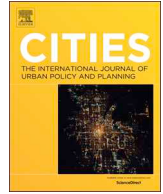




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Is shared housing a viable economic and social housing option for young adults?: Willingness to pay for shared housing in Seoul

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ABSTRACT

Shared housing, which provides an individual, private room for each tenant and common spaces for all housemates, is an emerging housing option for young adults in many countries. This study explored housing perceptions and preferences and assessed young adults' willingness to pay for shared housing based on Maslow's hierarchy of human needs and Means-End Chain theory. Stated preferences regarding shared housing often refer to its unique attributes, such as security, affordable rent, better quality of living spaces, as well as social relationships with housemates. Based on a survey of 1000 young, single households in Seoul, the study found that respondents expressed greater willingness to pay for shared housing to gain economic, social, and security benefits; however, the trade-off between affordable rent and privacy was an important consideration. Understanding the needs of young, single adults in the context of shared housing is essential to solving the housing challenges currently facing this demographic group.

1. Introduction

With the rise of the sharing economy and an increase in people living alone, shared housing, defined as housing where unrelated adults live together, has become a popular housing option for young adults across the world (Clark, Tuffin, Bowker, & Frewin, 2018; Heath & Kenyon, 2001; McNamara & Connell, 2007). Although the degree of shared housing varies depending on each country's welfare regime, young people in European countries often choose to live in shared housing as a temporary and transient residence (Arundel & Ronald, 2016). For example, 9.79% of young people in the United Kingdom reported living in a shared housing situation between 2005 and 2011, and this proportion has increased further since the 2008 global economic crisis (Arundel & Ronald, 2016; Heath, Davies, Edwards, & Scicluna, 2017). The recent successful shared housing or co-living business startups, such as Common in the U.S., Old Oak in London, U.K., and Wozoo in Seoul, South Korea, indicate that the value of collaborative consumption in the private rented sectors is growing. From a business perspective, property owners can reduce the risk of vacancies and maximize profits by leasing a home to several people in shared housing (Huber, 2017; Möhlmann, 2015; Schor, 2016).

On the demand side, housing choices—i.e., whether or not single people want to live in shared housing—can differ from traditional

concepts of housing choices. According to Putnam and Newton (as cited in Moore, 2000), people perceive the meaning of “home” as comprising six attributes, namely (1) privacy, (2) security, (3) family, (4) intimacy, (5) comfort, and (6) control. According to this definition, houses are generally considered private spaces, and only family members live together in the same house. However, single people who choose to live in shared housing may perceive the meaning of a home differently from traditional family households, thereby resulting in different housing choice behaviors (Mulder, 2003). For instance, a single person living alone might consider essential family gathering spaces, such as the living room and kitchen, to be redundant. Such single-person households may share a home to reduce their rental costs for spaces that they consider less important (Kenyon & Heath, 2001). Some single adults may choose shared housing in order to build non-kinship social relationships and avoid loneliness at home (Heath & Kenyon, 2001; Kenyon & Heath, 2001).

Understanding the mechanism of housing choices in the context of shared housing is critical because such living arrangements could become a sustainable housing option for single-person households, which are rapidly increasing (Jarvis, 2011). However, little is known about the residential preferences of young, single adults who choose this path. Therefore, this study explores the housing perceptions of young, single adults and their residential preferences regarding shared housing.

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Specifically, this paper addresses three research questions: (1) What are the characteristics of housing perceptions of young single-person households regarding shared housing? (2) How much would young single-person households be willing to pay for shared housing?, and (3) Which factors affect the willingness to pay (WTP) of young adults towards shared housing?

To answer these research questions, we conducted a survey of 1000 young single adults in Seoul and analyzed their housing perception and stated preferences towards a house-sharing. Based on a quantitative analysis, this study provides empirical evidence of young, single adults' residential preferences regarding shared housing. The following section reviews existing literature and presents a theoretical framework for this demographic group's preferences in relation to shared housing, following which the methodology and results are presented. Lastly, the main findings are discussed and some recommendations for housing policy and planning are suggested.

2. Theoretical background

Residential preferences and subsequent housing choices largely depend upon household life-cycles (Clark & Onaka, 1983; Dieleman, 2017; Doling, 1976). For example, young single-person households and couples prefer to live in neighborhoods that offer higher accessibility to jobs and cultural activities (Quigley & Weinberg, 1977; Scheiner & Kasper, 2003). Conventional family households with children have higher preferences for good school districts in order to provide a better environment for their children (Gibbons & Machin, 2008; Nguyen-Hoang & Yinger, 2011; Rohe, Van Zandt, & McCarthy, 2001), whereas elderly households prefer to reside in neighborhoods where they can maintain and enjoy their social relationships (Boldy, Grenade, Lewin, Karol, & Burton, 2011; Choi, Kwon, & Kim, 2018). A growing body of literature has addressed the residential preferences and housing choices of conventional families and elderly households (Banks, Blundell, Oldfield, & Smith, 2010; Clark, 1992; Dieleman, 2017; Kim, Pagliara, & Preston, 2005); however little is known about the residential preferences of young, single adults.

