

A Study on Preference for Shared Housing as an Alternative to College Student Housing Welfare: Focusing on the Seoul Metropolitan Area*

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< Abstract >

Korea's housing policy has been focused on apartments for multi-person households, while smaller non-apartment housings, where younger one-person households mainly live, have suffered from inferior conditions. College students while being economically vulnerable have also been sidelined in terms of housing welfare, and their housing problems are leading to negative perceptions of important life tasks. The purpose of this study is to understand whether shared housing could become a solution for young adult housing welfare based on a survey of college students in the Seoul metropolitan area. Conjoint analysis and cluster analysis were used for realistic estimation and market segmentation, and the result showed that 35.7% of respondents had a preference for shared housing. These people were divided into two groups. The first was the younger low-income group who would choose shared housing to reduce housing costs, and the second was the group that valued the social environment and safety aspects of housing. The results demonstrated that shared housing had the potential for providing college students with an alternative with respect to housing costs, safety, and social exchange. In addition, remodeling existing housing for multi-person households as shared housing would contribute toward urban regeneration through the management of existing housing stock.

Keyword : Shared Housing, Young Adult Housing Problem, Young Adult Housing Welfare, College Students, Urban Regeneration

I. Introduction

Housing is a necessity in life and housing policies are implemented to secure appropriate standards of housing across different countries.

The Article 11 of the International Covenant on Economic, Social, and Cultural Rights of the United Nations, the international standard for human rights states that living in adequate housing is a basic human right (UN General Assembly, 1966), and the General Comment No.

* 본 연구는 2019년 한국주택학회 하반기 학술대회에서 발표한 논문을 수정·보완한 것임

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4 states affordability, habitability, and availability of services need to be met (UN CESR, 1991).

In Korea, housing policies have been centered around housing for multi-person households benefited most in terms of housing costs, environment, safety, and social exchange. In contrast, young one-person households have been sidelined and they live primarily in non-apartment dwellings that are close to universities or their workplaces (Byeon, 2015). Such dwelling types, compared to large-scale apartments, lack common areas and have limited welfare facilities including safety installments. Among them, small dwellings for one-person households have a high ratio of rent to deposit, which greatly increases the economic burdens of tenants. Due to high costs, young adult one-person households with low-income may choose to live in smaller and less secure housing environments with low-quality living. This study focuses on college students who have become independent from their parents but are at a stage before being fully employed, hence in an economically vulnerable state. Housing costs are a significant burden for students who work part-time or rely on parental support for living costs, which could create negative perceptions of life tasks and lead to social problems.

Against this background, shared housing has become a widely proposed alternative for young adult housing welfare in Korea, and is considered as a government policy subject. In particular, existing housing for multi-person households can be remodeled and supplied as shared housing in response to the increased one-person households, and become a means for urban regeneration through efficient housing stock management. However, there is still a lack of research on what groups in society desire shared housing and whether shared housing could sufficiently resolve issues of young adult

housing welfare and urban regeneration.

This study conducted a questionnaire survey on shared housing preferences for a group of college students, the potential consumer group. Prior to the analysis, Korean housing policies are examined and the literature regarding young adult housing issues and shared housing are reviewed. After the survey design, we look into the demographic characteristics of respondents. Next, factors of housing problems are extracted using the factor analysis, and conjoint analysis and cluster analysis are used to understand the specific characteristics of respondents who prefer shared housing. Finally, policy implications are drawn from the results.

II. Literature review

1. Housing policy in Korea

In order to warrant the basic rights to housing, housing policies aimed at improving the quality of living are implemented around the world. Insofar, Korea's housing policy has focused on providing high-standard apartments suitable for family households. Starting from the 1970s, the Korean government pushed for housing provision in large quantities and the living standard improved greatly. The most commonly built housing type during this period was the apartment. At that time, apartments were supplied through large-scale land supply and price control by the government (Kim & Choi, 2015). The apartment not only satisfied the basic needs of individual households but was more conducive to creating a safe environment where a relatively homogeneous group could socially exchange based on its large-scale developments (Kim & Choi, 2012). For this reason, apartments in Korea are recognized as the housing type that has

advantages of housing costs, environment, and safety as well as social relations. However, because apartments normally consist of more than three rooms, a living space, kitchen, and a bathroom – a spatial structure suited to multi-person households – the main consumers of apartments have been households of a certain size and financial capability.

