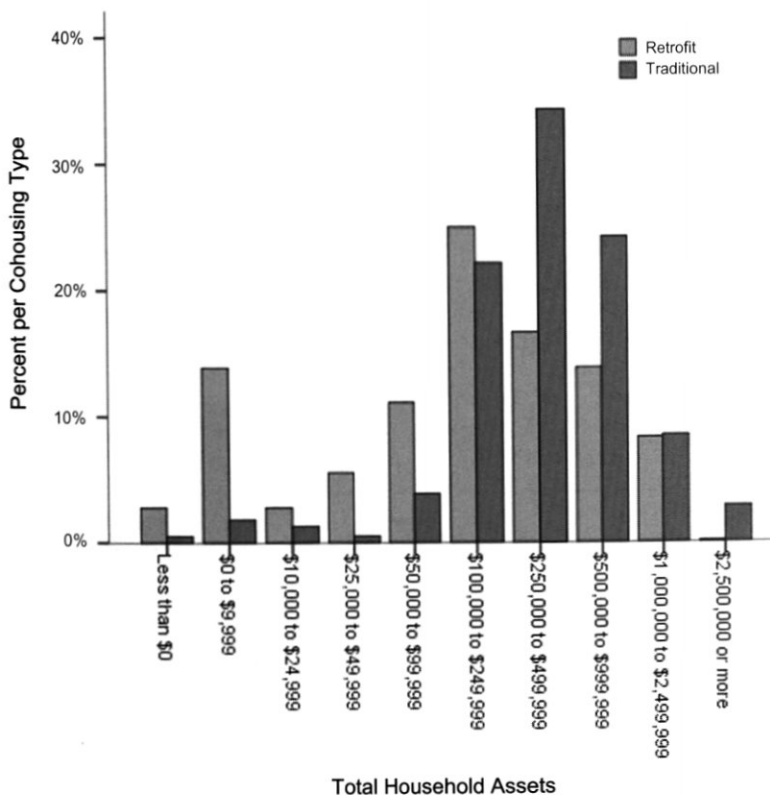


FIGURE 11. Total household assets of residents in traditional and retrofit cohousing.

household assets was \$100,000-\$249,999 for retrofit cohousers and \$250,000-\$499,999 for traditional cohousers.

The employment status of traditional and retrofit cohousers also differed (Figure 12). The majority of traditional and retrofit cohousers were employed (62.4% and 66.7% respectively). There were more retired persons among traditional cohousers (24.7%) compared with retrofit cohousers (8.3%), though this difference was not significant ($z = -1.72, p = .09$; traditional: $n = 466$; retrofit: $n = 48$). Conversely, there were more full-time students among retrofit cohousers (12.5%) compared with traditional cohousers (.6%), and this difference was highly significant ($z = 4.44, p < .001$). There were also significant differences between traditional and retrofit cohousers in terms of housing tenure (Figure 13). The majority of traditional and retrofit cohousers owned their unit with a mortgage or loan (63.8% and 55.8% respectively), but there were significantly more renters among retrofit cohousers (39.5%) compared with traditional cohousers (8.5%) ($z = 3.82, p < .001$; traditional: $n = 425$; retrofit: $n = 43$), and significantly fewer retrofit cohousers owned their homes free and clear (4.7%) compared with traditional cohousers (27.8%) ($z = -2.54, p = .01$).

Retrofit and traditional cohousers did not differ significantly in terms of educational attainment ($z = -.59, p = .55$; traditional: $n = 425$; retrofit: $n = 43$), with both reporting exceptionally high rates of graduate education; 66.4% of traditional cohousers and 58.1% of retrofit cohousers held a graduate degree (Figure 14). Retrofit and traditional cohousers also did not differ significantly in terms of their political affiliation ($z = -.43, p = .66$; traditional: $n = 419$; retrofit: $n = 41$) (Figure 15). The majority of residents in both cohousing types identified as Democrats: 77.3% of traditional cohousers and

