

Article

Relationship between Public Service Satisfaction and Intention of Continuous Residence of Younger Generations in Rural Areas: The Case of Jeonbuk, Korea

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Abstract: This study examines the population decline of younger generations in rural areas, the factors that influence the intention of continuous residence, and how these influences differ based on regional economic potential. Previous studies on intention of continuous residence lack some discussion of the role of local governments. Therefore, satisfaction with public services provided by local governments was considered as a main factor. Specifically, this study analyzed the effect of public service satisfaction on intention of continuous residence and compared this influence according to regional economic potential. This study selected respondents aged between 25 and 49 years in Jeonbuk Province, Korea. Data were collected from 980 people through an online survey, and multistage stratified sampling based on the number of residents by district and resident ages was applied to the sample design. To test the hypothesis, the study conducted a moderating effect analysis using the categorical moderator reflected by regional economic potential. The empirical analysis shows that housing support and residential environment management of public service satisfaction had positive effects on intention of continuous residence. Housing support services in particular had a stronger influence. In addition, the effect of housing support on intention of continuous residence was further strengthened in regions with low economic potential. The results of this study provide policy implications for developing countries facing a population decline in rural areas due to regional disparities between urban and rural areas.

Keywords: population decline; rural areas; continuous residence; public service satisfaction; regional economic potential



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1. Introduction

Regional disparities between urban and rural areas are expanding. In the past two decades, studies have shown that residents in rural areas are less satisfied with their areas of residence than those in urban areas [1,2]. Therefore, many rural residents are migrating to urban areas, and rural communities are experiencing a severe population decline as a result. Of course, population declines occur in urban areas today as well; however, unlike in rural areas, the main reason for them is the decrease in fertility rates [3]. According to Ma [4], it is assumed that approximately 30% of Korea's rural areas will lose their economic sustainability by 2040 if the population decline continues at its current rate. In addition, migration by residents in rural areas occurs mainly among younger generations [5,6] and, because younger generations are responsible for a large portion of economic activities in the region, their migration has a particularly negative impact on local economies. Therefore, local governments in rural areas should increase younger residents' intention of continuous residence to retain them in these regions.

The factors influencing residents' decisions to continue residing in their current regions or migrate elsewhere are very diverse. Younger generations, for example, decide between continuous residence and migration mainly based on economic factors [7]. More specifically, members of the younger generation are relatively well educated and move to

areas that provide better opportunities and conditions for work. Most large companies base themselves in urban areas, making it easy for young workers to find suitable and agreeable jobs. On the other hand, fewer companies choose to base themselves in rural areas; therefore, local governments in these areas might provide various types of public services (e.g., corporate tax cuts) to increase the likelihood that companies are motivated to locate themselves in those regions [8]. Additionally, in urban areas, private companies often provide various services for residents, such as large-scale apartments and convenience facilities (e.g., green parks, shopping malls) [9]. However, rural areas generally lack this kind of investment from private companies, leaving local governments with no choice but to provide services to residents directly. In this regard, Tiebout's theory [10] explains that public services provided by local governments may be important in residents' decisions regarding continuous residence or migration. Therefore, this study considers satisfaction with public services provided by local governments as a major factor in determining residents' intention of continuous residence.

Public services are daily services that directly affect the lives of residents, and the ultimate purpose of public services is to meet the daily needs of residents [11,12]. Because public services have different goals depending on the type of service, the satisfaction level of residents also varies [13–15]. Tiebout's theory [10] "vote by feet" explains that residents can express their preferences and satisfaction levels with public services through continuous residence or migration. In other words, if they are satisfied with public services, residents will continue to reside in their region; otherwise, they will move to other areas that provide more suitable public services. This suggests that public service satisfaction can have an important influence on residents' intention of continuous residence.

Previous studies explain that the types of public services favored by residents differ according to regional economic potential [15–17], which often reflects the general economic levels of residents [4]. More specifically, Gross Regional Domestic Product (GRDP), an indicator of regional economic potential, reflects the degree of economic activity of residents. That is, differences in regional economic potential indicate differences in the income level and degree of economic activity of residents [18]. Further, residents' needs may differ depending on their income. For example, residents with low income levels may be in greater need of social welfare services. The above discussion indicates a need to increase customized public services according to regional economic potential.