On the other hand, housing types other than apartments relied primarily on private sector supply. Unlike apartments that can accommodate from thirty to thousands of households, non-apartment dwellings are built as a single building by the private sector. Because they are managed individually, it is difficult to secure amenities and welfare facilities compared to apartments, and hence, create relatively poor housing environments. Non-apartment dwellings include single-family and multi-family housing units that are lower than 4 stories, row houses, goshiwon¹⁾ and studio flats that are known as officetels. Among these, goshiwon and officetel are categorized as residences other than housing. In particular, since goshiwon started as an accommodation for studying, the quality of its environment is extremely poor with tiny living areas and communal toilets. Officetel is a residential type that coexists with office space, so the facilities are of a certain standard but rent is very high. Non-apartment housing types both accommodate for multi-person households as well as one-person households, but small residences where young adult one-person households normally live mainly consist of 1 to 2 rooms, and a very small toilet with spaces such as living room and kitchen minimized or non-existent. In addition, universities provide dormitories for students, but as of 2019, the rate of accommodation in universities in Seoul metropolitan areas was only 17.7% (Korean

Ministry of Education, 2019). It was found that only 2.2% of unmarried young adult households lived in public rental housing as of 2014 (Chun et al., 2016).

However, in the future, while the demand for multi-person households is expected to decrease, the demand for one-person households is expected to rise (Bennett & Dixon, 2006). The trend of increasing one-person households due to changes in family values is one of the major factors altering the Korean housing culture. Kostat (2019) stated that one-person households in Korea will increase from 5.58 million households (28.5%) in 2015 to 8.32 million households (37.3%) in 2047. Hence, housing in Korea needs to be transformed to accommodate the growth of one-person households, which cannot be resolved by simply increasing the supply of new small houses. This is because, in view of future population decrease, it is necessary to consider curtailing urban growth and regenerate urban areas through the maximum use of existing infrastructure and buildings. As the demand of multi-person households is likely to decrease, plans for re-using existing housing for multi-person households to accommodate young adult one-person households need to be urgently considered.

2. Housing problems of young adults in Korea

The issue of young adult housing has become a serious issue in Korea where policies for multi-person households were traditionally favored. This is because small housing that young adult one-person households normally occupy lack affordability, amenities, and safety, as well as active social exchange. First, in terms

1) Goshiwon is a tiny housing unit that was originally designed to be a low-priced and temporary accommodation for students who prepared for the important exam, but it has now become an alternative housing for low-income urban tenants in Korea.

of affordability, housing for multi-person households, especially apartments, have a chonse²⁾ system developed around it based on rising real estate prices and government financial support. However, housing costs of one-person households are more burdensome since they have to pay high rents despite low deposits. Seoul Metropolitan Government (2017) announced that among those whose Rent to Income Ratio (RIR) exceeded 25% - often considered as households overburdened by housing costs - people under the age of 39 accounted for 21.3%, which was the highest among other cohorts. Figures showed that 34.4% of one-person households had their RIR exceeding 25%, and this was significantly higher than households with more than three people, which only accounted for 2-3%. Second, in terms of amenities and environment, young adult one-person households tend to choose poor housing environments, represented as ji-ok-go³⁾, to avoid high rents. Park et al. (2017) found that 68.9% of young adult one-person households in Seoul resided in studio flats where bedroom, living room, and kitchen are formed as a unified space. 15.7% were identified as the 'vulnerable housing class' who live below ground level or in semi-underground dwellings, rooftops, and jjokbang⁴⁾. Third, in terms of safety, compared to large-scale apartments where safety and security systems are in place, non-apartments, and especially among them, small houses for one-person households are vulnerable to crime and accidents due to the lack of safety measures. In fact, Kang (2017) demonstrated that the crime rate of one-person households is higher, and Clifton & Livi (2005) showed that fear of safety and security is greater among young women

who live alone. Fourth, in regards to social exchange, one-person households felt greater loneliness than young adults who lived with family members or roommates. The findings of Oh & Choi (2014) showed young women who live alone tended to feel lonelier.

The current problems of young adult housing become more disconcerting considering that this may adversely affect their future life. In a survey by Park (2017), young adults said that if the financial burden of the current housing costs continues, they could postpone or altogether abandon important life choices such as dating, marriage, and childbirth. The housing problems of young adults are disrupting the reproduction of population and housing demand, which are essential for a sustainable society, through delayed independence, avoidance of marriage and childbirth, and ultimately abandoning plans of purchasing homes (Campos et al., 2016; Clapham et al., 2012; Mackie, 2016; Minguez, 2016). As such, the young adult housing problem is no longer a matter of individuals but a structural problem of society. Policy response from the state and local governments is needed.

The Korean government announced the "2018 Housing Welfare Roadmap" and provided plans for public rental housing and public dormitories for young adults with financial assistance. Despite such efforts, the housing problem has not improved much. This is because there are three distinct groups with different needs within the young adult population, namely, college students, newly-employed adults, and newlyweds. This study focuses its investigation on college students. College students in Korea are economically vulnerable as this is the time when

2) Chonse is a lease method with a deposit but without rents.