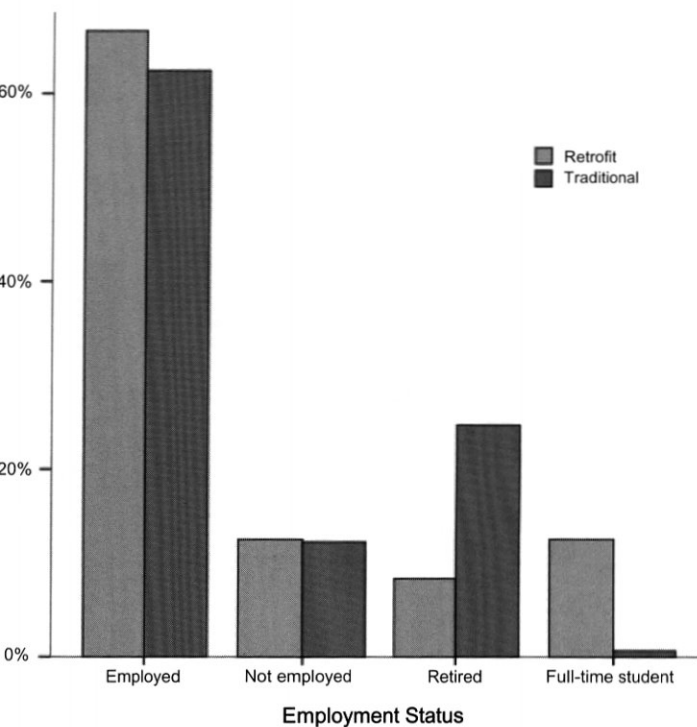


FIGURE 12. Employment status of residents in traditional and retrofit cohousing.

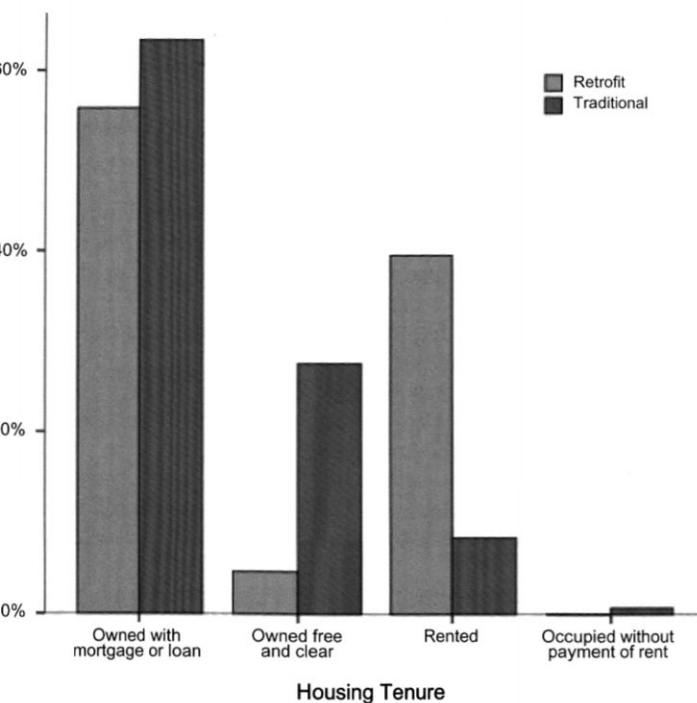


FIGURE 13. Housing tenure of residents in traditional and retrofit cohousing.