To fill the gaps in the previous literature, this study presents the following research questions. First, how does residents' satisfaction with public services provided by local governments affect their intention of continuous residence? Second, how does the effect of residents' public service satisfaction on intention of continuous residence vary according to regional economic potential? To investigate these questions, this study divided public services into housing support, residential environment management, and economic activity support [9,19]. In addition, Baron and Kenny's moderating effect analysis [20] was employed to examine these research questions, with the categorical variable reflecting regional economic potential.

Because the population decline in rural areas is mainly driven by urban migration of younger generations [5,6], this study focused on residents aged 25–49 years in Jeonbuk Province, Korea. Jeonbuk Province is one of Korea's representative rural areas, and the number of young people leaving the region has steadily increased over the past 10 years (Figure 1). In addition, this study classified regions with high economic potential and regions with low economic potential using various indicators (i.e., GRDP, number of businesses, and independent rate of finance) that reflect regional economic potential [18].

Today, the population decline in rural areas is emerging as a serious problem worldwide. Mainly due to regional disparities, this problem is known to be more severe in developing countries such as Korea, Japan, Indonesia, and Vietnam [21–23]. Therefore, increasing residents' intention of continuous residence is a very important task in many developing countries. In this regard, this study provides important policy implications.

2. Materials and Methods

2.1. Study Area

As mentioned previously, it has been found that the majority of those moving from rural to urban areas are from younger generations [5,6]. In Korea, the population aged 25–49 years is classified as “Prime-Age Workers”, the core age group in economic activity. The average retirement age in Korea is 49.4 years [24].

Korea is composed of 17 provinces (Figure 1), 10 of which are classified here as metropolitan areas (i.e., Seoul, Gyeonggi, Incheon, Busan, Daegu, Gwangju, Daejeon, Ulsan, Sejong, and Jeju), while the others can be classified as rural areas (i.e., Gangwon, Chungnam, Chungbuk, Gyeongbuk, Gyeongnam, Jeonbuk, and Jeonnam). The proportion of the population engaged in agricultural work is relatively large in these rural areas. Specifically, the proportion of agricultural workers in rural areas is 11.4%, as opposed to 1.5% in urban areas [25]. Moreover, 68.8% of the total land by region approved for residential, commercial, and industrial use exists in urban areas, while rural areas account for only 11.6% of the land approved for these uses [26]. Among the seven metropolitan cities belonging to rural areas, Jeonbuk is the only area where the population of those aged 25–49 years has continuously decreased over the past decade (Figure 1). For these reasons, Jeonbuk Province, Korea, was selected as the study area.