3) Ji-ok-go is a new terminology meaning jiha (underground), oktob (rooftop), and goshiwon which literally sounds like 'the pain of hell' in Korean. This term encompasses housing that are below minimum housing standards characterized by small area, poor amenities, safety concerns, and illegal renovations.

4) Houses divided into very small units where the poorest people live.

they first become independent from their parents but are yet to be employed full-time. The housing costs for students are a significant burden as they earn a small living through part-time temporary jobs or cover their costs through the support of their parents. However, college students in Korea are the most sidelined group in terms of policy measures because they are considered to be under the care of parents and universities or in a transitional state to adulthood. A proportion of public rental housing is allocated to college students, but there simply is not enough stock and hence, the competition is fierce. Also, it is difficult to receive practical benefits since loan repayment ability is assessed upon financial capabilities, which students cannot demonstrate (Park et al., 2017). A public dormitory is a policy for college students, but the program is on hold due to the opposition of local residents in the rental business. Under the circumstances of ineffective policy measures, shared housing is being discussed as an alternative housing for young adults.

3. Shared housing as an alternative to college student housing

Shared housing describes situations in which two or more individuals or families share a housing unit (Benton, 2014). The rapid increase of one-person households and high housing costs have led to using housing space more efficiently, and shared housing has attracted attention as a viable option which could improve housing conditions at relatively low costs. The first shared housing in Korea appeared in 2011, the Lofty House, and was followed by other various private sector endeavors including WOOZOO, Borderless, and Baadaa. The majority of these shared housing were remodeled homes that are transferred to tenants which normally

consisted of less than 10 people. Spatially, bedrooms are assigned to individuals but depending on the size of the room 2 to 3 people may share. The kitchen and dining area, living room, and toilets are communal areas where residents could socialize (Choi & Jeong, 2018). In 2013, there were only 17 (109 beds) shared homes but this has increased exponentially to 1,020 (7,306 beds) as of 2019 (Comenstay, 2019). Young one-person households are the main demand group: 57% of those living in shared housing are in their 20s and 30s (Lee et al., 2015). Young one-person households can be divided into college students and newly-employed adults. The college students are mostly concerned about high cost of housing, poor environment and low quality of life due to low income, and the newly-employed adults are relatively more active in income activities and adapt to the society. In addition, the necessity of shared housing can be found in elderly one-person households who have lived alone due to divorce, bereavement of their spouse or independence of their children.

So why do they choose to live in shared housing? This study examined existing literature in terms of the following four aspects (Kim et al., 2020; Kim & Yoo, 2019; Cho et al., 2019; Choi et al., 2018; Jee, 2016; Oh & Choi, 2014; Kenyon & Heath, 2001). First, in terms of housing costs, shared housing achieves affordability through shared costs of communal spaces. Therefore, shared housing provides an affordable option for those who cannot meet high costs (Kenyon & Heath, 2001; Woo et al., 2019). Second, in terms of housing environment, shared housing allows them to live in a more satisfactory environment by providing them with larger and better quality spaces. Third, in terms of safety, shared housing allows people living together to collectively respond to any threats to safety. They can cooperatively create safe conditions

for their housing, similar to that experienced in families. Last, in modern society where the protective boundaries of family and community are weakening, shared housing is more than just the sharing of living areas but is a place where inhabitants can gain emotional support, communicate and establish social relations. It could play a role in building a new form of community (Cho et al., 2019; Shim & Park, 2019; Tummers, 2016). In terms of these four aspects, shared housing has potential as an alternative way of living for college students, the 'housing vulnerable group', as an affordable, livable, and safe place where they can be part of a community. Another potential consumer of shared housing, newly-employed adults showed their preference very differently depending on their social characteristics, such as extrovert personality (Oh & Choi, 2014), while safety and social issues related to emergency medical care, life support services, and loneliness were more important for the elderly (Kim, 2015; Choi & Oh, 2015). Therefore, compared to the other two groups, it can be considered that the college student group is more urgently in need of shared housing to solve the problems of housing costs, environment, safety and social exchange.

However, there is also a negative outlook on shared housing (Clark et al., 2017; Green & McCarthy, 2015). The biggest problem is privacy. Because a fundamentally private housing space is shared among different residents, personal space may be reduced compared to non-shared housing paid at the same price. Also, securing the minimum area of personal space may be difficult. It is also necessary to bear the discomfort of communal life, and some may experience stress from conflicts arising between residents. In addition, in Korea, there are

complaints that while most shared housing is supplied through the private sector there are no area, facility, and management standards in place.