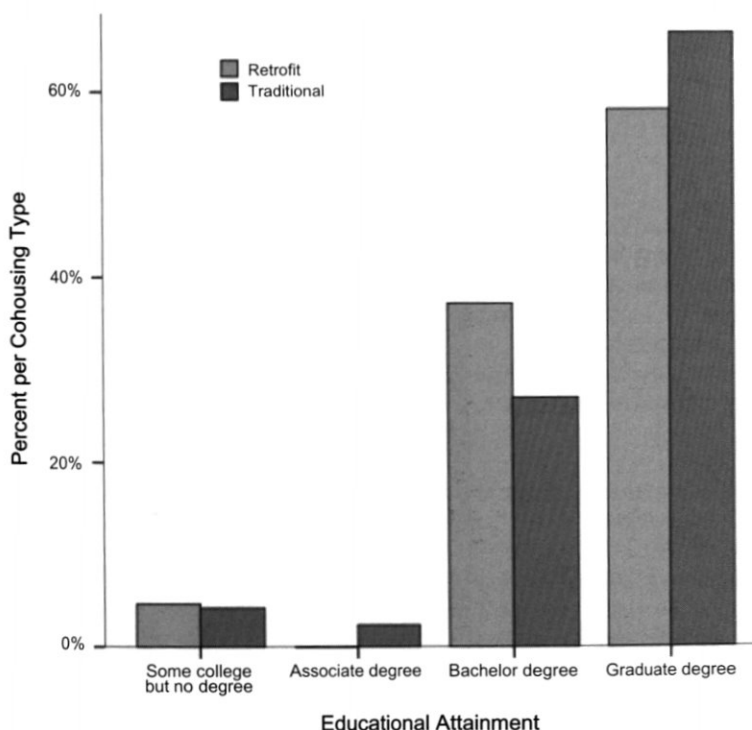


FIGURE 14. Educational attainment of residents in traditional and retrofit cohousing.

68.3% of retrofit cohousers. The percentages in the groups were also similar for the other political affiliations: 1.4% of traditional cohousers and no retrofit cohousers identified as Republicans, 15.0% of traditional and 14.6% of retrofit cohousers identified as Independents, and 6.2% of traditional and 17.1% of retrofit cohousers did not identify with any of the three given options (Republican, Democrat, or Independent) and instead specified their preference in the “other” field. The most common response in this field for both groups was the Green Party. Other responses included socialist, progressive, populist, libertarian, and anarchist.

Duration of residence in cohousing

There was no significant difference between traditional and retrofit cohousers in terms of their duration of residence in cohousing ($t[520] = 1.94, p = .05$; traditional: $n = 473$; retrofit: $n = 49$). The mean duration of residence in cohousing was 7.95 years ($SD = 5.16$) for traditional cohousers and 6.45 years ($SD = 4.84$) for retrofit cohousers.

DISCUSSION

Study 1 showed that new-build cohousing communities in the Puget Sound area are located mostly in areas characterized by high incomes and a predominately white population, whereas retrofit cohousing communities in the Bay Area have developed in more racially diverse areas with relatively lower incomes. However, urban density may be a confounding variable. There is less opportunity for new-build cohousing in dense urban areas like the Bay Area, where racial diversity tends to be higher and median income lower. Based on Study 1 alone, prospective cohousers who want to live in urban areas may end up in retrofit cohousing, not because they differ from traditional cohousers in terms of race, income, or ideology, but simply because that is the only type of