Young adults often undergo a temporal and transitional life phase after finishing their education as they seek or hold jobs and prepare to get married (Arnett, 1997). In that context, research on their housing choices has explored household formation and housing tenure choices, including first-time home buying behaviors (Åsberg, 1999; Haurin, Hendershott, & Kim, 1994; Mulder, 2003; Mulder & Wagner, 2001). These studies have focused on young adults who followed conventional life-courses through marriage. However, because of the growing numbers of never-married adults and the delay of marriage, the housing demands of young, single adults have rapidly grown in many countries, including South Korea and Japan (Korean Ministry of Land, Infrastructure and Transport [MoLIT], 2018; Ronald & Nakano, 2013; Statistics Korea, 2018). Furthermore, due to their relatively lower incomes and higher residential mobility, young, single adults are more likely to be renters and often experience severe housing cost burdens (MoLIT, 2018). Therefore, providing adequate and affordable housing, including shared housing, to young, single adults has become an important policy agenda for many cities (City of Seoul, 2018; Kenyon & Heath, 2001).

Shared housing, which provides private rooms for each tenant and shared community spaces for all housemates, can be a viable and affordable housing option for young, single adults. Thus, studies on such living arrangements have focused on the daily lives of young, single-person households in shared homes, as well as their underlying housing preferences and choices. Saving on housing costs is often the most important reason for young people to decide to share a house (Kenyon & Heath, 2001). However, some young professionals who have little-to-no housing cost burdens sometimes choose to live in shared housing in order to enjoy other advantages, such as flexible living arrangements and social relationships (Heath & Kenyon, 2001). Social factors, such as

intimate social relationships with housemates and reduced loneliness, are important reasons why many young adults choose to live in shared housing (Clark, Tuffin, Frewin, & Bowker, 2017; Kenyon & Heath, 2001; McNamara & Connell, 2007). Some house-sharers indicate that they can enjoy better housing quality and facilities in shared housing in a good neighborhood for the same rent compared with living alone (Kenyon & Heath, 2001). However, living in shared housing also has some disadvantages, including privacy concerns and potential conflicts with housemates and house management (Clark et al., 2017; Green & McCarthy, 2015; Mause, 2008). Notably, Mause (2008) called living in shared housing “the tragedy of the commune” when describing various conflict scenarios that often occur in such contexts (p. 308). Despite such concerns, some young, single adults are satisfied with life in shared housing and even enjoy it (McNamara & Connell, 2007; Verhetsel, Kessels, Zijlstra, & Van Bavel, 2017).

Based on a review of the relevant literature, this study developed a conceptual framework of shared housing preferences using Maslow's (1943) hierarchy of human needs and means-end chain theory (Gutman, 1982; Pieters, Baumgartner, & Allen, 1995). A number of studies have applied the former to explore human needs regarding housing. For example, housing provides basic shelter, which meets a physiological need. As a place that is healthful and free of hazards, a home also meets the need for safety. The need for love and belongingness is often satisfied by family socialization at home, and home-ownership is considered a norm for social success on which people base their self-esteem (Beamish, Carucci Goss, & Emmel, 2001; McCray & Day, 1977; Zavei & Jusan, 2012). However, house-sharers may have different residential preferences; thus, interpretations of human needs in shared housing should be applied differently. A means-end chain (MEC) approach provides a useful framework to describe the connections between shared housing attributes and fundamental housing needs (Zavei & Jusan, 2012).

According to MEC theory, consumers realize their ultimate goals or values through the purchase of product attributes. As a means, product attributes are associated with functional and psychosocial consequences (end), and these consequences (means) ultimately lead personal values (end) (Gutman, 1982; Pieters et al., 1995). As a housing product, shared housing has unique attributes compared to general housing, including affordable rent, a combination of shared and private spaces, living with unrelated persons, and residential rules for co-living. As illustrated in Fig. 1, house-sharing can provide better quality of living spaces and neighborhood location for relatively low rents as well as enhancing residents' sense of safety and security (Kenyon & Heath, 2001). Living with unrelated persons could provide a new opportunity for social networks with housemates and reduce loneliness at home, thereby meeting the love and belongingness needs of residents (Clark et al., 2017; Kenyon & Heath, 2001; McNamara & Connell, 2007). In addition, the affordable rent enables tenants to reduce their housing costs and increase consumption for other goods and services. Unlike conventional young adults who save to become homeowners (Canova, Rattazzi, & Webley, 2005; Lee & Hanna, 2015), house-sharers can use their saved housing costs to enjoy a “you only live once” (YOLO) lifestyle, which emphasizes leisure and hobbies in the pursuit of happiness (Bhattacharjee & Mogilner, 2013; Lee & Oh, 2018). Although purchasing shared housing could meet the housing needs of house-sharers, residents must cede a certain level of privacy and become adept at managing non-familial relationships with housemates, including social conflicts, in everyday life (Clark, Tuffin, Bowker, & Frewin, 2018; Clark, Tuffin, Frewin, & Bowker, 2018; Heath et al., 2017; Mause, 2008).