Currently, the Korean government is committed to supplying shared housing as part of the young adult housing welfare. They have announced plans for 50,000 housing units for shared housing. However, shared housing as a welfare alternative of college students is still understudied. Existing literature consists of studies that summarize spatial planning, operational characteristics, and rent of shared housing in operation (Choi et al., 2016; Choi et al., 2018; Shime & Park, 2019), identify the characteristics of shared housing through interviews with residents (Bricocoli & Sabatinelli, 2016; Kenyon & Heath, 2001), and suggest directions for improvement of institutional criteria (Kim, 2015). In studies of potential consumers, the sample was a mixture of college students and newly-employed adults, and none of them surveyed only college students. The willingness to live in shared housing is highly likely to be overestimated by asking only Yes or No, and the average rent payable for shared housing came out much lower than the market price because the respondents were asked without a realistic alternative.⁵⁾ Therefore, this study aims to clarify whether shared housing can be a viable alternative to college student housing problem by increasing the accuracy of preference estimation based on hypothetical housing product options.

5) Oh & Choi (2014) reported that 50.0% of the group who recognized shared housing and 30.9% of the group who did not recognize are willing to live in shared housing. In studies by Jee(2016), Kim & Yoo(2019) and Kim et al.(2020), 63.1% and 68.1% of respondents respectively indicated their willingness to live in shared housing. In addition, Jee(2016) said that the average rent payable for shared housing is KRW 3.33 million deposit and KRW 330,000 monthly rent.

III. Data source and measurement

The study conducted a survey of 263 college students living in the Seoul metropolitan area from April to May 2019 to understand the preference of shared housing among young adults. The Seoul metropolitan area is home to 26 million people, half of Korea's population, and is the center of economic, political, educational and cultural functions in the country. Young adults are steadily gathering in the Seoul metropolitan area for various socio-economic opportunities, and major universities are concentrated, with a high student population. The survey consisted of questions of housing problem factors, preference for housing type, and respondents' demographic information. Based on existing literature, housing problem factors were determined by 13 variables which could influence shared housing preference. Preference for different housing types was surveyed by checking the order of preference among six housing options that combined different levels of sharing and rent. Last, the respondents' gender, age, housing independence, monthly income, parents' monthly income were surveyed.

Prior to the analysis, the demographic characteristics of the respondents were examined to understand the sample distribution (Table 1). The gender distribution, 55.5% male and 44.5% female, was close to half with a slightly higher distribution of males. Those aged 18-21 years, the age group where most college students are at, accounted for 68.1%, and those aged 22-29 were also included to consider those who have returned to their studies after a leave of absence. Housing dependence was surveyed as this may influence preferences for shared

housing, and 21.4% of the respondents were living independently. 66.9% of respondents earned less than KRW 600,000 as self-earned monthly income including salary and allowance. This indicated that parental support may be inevitable to cover housing costs which range from KRW 400,000 to 500,000 a month.⁶⁾ As such, since parental income is expected to have a significant effect on housing costs, this was included in the survey. Parents' monthly income of less than KRW 6 million accounted for 50.6%.

Table 1. Descriptive statistics of respondents

Category	Frequency (no. of people)	Percentage	
Gender	Male	146	55.5%
	Female	117	44.5%
Age	18 - 21	179	68.1%
	22 - 25	74	28.1%
	26 - 29	10	3.8%
Housing independence	Independent	56	21.4%
	Dependent	206	78.6%
Monthly income	Less than KRW 600,000	176	66.9%
	KRW 600,000 - 1 M	57	21.7%
	Over KRW 1M	25	9.5%
Parents' monthly income	Less than KRW 6M	133	50.6%
	KRW 6M - 10M	81	30.8%
	Over KRW 10M	37	14.1%
Total	263	100%	

6) Considering both the survey of one-person households living in the Seoul metropolitan area and Busan (Park et al., 2017), and the monthly rent level of studio flats around major universities in Seoul (DaBang, 2018), college students in the Seoul metropolitan area on average needed KRW 10 million as deposit and a monthly rent of KRW 450,000.

Table 2. Housing-related survey questions

No.	Question
1	The house with the cheapest rent is chosen.
2	It is difficult to pay higher rent in exchange for better housing.
3	Housing costs are very burdensome.
4	Eating, sleeping, and studying in the same room is uncomfortable.
5	It is not enough that a house only acts as a minimum amenity where I can sleep.
6	It is frustrating when the house area is too small.
7	Intrusion, robbery, and sexual crimes are worrisome.
8	I am afraid of accidents and fires when alone.
9	I occasionally feel frightened when alone.
10	Looking after myself when I'm ill is worrying when alone.
11	Talking with people relieves stress.
12	I enjoy doing activities with people.
13	I can bear inconveniences of communal life if I can be with other people.