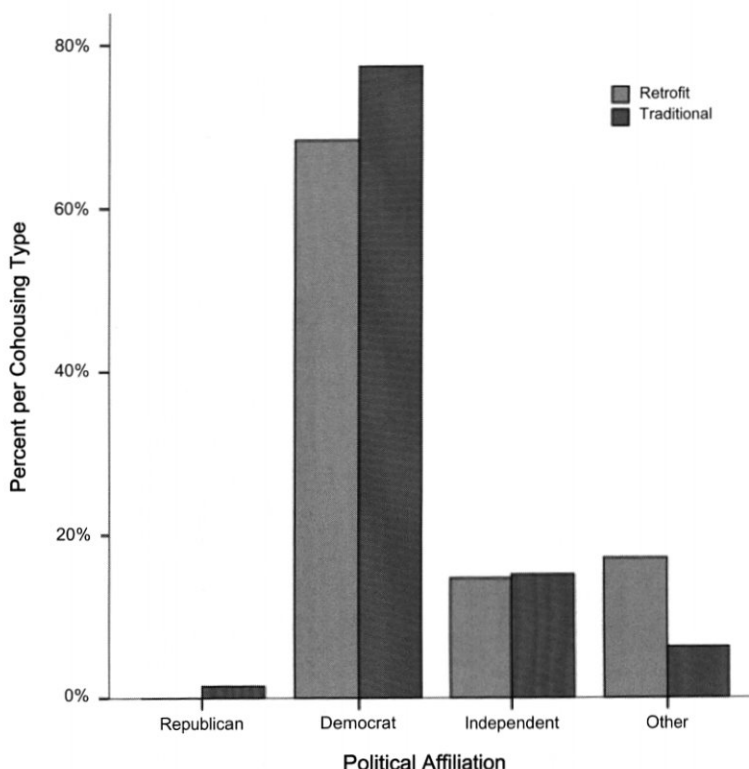


FIGURE 15. Political affiliation of residents in traditional and retrofit cohousing.

cohousing that is feasible in the area in which they live. Thus, Study 1 only indicates that retrofit cohousing was found in the midst of greater diversity than new-build cohousing. Taken together with Williams's (2008) observation that cohousing spreads through a process of bounded normative influence, these findings suggest that more diverse groups may be introduced to cohousing via the retrofit model.

Study 2 provided community-level information to compare retrofit and traditional cohousing. At the time of this research, there were 121 confirmed multigenerational cohousing communities in the U.S., reflecting a growth rate averaging around five new communities per year since Fromm's (2000) research. The average size of cohousing communities (traditional and retrofit combined) at the time of this research was 23 housing units (the average for traditional cohousing alone was 25 units), ranging from four to 56 units, reflecting little change since Fromm's research, which reported an average size of 24 units, ranging from eight to 42 units. In addition, since her research, the legal structure for communal ownership in traditional cohousing has remained predominately HOAs (90.0% in her research compared with 95.5% in the Coho/US Community-Level Survey). Retrofit cohousing, which emerged after Fromm's study, is much smaller (10 housing units on average), and only 27.8% use an HOA ownership structure, according to the Comprehensive Cohousing Database.

Study 3 complemented the findings of Study 1 and confirmed, at the national level, that retrofit cohousers are more heterogeneous than traditional cohousers in terms of age, race, partnership status, household assets, employment status, and housing tenure. Researchers did not employ a within-household selection method, so we anticipated an overrepresentation of females, older

adults, and those without full-time employment; however, we expected these limits on representativeness to affect both samples (traditional and retrofit cohousers) in the same manner. Unit addresses proved to be harder to find for retrofit cohousing, and as a result, several retrofit communities (with a total of 38 units among them) were recruited exclusively via email (relying on a contact person to relay the survey invitation to all adult community members). This may have reduced retrofit response rates.

Study 3 indicated that retrofit cohousing is more accessible than traditional cohousing to young people, full-time students, singles, renters, those with fewer financial assets, and non-white persons. This greater accessibility is likely due, in large part, to the reduced amount of personal resources required to live in retrofit cohousing compared with traditional cohousing. In particular, it seems that financial resources, which were higher among traditional cohousers, limit accessibility to traditional cohousing more than to retrofit cohousing. To confirm this hypothesis, future research should compare housing-unit prices and membership fees between retrofit and traditional cohousing.

Traditional cohousing seems to have made no progress in terms of racial diversity since Fromm's (2000) research, which found that 95% of cohousers in 18 of the 24 cohousing communities existing at the time of her research (mid-1990s) were white. Over a decade later, the present survey of cohousers representing 111 traditional and retrofit cohousing communities yielded the exact same result: 95% white in all of the communities combined. However, when we look at the cohousing types separately, we note that almost 17% of retrofit cohousers identified as a race other than white, so it seems some progress is being made in retrofit cohousing.

Retrofit cohousers did not differ significantly from traditional cohousers in terms of educational attainment. Graduate degrees were extremely common (well over half of all cohousers). While formal educational attainment may not be a barrier to cohousing in and of itself, it may factor in as it correlates with liberal ideologies, a simple awareness of cohousing, higher incomes, and perhaps the long-range view required to see some of the advantages of cohousing (*e.g.*, higher up-front costs versus long-term savings afforded by more cooperative living).