Although many hedonic price model studies have demonstrated that WTP for a general house is most obviously revealed in the rent, it is useful to measure WTP for shared housing based on consumers' stated preferences because it is an emerging market and many people have not yet experienced this form of living arrangement. Therefore, this study measured WTP for shared housing as a stated preference using the contingent valuation method. Housing needs in Maslow's hierarchy

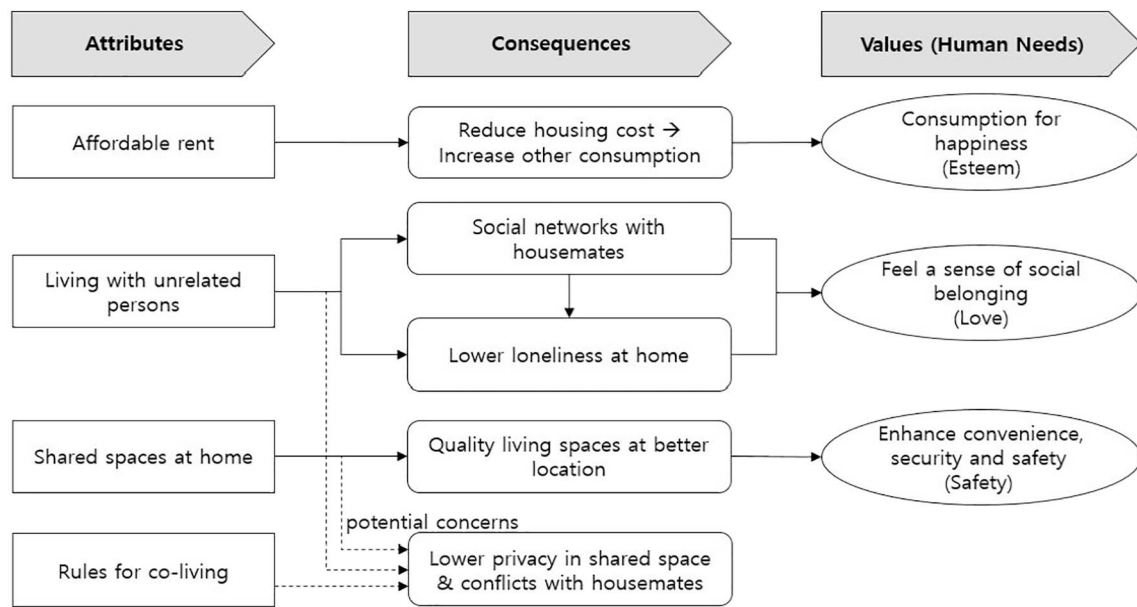


Fig. 1. Conceptualization of housing needs in a shared housing context.

theory or values in the MEC theory are reflected as residential preferences in housing choice behaviors, which determine the WTP for shared housing.

Specifically, this study examined whether the need for safety, love, and self-esteem in shared housing is reflected in young adults' housing perceptions and choice behaviors and investigated how these housing needs are demonstrated in the WTP for shared housing. Based on this conceptualization of housing needs in a shared housing context, we developed the following hypotheses:

- H1.** : Economically vulnerable young people have higher WTP for shared housing.
- H2.** : Young adults who value housing quality and location have higher WTP for shared housing.
- H3.** : Young adults who are interested in forming social relationship through housing have higher WTP for shared housing.
- H4.** : Young adults with YOLO lifestyles have higher WTP for shared housing.

This study differs from the existing literature due to several attributes not found in previous investigations. First, this research presents a conceptual framework to address residential preferences in relation to shared housing, which can lead to a better understanding of young adults' housing choice behaviors. Second, this study provides empirical evidence of residential preferences by considering WTP as an important factor in assessing residents' preferences for shared housing, whereas other research has relied on qualitative data based on interviews. The results of this investigation show how the housing perceptions of young, single-person households can affect preferences for shared housing after controlling for socio-economic attributes. Finally, many previous co-housing or shared housing studies were conducted in the context of Western societies; this investigation explores residential preferences regarding shared housing in Seoul, one of Asia's megacities, thereby expanding knowledge of young adults' housing preferences in different socio-economic and cultural contexts.