IV. Factors of housing problem experienced by college students

It is necessary to understand what housing problems had been experienced by respondents and to what degree, since previous studies suggest that housing costs, environment, safety, and social exchange affect young adults' housing problems and the potential of shared housing. Table 2 lists the finalized 13 questions of the survey by which respondents answered on a 7-point Likert scale. Higher scores indicated higher levels of discomfort. For questions 11 to 13, higher scores indicated the higher significance of social interaction.

Factor analysis was used to identify measures that can be grouped under similar factors and compress information. The principal component analysis was used to extract factors with

Table 3. Housing problem factor analysis results

Variable	Factor 1 Housing cost	Factor 2 Housing environment	Factor 3 Housing safety	Factor 4 Social environment	Cronbach Alpha
Cheap rent	.814	.207	-.081	.112	
Unable to bear cost for better living	.727	-.105	.105	-.194	.610
Housing cost	.664	-.016	.200	.114	
Unseparated space	-.090	.801	-.025	.080	
Minimum use	.029	.796	.005	.008	.694
Minimum area	.073	.732	-.022	-.068	
Fear of crime	-.062	-.097	.873	-.028	
Concern about accident	.105	.011	.860	.022	.838
Fear when alone	.028	.060	.781	-.085	
Concern about illness	.238	-.053	.757	.136	
Stress relief	-.022	-.041	.041	.893	
Enjoy common activities	-.007	-.029	-.001	.890	.624
Inconveniences bearable	.120	.363	-.031	.422	
Eigenvalue	1.548	2.153	2.885	1.777	
Common variance (%)	13.336	15.503	21.123	14.377	KMO=.695, Bartlett's $\chi^2=$ 2284.7***
Cumulative variance (%)	13.336	28.839	49.962	64.339	

Note: *** refers to the statistical significance at the 1% level.

Each variable refers to the questions presented in Table 2.

eigenvalues higher than 1 and varimax rotation was applied. According to the result in Table 3, the results of KMO and Bartlett’s test indicate that the estimated model is reliable, and the four extracted factors account for 64.339% of the total variance. As expected, 13 items were grouped into four factors (housing cost, housing environment, housing safety, social environment), and all factor loadings were greater than 0.4 which satisfies with the validity of measurement tool.

Factor 1 was named as the ‘housing cost’ factor. This can be described as housing cost burden, difficulties of paying higher rent for better living, and a strong preference for the cheapest rent. The more difficult it is to secure housing costs, the more likely one is to prefer shared housing with less cost. Factor 2 was named the ‘housing environment’ factor which questioned whether it is uncomfortable to use a room with no separation or have minimum function and area. Higher scores of the housing environment factor translate to higher sensitivity to housing environment issues. Factor 3 consisted of variables concerning crime, accidents, and illness which can be grouped as the ‘housing

safety’ factor. Higher concerns about housing safety may lead to a higher preference for shared housing. Factor 4 consisted of variables related to ‘social environment’ such as whether conversations with people are enjoyable and whether inconveniences can be overcome with the advantage of living in a community. Such socializing tendency is thought to be the most important factor of shared housing preference. The potential of shared housing as a welfare solution for college students may be confirmed by looking at how sensitive students are to the identified factors and their preference to shared housing.

V. College students’ preference for shared housing

1. Analysis of housing option preference of college students

Shared housing is a form of living where apart from essential personal spaces the remaining areas are shared. The composition of the

Table 4. Housing product option profile

No.	Shared/ non-shared	Rent		Housing area		No. of residents	Housing type
		Deposit	Monthly Rent	Room area	Communal area		
1	Non-shared	KRW 10 million	280,000 won/month	13.2 m ²	N/A	1	Goshiwon
2	Non-shared	KRW 10 million	450,000 won/month	19.8 m ²	N/A	1	Multi-family housing, row house
3	Non-shared	KRW 10 million	610,000 won/month	26.4 m ²	N/A	1	Officetel
4	Shared	KRW 10 million	280,000 won/month	9.9 m ²	19.8 m ² (living room & kitchen)	6	Multi-family housing, row house, apartment
5	Shared	KRW 10 million	450,000 won/month	16.5 m ²	19.8 m ² (living room & kitchen)	6	Multi-family housing, row house, apartment
6	Shared	KRW 10 million	610,000 won/month	23.1 m ²	19.8 m ² (living room & kitchen)	6	Multi-family housing, row house, apartment

housing area, roommates, and housing type vary depending on the relation between private and shared spaces, and hence such complex attributes need to be addressed and systematized (Table 4). First, the housing product can be divided into shared and non-shared housing. If housing is not shared, communal areas cannot be used and the whole housing area would be used by an individual. In this case, however, the types of housing that can be inhabited are limited to non-apartment one-person household dwellings of goshiwon, multi-family housing, rowhouses, and officetels (options 1-3). If shared housing is chosen, it is assumed that a part of one's room is taken to be used as a living room and kitchen space. The study hypothesized that 6 inhabitants can cede 3.3m^2 and create a 19.8m^2 communal area. Through the sharing of space, the resident can live in a housing for multi-person households which includes communal areas (options 4-6). It is possible to get more realistic estimation by using conjoint analysis that can predict the product the consumers will choose by estimating the utility and considering various attributes of the product than simply asking the preference of shared housing. The profile of housing product option in Table 4 was created based on the status of shared housing and rent levels.⁷⁾ Then the conjoint analysis was