Retrofit and traditional cohousers were equally (and highly) likely to identify as Democrats; however, retrofit cohousers proved even less conservative (or at least less conforming) than traditional cohousers, refusing to select from among the three standard political-affiliation categories — Republican, Democrat, or Independent — in higher numbers. This finding suggests that retrofit cohousing may attract individuals with more “out-of-the-box” thinking and progressive ideologies. Along these lines and in the context of Toker's (2010) finding that cohousing attracts unconventional households and women with more egalitarian gender ideologies, it is also interesting to note that no retrofit cohousers, compared with 5.4% of traditional cohousers, identified “primary work is in the home or caring for own children” (a subcategory collapsed into the “not employed” category in Figure 12) as their employment status.

CONCLUSIONS

Since its arrival in the U.S. in the 1980s, cohousing has become the most prevalent and fastest growing type of intentional community in this country; however, it remains largely a niche market for white, highly educated, middle- to upper-middle-class, liberal individuals. Cohousing is a model of living that promotes sharing resources. As such, it should be most valuable to groups with limited resources. The present research indicates that, although still mostly white and relatively affluent, retrofit cohousing is more accessible than traditional cohousing to groups that sometimes have fewer resources available to them (*i.e.*, young and relatively less financially well-off individuals, students, minority racial groups, renters, and singles).

There are efforts underway in the cohousing movement to increase the racial diversity and affordability of cohousing. These are important foci for the movement; however, ideological barriers may prove most obstructive to the growth of cohousing. Mainstream society is largely unaware of cohousing, and upon first introduction, it may evoke connotations of the communes of the 1960s and 1970s due to shared qualities that are otherwise unfamiliar to most individuals (e.g., resident-driven community development and management, common activities like shared meals). This is a misperception that may be reinforced by the limited ideological diversity among early adopters and advocates.

Future research should investigate the degree to which unfamiliarity with the concept of cohousing, misperceptions about it, and an unnecessarily narrow image that appeals to particular demographics contribute to the limited diversity of cohousing residents. Investigations into how cohousing aligns with popular trends in housing preferences in tandem with research on perceptions of cohousing and framing effects (Edelman, 1964; Tversky and Kahneman, 1981) would be enlightening. For example, the prefix “co-” (meaning “together”) alone may evoke misperceptions, particularly that cohousing communities are the same as communes or involve living with non-related individuals under the same roof or generally with more intimacy than is actually characteristic of cohousing. The term “cohousing” was coined by McCamant and Durrett (1988) instead of using the original Danish term, *bofællesskab*, which translates to “living community.” Alternatively, Chapin (2011:8) introduced the term “pocket neighborhood” in his book of the same name, which he defined as “a cohesive cluster of homes gathered around some kind of common ground within a larger neighborhood.” He used traditional and retrofit cohousing as examples of this broader, perhaps more ideologically neutral, concept. Future research on framing effects might use the terms cohousing and pocket neighborhoods interchangeably and explore the differential appeal of the concept, alternatively framed, among various demographics. Based on this research, cohousers, cohousing professionals, planners, and architects might develop strategies to address ideological barriers to increasing diversity in cohousing and other types of collaborative communities.

REFERENCES

- California Secretary of State (2008) United States president by county. http://elections.cdn.sos.ca.gov/sov/2008-general/17_22_pres_by_county.pdf. Site accessed 1 May 2012.
- Chapin R (2011) *Pocket neighborhoods: Creating small-scale community in a large-scale world*. Newtown, CT: The Taunton Press.
- Coho/US (n.d.) *What is cohousing?* (Brochure). Durham, NC: Coho/US.
- CoHousing Partners, LLC (2006) CoHousing FAQs. <http://www.cohousingpartners.com/faq.html>. Site accessed 3 December 2014.
- Congress for the New Urbanism (1999) *Charter of the new urbanism*. New York: McGraw-Hill Professional.
- Durrett C, McCamant K (2011) *Creating cohousing: Building sustainable communities*. Gabriola Island, Canada: New Society Publishers.
- Edelman M (1964) *The symbolic use of politics*. Chicago: University of Illinois Press.
- FIC (2010) *Communities directory book: A comprehensive guide to intentional communities and cooperative living*, 6th edition. Routledge, MI: FIC.