3. Methodology

3.1. Shared housing in Seoul, South Korea

This study analyzed the residential preferences of young, single-person households in Seoul, which is South Korea's capital and one of

the largest Asian megacities. Like many global megacities, young, single-person households in Seoul experience difficulties finding adequate and decent housing due to expensive rents and relatively lower incomes. According to the [City of Seoul \(2018\)](#), 21.3% of young adult households aged 39 or younger have experienced housing cost burdens. Furthermore, due to the increasing delay of marriage among young adults and the growing numbers of never-married adults, the number of young, single-person households has continued to increase, as affordable housing stock has remained limited. In this context, for-profit developers and social enterprises have begun to provide shared housing as a solution for young adult housing challenges, thereby fueling the rapid growth of such units in Seoul. Moreover, the South Korean Government recently announced plans to increase the supply of shared housing and promote it as a form of public housing to serve young, single adults. This background makes Seoul a suitable case region for studying shared housing.

Young adults sharing living quarters is not a new phenomenon in Seoul. College students or young adults sometimes voluntarily share a home with their colleagues or friends to reduce their rent; however, the proportion of such arrangements is very small. Further, unlike college towns in the United States, apartment leasing offices in South Korea do not provide housemate matching services because individual homeowners (rather than professional leasing companies) manage most of the rental housing units. Therefore, the typical home rented by young, single adults wanting to live alone consists of studios or one-bedroom flats. However, with the recent rise of the sharing economy, emerging startups are now providing private rooms in shared housing along with professional housing management services. In South Korea, many shared housing providers emphasize social and community services such as residents' parties and activities. Housing and tenant searches are served by online platform companies such as Come&Stay and ShareKim, which specialize in shared housing. Moreover, the Seoul municipal government provides financial subsidies for social enterprises that provide shared housing with affordable rent plans, and Korean Housing and Urban Guarantee (HUG) offers a mortgage guarantee to shared housing startups to support the affordable housing supply for young adults. There are currently no official statistics for the stock of shared housing, but we found that as of January 2018, 93 shared housing startups were providing 355 housing units with 1682 rooms in Seoul. These include nine social enterprises that manage 34 housing units with 315 rooms.

3.2. Survey

To explore residential preferences regarding shared housing in Seoul, this study conducted an in-person survey with 1000 young single adults aged 19 to 39 years. Sample groups comprising 250, 100, and 150 participants were recruited from shared homes, public housing, and dormitories, respectively, whereas the remaining 500 subjects were selected from young, single-person households living in general rental units (250 from studio apartments and 250 from multifamily houses). Studio apartments, which are called “Urban-Life Housing,” and multifamily houses are most popular housing types for young, single adults in Seoul. A stratified random sampling for each housing type and two housing submarkets (high and low-rent districts) was applied. For general housing residents, the strata by two age groups (19–29 and 30–39) were additionally applied because their demographic attributes were known.¹ Although we initially divided general housing into two popular housing types for young adults, the demographic and socio-economic attributes of respondents were not statistically different from each other.² Therefore, we considered both housing types as a single general category in order to focus on comparing the responses of special housing residents (shared housing, dormitory, public housing) with those of general housing residents. The survey was conducted from November to December 2017, and it included questions about respondents' socio-economic and demographic characteristics, housing status, preferences, satisfaction levels, and WTP for shared housing. After administering the survey and excluding samples with missing values, 979 responses were used for the analysis (250 from shared housing, 100 from public housing, 144 from dormitories, and 485 from general rental housing). Table 1 displays the respondents' demographic and socio-economic backgrounds. Overall, residents in shared housing tended to be younger females and earn less than those who lived in general rental housing. The average monthly rent of shared housing was halfway between that of public and general rental housing. Overall, women accounted for a relatively large proportion of survey respondents, which is likely because most of the survey were conducted in-person by female investigators, thus implying a potential sampling bias as a limitation of this study.

3.3. Methods of analysis

A contingent valuation method (CVM) is an effective quantitative technique to measure the stated preferences of people (Kim, Park, Yoon, & Cho, 2017). This study investigated the WTP for shared housing using open-ended CVM questions. First, respondents were asked about whether they would be willing to live in shared housing. If they chose “No,” their WTP was considered zero in value. Next, those who replied “Yes” were asked the following question: “What amount of monthly rent would you be willing to pay for shared housing where you have your own private room but have to share other spaces, all other locational and environmental characteristics being equal to your current house?” The WTP rent for shared housing was asked in relation to two situations: (1) one person per room and (2) two people per room. The stated WTP and its determinants were analyzed using a Tobit model, which can effectively address the zero bid issues of CVM (Halstead, Lindsay, & Brown, 1991; Halstead, Luloff, & Stevens, 1992). The Tobit model assumes that if a latent or unobserved variable y_i^* is zero or smaller, y_i has

zero value. Otherwise, y_i has y_i^* value, as described in Eq. (1).

$$y_i = y_i^* \text{ if } y_i^* > 0; y_i = 0 \text{ if } y_i^* \leq 0; y_i^* = \beta x_i + u_i \text{ where } u_i \sim N(0, \sigma^2) \quad (1)$$