used to estimate how much utility the consumers assign to each product's attribute level by asking the ranks of each hypothetical housing product. Housing area, type, and the number of residents were considered to vary with whether a property is shared or not and its rent, and therefore, was not categorized into a separate attribute. This may lend further insight into the interpretation of results.

The results of the housing product conjoint analysis are shown in Table 5. Pearson's R coefficient and the Kendall's Tau value indicated that the estimated model was reliable. In terms of the attribute importance, the importance of whether the housing is shared or not was 40.32%, lower than the importance of rent at 59.68%. Shared housing showed a lower utility than non-shared housing. The results indicated that despite the government promoting shared housing as a policy means for young adult housing welfare, college students - one of the main targets of the government's policy - preferred to live alone rather than sharing their residence with others. This showed that there are serious considerations to be made when implementing the policy, because if increased supply of shared housing may not be perceived well by potential consumers, it could lead to generate immense social costs.

Table 5. Attribute importance and partial utilities

Attribute	Level	Partial utilities	Importance
Shared/non-shared (no. of residents, housing type)	Non-shared (self, one-person household)	.476	40.32%
	Shared (6, multi-person household)	-.476	
Rent (housing area)	280,000 won/month (13.2 m^2)	-.677	59.68%
	450,000 won/month (19.8 m^2)	.591	
	610,000 won/month (26.4 m^2)	.086	
constant = 3.5 Pearson's R=.875 (p=.011) Kendall's Tau=.60 (p=.045)			

7) In consideration of previous studies (Choi & Jeong, 2018; DaBang, 2018; Park et al., 2017), the deposit was set at KRW 10 million with a rent of 450,000 won/month for a residential area of 19.8m^2 . Based on this standard, the deposit was fixed at KRW 10 million for the convenience of response, and a rental fee of 280,000 won/month for 13.2m^2 , and 610,000 won/month for 26.4m^2 .

The most preferred rent level was 450,000 won/month, which was followed by the relatively high 610,000 won/month. The cheapest option, 280,000 won/month was least favored due to the small living area of 13.2m² and the expectancy of poor living conditions. As such, college students tended to prefer a place with a satisfactory living area and a good living environment, indicating that future housing policy for one-person households needs to caution against deteriorating housing standards. However, this is a synthesis of the total respondents, therefore, it is necessary to probe the preferences of individual groups within the sample.

2. Differences among housing product preference clusters

Conjoint analysis has the advantage of market segmentation as well as analyzing the overall preferences of consumers. For this purpose, based on the partial utilities of each attribute level, cluster analysis was used to group respondents with similar coefficients. K-means clustering analysis is to form a group by selecting objects one by one that is close to the cluster center after determining the total number of clusters. Based on the result of dendrogram analysis, four distinct clusters were selected with a significant difference in utility value for each attribute level (Table 6).

57 respondents (21.7%) formed cluster 1, which was the only cluster out of the four showing a positive utility value for 280,000 won/month rent. The utility for shared and non-shared housing was almost the same. This is a group of people who by focusing on economic aspects do not rule out the choice of shared housing in order to reduce housing costs. Cluster 2 was the group which most severely rejected the notion of shared housing, showing the highest utility in average-priced housing. Cluster 2 consisted of a rather large number of 78 people which accounted for 29.7%. Cluster 3, the largest group with 91 people (34.6%), were also reluctant to shared housing and, similar to cluster 2, preferred good quality housing. The biggest difference between the two groups was the preference for higher-priced housing, which was not preferred by those in cluster 2 but had high utility for those in cluster 3. Cluster 4 is a small group of 37 people (14.1%) with unique tendencies. Among the four clusters, they were the most favorable toward shared housing and also had strong preferences for only higher-priced housing. In summary, cluster 1 preferred affordable housing and showed approval of shared housing, cluster 2 and 3 were reluctant about shared housing and desired above average living standards, and finally, cluster 4 highly favored shared housing as well as high living standards.