- Franck KA, Ahrentzen S (Eds.) (1991) *New households, new housing*. New York: Van Nostrand Reinhold.
- Fromm D (2000) American cohousing: The first five years. *Journal of Architectural and Planning Research* 17(2):94-109.
- George V (2006) Review of "Sustainable community: Learning from the cohousing model." *Community Development Journal* 41(3):393-398.
- Hasell MJ, Scanzoni J (2000) Cohousing in HUD housing — problems and prospects. *Journal of Architectural and Planning Research* 17(2):133-145.
- Hayden D (1982) *The grand domestic revolution*. Cambridge: The MIT Press.
- Hayden D (2002) *Redesigning the American dream: Gender, housing, and family life*, Revised edition. New York: W. W. Norton and Company.
- Jones DN (2011) Borland Green Ecovillage: A grand plan for co-housing in East Liberty. *Pittsburgh Post-Gazette* 15 August. www.post-gazette.com/stories/local/neighborhoods-city/borland-green-ecovillage-a-grand-plan-for-co-housing-in-east-liberty-310387. Site accessed 3 December 2014.
- Katz P (1993) *The new urbanism: Toward an architecture of community*. New York: McGraw-Hill Professional.
- Kincaid DL (2004) From innovation to social norm: Bounded normative influence. *Journal of Health Communication* 9(Supp. 1):37-57.
- Kirby A (2003) Redefining social and environmental relations at the ecovillage at Ithaca: A case study. *Journal of Environmental Psychology* 23(3):323-332.
- Margolis D, Entin D (2011) Report on survey of cohousing communities 2011. www.cohousing.org/sites/default/files/attachments/survey_of_cohousing_communities_2011.pdf. Site accessed 1 July 2012.
- McCamant KM, Durrett C (1988) *Cohousing: A contemporary approach to housing ourselves*. Berkeley, CA: Ten Speed Press.
- McCamant KM, Durrett C, with E Hertzman (1994) *Cohousing: A contemporary approach to housing ourselves*, 2nd edition. Berkeley, CA: Ten Speed Press.
- Meltzer G (2000) Cohousing: Verifying the importance of community in the application of environmentalism. *Journal of Architectural and Planning Research* 17(2):110-132.
- Meltzer G (2005) *Sustainable community: Learning from the cohousing model*. Victoria, Canada: Trafford.
- Morris B, Cohen R (2012) Personal communication. 4 January.
- Newman MEJ (2010) Maps of the 2008 U.S. presidential election results: Election results by state. <http://www-personal.umich.edu/~mejn/election/2008/>. Site accessed 1 May 2012.
- Poley LD (2007) Community and the habits of democratic citizenship: An investigation into civic engagement, social capital and democratic capacity-building in U.S. cohousing

neighborhoods. Unpublished PhD dissertation, Virginia Polytechnic Institute and State University, Blacksburg.

Strobel H (2006) Building reuse, cohousing, and the land ethic. *Urban Action: A Journal of Urban Affairs* 2006:13-18.

Toker Z (2010) New housing for new households: Comparing cohousing and new urbanist developments with women in mind. *Journal of Architectural and Planning Research* 27(4): 325-339.

Tversky A, Kahneman D (1981) The framing of decisions and the psychology of choice. *Science* 211(4481):453-458.

U.S. Census Bureau (2010a) 2006-2010 American Community Survey 5-year estimates (data files). Retrieved from <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. Site accessed 1 May 2012.

U.S. Census Bureau (2010b) TIGER data (geography shape files). Retrieved from <https://www.census.gov/geo/maps-data/data/tiger.html>. Site accessed 1 May 2012.

Williams J (2005) Sun, surf and sustainable housing — cohousing, the Californian experience. *International Planning Studies* 10(2):1-33.

Williams J (2008) Predicting an American future for cohousing. *Futures* 40(3):268-286.

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