This study gathered data on demographic makeup, economic attributes, housing choice preferences, and perceptions regarding privacy and shared housing as independent variables that could affect the WTP. All variables were constructed from the survey results except for the median neighborhood rent, which was measured using the actual rent transaction data of small-sized homes of 40 square meters or less, which was assumed to be a typical size range for single-person households. The neighborhood rent ranged from 250,000 to 1,058,000 KRW per month and it could control different locational and neighborhood characteristics across the case area. Housing choice preferences were measured based on the following question: “Out of these four factors (physical, locational, economic, and social), which is the most important for your housing choice?” Respondents' housing perceptions regarding shared housing were measured on a 4-point Likert scale through five questions that addressed various attributes of shared housing (privacy, physical quality, social relationships, safety and security, and cost-saving). The YOLO lifestyle was measured based on the frequency of cultural and leisure activities. In order to control and minimize the selection bias by current residence type, we included current residence type dummies as a control variable. Table 2 presents the operational definition and descriptive statistics of variables used for the analysis.

4. Results and discussion

4.1. Perceptions towards house-sharing

The housing perceptions of young, single adults were analyzed using an ANOVA test, as shown in Table 3. Overall responses to perceptions regarding shared housing were affected by the current residence type. Consistent with the conceptual framework suggested in Fig. 1, house sharers' views differed from those of renters in general housing. Residents in shared housing tended to value better quality of living spaces, safety, and social relationships than residents in general housing. Additionally, residents in shared housing expressed relatively weak agreement concerning the importance of privacy at home and strong agreement to housing affordability in shared housing, thus implying that a trade-off between privacy and housing affordability exists in the perception of shared households. Notably, dormitory residents who were living in shared living arrangements showed a very similar pattern to shared housing residents in their perceptions towards house-sharing. The public housing residents considered shared housing to be an affordable housing option; however they greatly valued privacy at home, thus indicating that shared housing was not an attractive housing option for this group.

4.2. WTP for shared housing by housing types

Table 4 summarizes participants' willingness to live in shared housing and subsequent WTP for the monthly rent of shared housing. About 60% of residents in general rental housing reported a willingness to live in shared homes. This number is surprisingly high because the stock of shared housing accounts for < 1% of total housing stock for young, single adults. Although willingness to live in shared housing does not guarantee actual housing choices, the result implies a high potential demand for shared housing. Respondents living in public housing and dormitories were relatively less willing to live in shared homes. One reason for this might be that they had a higher residential satisfaction with their current homes at very affordable rent. In fact, the rent of public housing and dormitories was approximately 20–30% lower than shared housing, as shown in Table 1. The average WTP rent for a shared housing unit with a private room was about 277,000 KRW, which is about two-thirds of the average current rent (405,000 KRW) of

¹ Notes

The population of each housing type is based on the number of shared rooms, the dormitory's capacity, the number of public housing units set aside for young adults (called “happy housing”), the registered units of Urban-Life Housing, and the number of young single renter households from the 2015 Census, respectively.

² There were no statistical difference in the *t*-test results based on gender, age, educational attainment, or income. The estimated results were also similar when two housing types were considered separately in the regression model.

Table 1
Socio-economic attributes of respondents by housing type.

Attributes	Total	Shared housing	Public housing	Dormitories	General rental housing
Average age	28.2	27.5	28.8	22.2	30.6
Percentage of males	33.0	19.6	39.0	27.8	46.6
Percentage with jobs	61.8	59.6	67.0	0	82.2
Percentage with a college education or higher	93.3	94.4	95.0	100.0	90.7
Percentage with parents living in non-Seoul metropolitan areas	54.9	60.4	54.0	63.9	41.7
Average monthly income (1000 KRW)	2030	1960	1945	825	2377
Average monthly rent (1000 KRW)	405	394	310	267	480

Table 2
Summary of statistics.