Table 6. Cluster analysis of housing product preference

Attribute	Level	Cluster 1 (N=57)	Cluster 2 (N=78)	Cluster 3 (N=91)	Cluster 4 (N=37)	F	p
Shared/non-shared (no. of residents, housing type)	Non-shared (self, one-person household)	0.03	1.43	0.52	-0.96	307.935	.000
	Shared (6, multi-person household)	-0.03	-1.43	-0.52	0.96	307.935	.000
Rent (housing area)	280,000 won/month (13.2 m ²)	0.61	-0.35	-1.71	-0.80	130.195	.000
	450,000 won/month (19.8 m ²)	1.01	0.37	0.77	-0.03	25.237	.000
	610,000 won/month (26.4 m ²)	-1.61	-0.02	0.94	0.82	177.279	.000

Table 7. Differences among housing product preference clusters

Category		Cluster 1 (N=57)	Cluster 2 (N=78)	Cluster 3 (N=91)	Cluster 4 (N=37)	χ^2 or F
Gender	Male	31 (54.4%)	44 (56.4%)	50 (54.9%)	21 (56.8%)	.090
	Female	26 (45.6%)	34 (43.6%)	41 (45.1%)	16 (43.2%)	
Age	18-21	45 (78.9%)	55 (70.5%)	53 (58.2%)	26 (70.3%)	10.784*
	22-25	11 (19.3%)	22 (28.2%)	31 (34.1%)	10 (27.0%)	
	26-29	1 (1.8%)	1 (1.3%)	7 (7.7%)	1 (2.7%)	
Housing independence	Independent	12 (21.1%)	15 (19.5%)	20 (22.0%)	9 (24.3%)	.379
	Dependent	45 (78.9%)	62 (80.5%)	71 (78.0%)	28 (75.7%)	
Monthly income	Less than KRW 600,000	46 (80.7%)	46 (60.5%)	55 (62.5%)	29 (78.4%)	10.953*
	KRW 600,000 - 1 M	8 (14.0%)	23 (30.3%)	21 (23.9%)	5 (13.5%)	
	Over KRW 1M	3 (5.3%)	7 (9.2%)	12 (13.6%)	3 (8.1%)	
Parents' monthly income	Less than KRW 6M	38 (69.1%)	39 (51.3%)	40 (47.1%)	16 (45.7%)	10.491
	KRW 6M - 10M	14 (25.5%)	22 (28.9%)	31 (36.5%)	14 (40.0%)	
	Over KRW 10M	3 (5.5%)	15 (19.7%)	14 (16.5%)	5 (14.3%)	
Housing problem factor	Factor 1 Housing cost	.429	-.061	-.261	.111	5.950***
	Factor 2 Housing environment	-.059	-.059	.132	-.104	.800
	Factor 3 Housing safety	.015	.031	-.053	.040	.128
	Factor 4 Social environment	.150	-.240	.012	.248	2.703**

Note: *,**,*** refers to the statistical significance at the 10%, 5% and 1% level, respectively.

Next, in order to understand the characteristics of college students forming each cluster, chi-square test and analysis of variance were conducted using demographic characteristics and housing problem factors. Age, monthly income, housing cost factor, and social environment factor were found to be statistically significant (Table 7). In conclusion, cluster 1, which preferred affordable housing and was approving of shared housing, was the youngest group that had a strong tendency to reduce housing costs as their monthly income and parents' monthly income were low. Clusters 2 and 3, which did not favor shared housing and desired good living standards, were relatively older than cluster 1 and both their self-earned income and parents' income were high. In particular, people in cluster 2 felt the least need for the social environment factor which values

interaction with others (-.240), while people in cluster 3 were most sensitive in regards to the housing environment (.132) but least concerned with housing cost (-.261). Finally, cluster 4, who showed the strongest preference for shared housing, displayed strong tendencies toward the social environment (.248) and safety (.040) compared to other groups.

In summary, there are two groups that may be willing to take residence in shared housing. The first group is the younger low-income households who would consider shared housing for the benefits of housing cost. The second group is those who considered the social environment and safety to be important aspects of housing. Even with high costs, a sufficient living area was preferred by this group and was most likely to choose shared housing irrespective of gender, age or income levels. The findings

suggest that shared housing can play a role as a housing welfare alternative in terms of housing costs and social environment for college students, and could also have potential as a place of safety. However, the results that showed college students' reluctance to choose shared housing as they are quite sensitive toward their own living environment demonstrated that additional efforts such as establishing standards for securing privacy, sufficient area, facilities, and management are needed.