Variables	Mean	Std. Dev.	Min	Max
WTP rent for shared housing: 1 person per room (1000 KRW)	277	229	0	1000
WTP rent for shared housing: 2 people per room (1000 KRW)	214	181	0	800
Demographic attributes				
Gender (male = 1; female = 0)	0.330	0.470	0	1
Age (reference: 35–39)				
19–24	0.280	0.449	0	1
25–29	0.344	0.475	0	1
30–34	0.243	0.429	0	1
Respondents with a college education or higher (college or higher = 1; other = 0)	0.603	0.490	0	1
Parents' house (non-Seoul = 1; Seoul = 0)	0.549	0.498	0	1
Economic attributes				
Monthly income (1000 KRW)	2029	1138	200	10,000
Support from parents (Yes = 1; No = 0)	0.378	0.485	0	1
Housing cost burden (strongly cost-burdened = 1; others = 0)	0.793	0.406	0	1
Current rent (1000 KRW)	405	142	75	1050
Median neighborhood rent (1000 KRW)	587	124	250	1058
Housing choice preference (ref: physical attributes)				
Economic factors (e.g., rent, cost burden)	0.388	0.488	0	1
Locational factors (e.g., accessibility)	0.238	0.426	0	1
Social factors (i.e., social relationships)	0.028	0.164	0	1
Housing perceptions				
Privacy in the home is the most important element.	3.257	0.544	1	4
The living room can be shared for a spacious and comfortable home environment.	2.883	0.754	1	4
The house is a tool to extend social relationships.	2.997	0.685	1	4
Shared housing is safer than living alone.	2.912	0.637	1	4
Shared housing is an economic housing option.	3.001	0.507	1	4
YOLO lifestyle				
Frequency of cultural and leisure activities (e.g., movie, exhibitions, music, sports, travel, hobbies)	3.671	1.436	0	6
Experience				
Experience with shared housing	0.179	0.383	0	1
Current residence types (ref: general housing)				
Shared housing	0.255	0.436	0	1
Public housing	0.102	0.303	0	1
Dormitories	0.147	0.354	0	1

Table 3
Housing perception by residence type (mean values).

Housing perception (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree)	Shared housing	Public housing	Dormitories	General housing	ANOVA (F-test)
Ensuring individual privacy is the most important role of a house.	3.14	3.44	3.09	3.35	20.63 (Prob > F) = 0.0000
The living room can be shared for a spacious and comfortable home environment.	3.04	2.81	2.98	2.79	7.01 (Prob > F) = 0.0001
The house is a tool to extend social relationships.	3.05	3.10	3.13	2.91	5.49 (Prob > F) = 0.0010
Shared housing is safer than living alone.	3.07	3.08	2.94	2.79	13.90 (Prob > F) = 0.0000
Shared housing is an economic housing option.	3.10	3.22	3.10	2.87	23.66 (Prob > F) = 0.0000

Table 4
WTP for shared housing by residence type.

WTP rent for shared housing (unit: 1000 KRW)	Total	Shared housing	Public housing	Dormitories	General housing
Percentage of respondents willing to live in shared housing	63.2%	86.8%	47.0%	45.8%	59.6%
Mean WTP rent for shared housing (One person per room)	277	425	166	191	250
Mean WTP rent for shared housing (Two people per room)	214	346	120	136	189

Table 5
Estimated model of WTP rent for shared housing.

Variables		Private room	Shared room
Demographic attributes	Gender (male = 1; female = 0)	18.9	8.2
	Age (reference: age 19–24)	54.0	46.2
	Age 35–39	73.4*	55.6*
	Age 25–29	41.8	29.0
	Age 30–34	21.7	19.6
	Education (college graduate or higher = 1; other = 0)	–38.3	–30.5*
Economic attributes	Parents' home (non-Seoul = 1; Seoul = 0)	–0.029*	–0.025*
	Monthly income (thousand KRW)	–8.4	–8.0
	Support from parents (Yes = 1; No = 0)	85.0**	56.5**
	Housing cost burden (strongly cost-burdened = 1)	–0.078	–0.031
	Current rent (1000 KRW)	0.307**	0.219**
	Median neighborhood rent (1000 KRW)	73.7**	54.2**
Housing choice preference (ref. physical attributes of houses)	Economic factors (e.g., rent, cost burden)	11.7	7.1
	Locational factors (e.g., accessibility)	168.1**	140.8**
	Social factors (i.e., social relationships)	–114.2**	–85.7**
Housing perceptions	Privacy in the house is the most important element.	71.6**	52.7**
	The living room can be shared for a spacious and comfortable home environment.	12.6	13.2
	The house is a tool to extend social relationships.	44.7**	31.3**
	Shared housing is safer than living alone.	–21.9	–19.0
	Shared housing is an economic housing option.	42.7**	34.5**
	Frequency of cultural and leisure activities	116.9**	90.7**
Experience	Past experiences of living in shared housing	161.9**	148.2**
	Shared housing type (ref. general rental housing)	–135.3**	–111.3**
	Dormitory	–123.0**	–106.6**
Constant	–162.7	–116.3	

Note: N = 979; 360 left-censored; *, ** are 5%, 1% significance, respectively.

all respondents. The difference (128,000 KRW) could be interpreted as a stated value for sacrificing privacy in shared housing. The average WTP rent for shared housing with a shared room (2 people per room) was 214,000 KRW, which was 63,000 KRW less than a private room, thus reflecting the value of privacy in shared housing. Notably, only 13.2% of respondents who lived in shared housing reported that they did not want to do so. As Mause (2008) suggested, some residents may have had uncomfortable and negative living experiences in shared homes, likely due to conflicts with housemates, thus causing them to leave. However, the majority of house-sharers could have relatively satisfactory and positive living experiences that make them continue their residency in shared housing (Clark, Tuffin, Bowker, & Frewin, 2018; Woo, Cho, & Kim, 2019).

4.3. Determinants of WTP for shared housing

Table 5 presents the estimated results of the Tobit model, which was used to examine the determinants of WTP rent for shared housing. Overall, the estimated directions and significance of the two models

(“WTP rent for private room” and “WTP rent for shared room”) were consistent; however, the magnitude of coefficients was smaller in the latter model. Unsurprisingly, this outcome implies that many people have a much lower preference for shared rooms in shared housing than private rooms. The interpretation of the regression model conducted to examine the hypotheses is mainly based on the results for “WTP rent for private room.”

Consistent with existing literature (Heath et al., 2017; Kenyon & Heath, 2001), economic hardship was the main determinant affecting WTP for shared housing, as indicated by the finding that respondents with lower income and severe housing cost burdens were more likely to have higher WTP rent. Moreover, young single adults who identified economic factors as the most important criteria in their housing choice had a WTP of about 73,700 KRW higher than those who chose physical factors. These results support that shared housing with affordable rent could be a preferable housing option among economically disadvantaged young adults in Seoul. However, the respondents who agreed that shared housing is an economic housing option did not show a statistically significant difference in their WTP than those who disagreed. One reason for this might be that other relatively more economic housing options, such as public housing and dormitories, are available in the housing market as shown in Table 1. Although young single adults emphasize the economic factors in their shared housing preferences, the importance of privacy is evidenced by the result that respondents who considered privacy to be the most important housing characteristic had considerably lower WTP. These findings imply that young adults willing to accept relatively lower privacy at home rather than paying an affordable rent are more likely to be potential tenants of shared housing.

Young adults who agreed that physical quality (the living room can be shared for a spacious and comfortable home environment) and safety (shared housing is safer than living alone) provide benefits had higher WTP. These outcomes imply that some young adults choose to live in shared housing in order to enjoy better quality and safety, and consequently meet the need for safety. However, those respondents who identified physical (reference) and locational factors as the most important criteria influencing their housing choice showed relatively lower WTP than those who chose economic or social factors. These results suggest that although the physical quality and locations are important, social and economic factors are more critical in determining shared housing preferences.

Young adults who identified social factors as the most important influence on their housing choices had higher WTP rent, which was 168,100 KRW higher than that of the reference group, implying that shared living arrangements could satisfy the need for love and belongingness by promoting the opportunities of social relationships with housemates. This result is consistent with other qualitative studies that emphasize the importance of social relationships in shared housing (Clark et al., 2017; Kenyon & Heath, 2001; McNamara & Connell, 2007). As shown in Table 2, only 2.8% of survey respondents chose social factors as the most important elements in housing choices; however, this group could comprise the most active potential tenants of shared housing.

Notably, there was no statistical difference in WTP between respondents who perceived shared housing as a tool for expanding social relationships and those who did not. One reason for this might be that the social relationships in shared housing are not always positive as described in Fig. 1. Sharing spaces with non-kin adults potentially leads to conflicts that should be effectively managed for successful shared living (Clark, Tuffin, Bowker, & Frewin, 2019, Clark, Tuffin, Frewin, & Bowker, 2018). Living with a housemate of similar age and cultural background, making voluntary rules, and balancing privacy and social relations are critical to reduce the negative experience in shared housing (Clark et al., 2019, Clark & Tuffin, 2015, Clark, Tuffin, Frewin, & Bowker, 2018). Nonetheless, past experiences with shared housing were associated with higher WTP for shared housing, which may be

because shared housing service providers in Seoul have provided positive experiences for their residents, thus enhancing their ability to attract them to return to or continue shared housing.

The YOLO lifestyle measured by the frequency of cultural and leisure activities was associated with increased WTP for shared housing, indicating that young adults who emphasize consumption for happiness have a higher preference for shared housing possibly to meet the need for self-esteem. The average frequency of cultural and leisure activities of shared housing residents was 3.764, which is slightly higher than the average (3.671). Additionally, the proportion of shared housing residents who engaged in maximum cultural and leisure activities (six points, as shown in Table 2) was 16%, which is higher than the average of all respondents (11%). These results indicate that young adults who preferred to reduce housing costs and spend their savings on other cultural and leisure activities could also be potential tenants for shared housing.

With regard to the control variables, although the number of female residents in shared housing was relatively higher than that in general rental housing, gender did not have a statistically significant effect on the WTP rent. Young single adults aged 25–29 years reported relatively higher WTP than those older than 35 years. Unlike the myth that college students are the main consumers of shared housing, college graduates had a slightly higher WTP, albeit the result was not statistically significant. Among demographic variables, the location of the parents' house affected WTP; young adults whose parents resided in the Seoul metropolitan area were more likely to have a higher preference for shared housing. One reason for this might be that shared housing could be a useful transitional step for young adults who want to be independent from their parents. The current residence type is another a key control factor that determines WTP rent for shared housing. Consistent with Table 4, our results demonstrate that residents in shared housing had the highest WTP rent, whereas those living in public housing and dormitories had lower WTP rent than those in general rental housing. Finally, the neighborhood rent also statistically significantly increased the WTP for shared housing, thus implying that the location of shared housing matters.