VI. Discussion and conclusion

In Korea, the majority of young adults living independently from their parents find a residence in non-apartment one-person household dwellings and experience problems of housing costs, environment, safety, and social environment. Against this background, shared housing has attracted much attention. This study surveyed college students in the Seoul metropolitan area, one of the main consumer groups of shared housing, and analyzed whether shared housing could become a viable alternative for college student. Compared to the previous studies that simply asked college students and newly-employed adults for willingness to live in shared housing, this result shows generally a stronger preference toward non-shared housing and the average monthly rent of KRW 450,000 (19.8m²) while the lowest monthly rent of KRW 280,000 (13.2m²) was least favored by the respondents. However, through cluster analysis, the study revealed that out of the 263 respondents, the group likely to take residence in shared housing was 94 people (35.7%), which could be largely divided into two groups. The first group was the younger and low-income group particularly burdened by housing costs. In their strong desire to find affordable housing,

they are likely to choose shared housing. The second group was those who were highly concerned with the social environment and safety and were willing to pay high prices to ensure sufficient living space. They are not characterized by a certain gender, age or income level but rather through strong individual tendencies.

The results of this study demonstrated that government-led shared housing supply needs to be implemented with caution. The housing preferences of college students tended to be higher for non-shared housing. Nevertheless, through market segmentation, the study identified groups that preferred shared housing and also revealed that housing options for different purposes are needed. Smaller but low-cost shared housing can be an alternative for younger low-income young adults, while for those who place value on social exchange and safety, satisfactory living conditions need to be ensured through space and environment quality despite higher costs. This shows that shared housing has the potential of resolving issues of housing cost, safety, and social relations for college students. However, shared housing is yet to become an adequate solution because it is perceived to lack sufficient personal space and privacy, and there is a lack of legal standards for shared housing management. These aspects should be considered in shared housing supply and further improvements are required.

Moreover, the sharing of residential space can be considered as a means of urban regeneration by managing existing housing stock for multi-person households. For those who could afford higher prices in socially active and safe housing environments, shared housing may be supplied through remodeling apartments that already have satisfactory living standards. On the other hand, younger lower-income

households who feel financially burdened may be supplied through remodeling non-apartments, such as multi-family housing or rowhouses, to offer a cheaper option. However, only 35.7% of the respondents were likely to choose shared housing, and therefore, rather than supplying large quantities of shared housing in a short period of time, it is necessary to supply sequentially, based on accurate assessments of the demand of potential consumers and their preferred housing options.

Lastly, the housing problems of young adults, the increase of one-person households, and urban regeneration are issues not limited to Korea but are occurring simultaneously in various countries. Therefore, this study, which analyzes the preference for shared housing as a housing welfare alternative may have policy implications for other cities around the world faced with similar problems of urban housing for young adults. However, in this study, the types of rent and spatial planning were simplified when creating the profile of housing product options, and there is a limitation because it cannot cover the various attributes of housing products in existing market, such as the operating entity, financial support, and housing quality. In addition, this study investigated the preferences of general college students as potential consumers of shared housing, but students who cannot live with their parents are likely to exhibit different preferences because their needs for shared housing will be higher. This should be noted when interpreting the results of this study, and it should be supplemented and developed in further research.

논문접수일 : 2020년 8월 18일
논문심사일 : 2020년 8월 26일
게재확정일 : 2020년 9월 19일

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<국문요약>

대학생 주거복지 대안으로서 공유주택 선호 연구 - 수도권을 중심으로 -

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지금까지 한국의 주거정책은 다인 가구를 위한 아파트를 중심으로 이루어져 온 반면, 청년 1인 가구가 주로 거주하는 비아파트 중 소형주택의 경우 상대적으로 주거환경이 열악하여 청년주거문제를 발생시키는 원인으로 지적되어 왔다. 특히 대학생은 경제적으로 취약하지만 주거복지 측면에서 소외받은 계층으로, 그들의 주거문제는 생애 과업에 대한 부정적 인식을 형성하는 등 사회문제로 이어지고 있다.

본 연구는 수도권의 대학생 집단을 대상으로 하는 설문을 통해 공유주택이 청년주거복지의 대안이 될 수 있을지를 밝히고자 하였으며, 실질적인 추정과 시장 세분화를 위해 컨조인트 분석 및 군집 분석을 활용하였다. 설문결과 응답자 중 35.7%가 공유주택을 선택할 가능성이 있는 것으로 나타났으며, 두 집단으로 나뉘어 서로 다른 상품을 선호하는 경향을 보였다. 첫 번째는 주거비 절감을 위해 공유주택을 대안으로 선택할 가능성이 있는 저연령 저소득 집단이며, 두 번째는 주거의 사회성과 안전성을 중요하게 생각하며 양호한 공유주택을 원하는 집단이었다. 분석결과는 공유주택이 주거 비용, 안전, 사회교류 측면에서 대학생들의 주거복지 대안으로서 가능성이 있음을 보여주고 있으며, 기존 다인 가구용 주택을 공유주택으로 리모델링 하여 공급할 수 있다는 점에서 주택재고관리를 통한 도시재생 수단으로서도 고려될 수 있을 것이다.

주 제 어 : 공유주택, 청년주거문제, 청년주거복지, 대학생, 도시재생