5. Conclusion

This study developed a novel conceptual framework to measure and analyze housing needs related to shared housing and presented how such needs are expressed by residents' stated preferences for shared housing through a WTP model based on a CVM survey. The investigation found that many young adults are willing to reside in shared housing, thus indicating a higher potential of continued growth for Seoul's shared housing market. Basically, economically vulnerable young adults who prefer affordable rent had higher WTP for shared housing. Therefore, shared housing can be an economic housing option for young singles who experience economic hardship or want to save housing costs for their future.

With regard to the conceptual framework of housing needs in shared living arrangements, this study partially confirmed that the needs of housing quality and safety, social relationships, and YOLO lifestyle are reflected in shared housing preferences. In the context of Maslow's hierarchy of human needs, "safety" was expressed as the WTP of young adults who considered shared housing safer than general housing, "love/belongingness" was reflected in the higher WTP of the group who considered social factors to be the most important element of housing choice, and "esteem" was indicated by the finding that young adults living a YOLO lifestyle tended to have higher WTP for shared housing. In sum, the quantitative analysis supports the conceptual framework of housing needs in the context of shared housing. However, we also found that some mismatches exist in the estimated results of variables between housing choice preferences and housing perceptions. For instance, young adults who perceived housing as a tool for expanding social relationships did not have higher WTP for shared housing than

those who disagreed while social factors were identified as the most important housing choice preference for shared housing. These mismatches could result from the potential concerns about shared living arrangements such as lower privacy and conflicts with housemates. For young people who choose to live in shared housing for economic reasons only, their life in shared housing are likely to be very negative due to conflicts with housemates. In addition, young adults who prioritized privacy at home demonstrated considerably lower WTP for shared housing, thus implying the importance of making a balance between privacy and social relations in shared living arrangements.

In sum, shared housing could play an important role in meeting fundamental needs for safety, love, and esteem for a particular group of people. But, these benefits are only effective when the privacy issues and social conflicts in shared housing are effectively addressed. To make shared housing an attractive and decent housing option for young adults, planning and design efforts should be combined. Specifically, the life and social relationships in shared housing should be carefully investigated and a more systematic study on remedies of the potential concerns should be followed in terms of physical design, property management, and community engagement.

This study's framework enhances understanding of the housing perceptions and preferences of young single-person households. Comprehending the housing needs and demands of young single adults provides a basis for addressing the housing problems of this population, as well as effectively developing customized housing programs for younger generations. Young single-person households expect economic and social benefits from shared housing, and the results of the WTP rent model support this argument. From a planning perspective, shared housing could contribute to sustainable community development by building social capital among housemates and neighbors, as is the case with co-housing communities (Cho, Woo, & Kim, 2019; Ruiu, 2016; Tummers, 2015, 2016; Jarvis, 2011). The Korean central and local governments have considered shared housing as a prospective solution to the housing problems faced by young adults, and the Seoul municipal government has actively provided various subsidies for shared housing startups to increase the supply of affordable shared housing for young adults. In this context, the findings of this investigation could provide meaningful information to build and implement shared housing programs.

However, this study has several limitations, including the sampling bias mentioned above. We propose that several points should be addressed in future research. First, this study only focused on young singles' preferences regarding shared housing. Elderly and middle-aged single adults have different needs; therefore, a more comprehensive investigation should be applied to all potential residents of shared housing across different generations. Second, the findings of this study are case-specific to Seoul, South Korea. Shared housing is mainly a popular housing option in global cities where living costs are extremely high. Perceptions and preferences regarding shared housing in other countries and cities should be addressed to provide more generalizable findings. Specifically, such factors in cities where housing costs are not extremely high should be examined in order to explore the potential of shared housing as a future housing option for single-person households in different contexts. Third, more specific and practical research concerning shared housing (for example, in terms of architectural design and conflict management among housemates) could be valuable for shared housing providers. Finally, the shared housing market is growing, thus enabling the accumulation of more information about the actual rental transactions and property attributes of shared housing. Accordingly, other valuation models, such as hedonic price models and conjoint analysis, could be applied to gain a more comprehensive understanding of residential preferences regarding shared housing.

CRedit authorship contribution statement

Jeongseob Kim: Conceptualization, Formal analysis, Data

curation, Funding acquisition, Methodology, Project administration, Writing - original draft, Writing - review & editing. **Ayoung Woo**: Conceptualization, Investigation, Methodology, Writing - review & editing. **Gi-Hyong Cho**: Conceptualization, Funding acquisition, Project administration, Writing - review & editing.

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