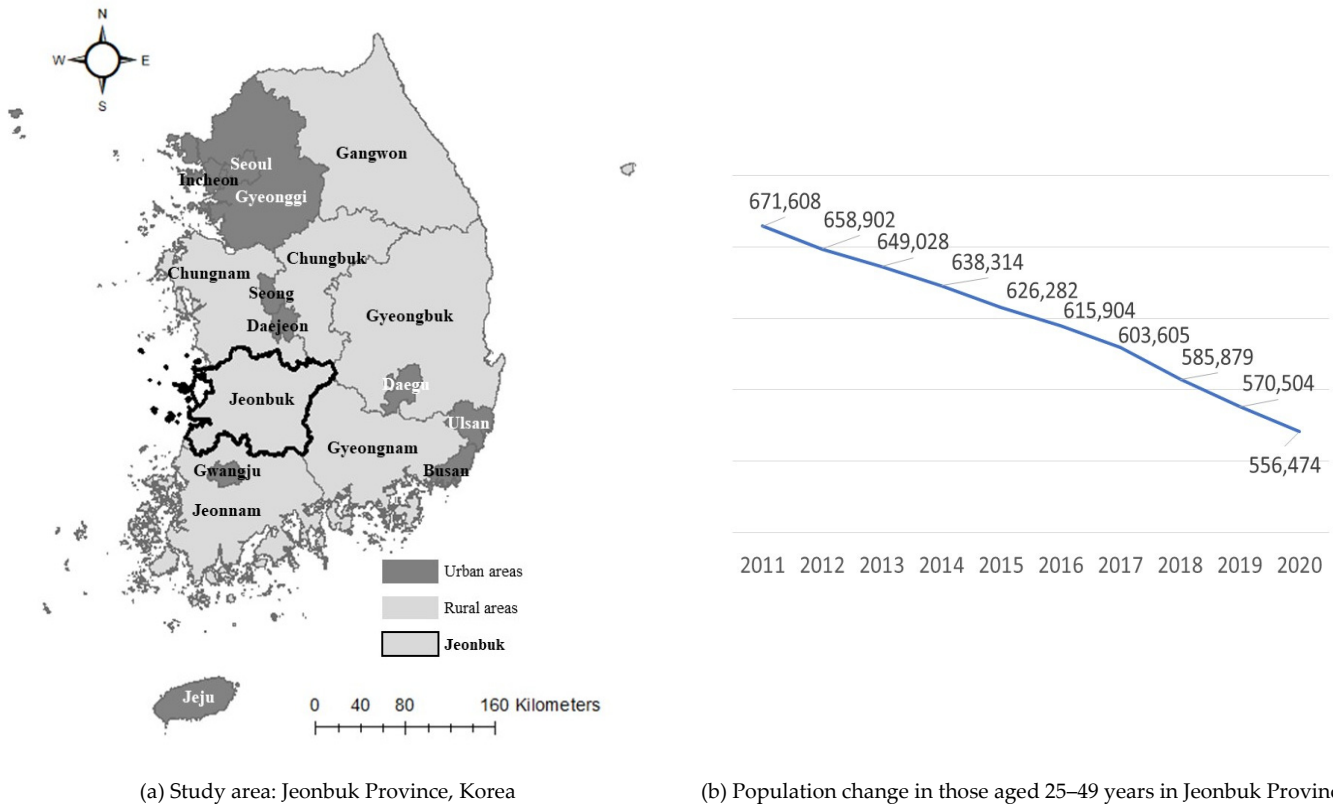


Figure 1. (a) Study area and (b) change in the population of residents aged 25–49 years in Jeonbuk Province from 2011 to 2020 (Source: 2011–2020 Population Census Aged 25–49 in Jeonbuk Province by the Ministry of the Interior and Safety [27]).

The first question posed by this study asks how residents’ satisfaction with public services affects intention of continuous residence, while the second question asks what differences the variables will show according to regional economic potential. To investigate this, it is necessary to understand the economic levels of the 14 districts in Jeonbuk Province. This study explores regional economic potential through GRDP, number of businesses, and independent rate of finance (Table 1). In terms of GRDP, in 2017, Jeonju reported the highest numbers (14,587,612 million won) among the 14 districts in Jeonbuk Province, accounting for approximately 30% of the province’s total GRDP. Additionally,

we confirmed that in 2019, 35.8% of all businesses in Jeonbuk Province were located in Jeonju. Finally, in 2020, Jeonju had the highest independent rate of finance (26.9%). Based on the above data, questions arise as to whether it is appropriate to define Jeonju as a rural area. For example, Jeong and Choi [28] include Jeonju as a rural area, but Kim and Cho [29] explain that Jeonju includes both urban and rural characteristics. This further increases the need for comparative research between Jeonju and other regions. To compensate for this disparity, this study defined Jeonju as the region with high economic potential, and the other 13 districts as regions with low economic potential.

Table 1. Economic indicators of Jeonbuk Province.

Districts	Aged 25–49 Years Population (<i>n</i> , %)	2017 GRDP (Million Won, %)	2019 Number of Businesses (<i>n</i> , %)	2020 Independent Rate of Finance (%)
Jeonbuk	570,504 (100.0)	49,348,477 (100.0)	154,082 (100.0)	24.9
Jeonju	234,146 (41.0)	14,587,612 (29.6)	55,159 (35.8)	26.9
Gunsan	90,782 (15.9)	9,150,677 (18.5)	22,440 (14.6)	18.7
Iksan	90,929 (15.9)	7,413,669 (15.0)	23,835 (15.5)	16.8
Jeongeup	29,562 (5.2)	2,881,171 (5.8)	9346 (6.1)	9.5
Namwon	21,116 (3.7)	1,594,437 (3.2)	7439 (4.8)	9.1
Gimje	20,906 (3.7)	2,792,260 (5.7)	7635 (5.0)	9.7
Wanju	28,044 (4.9)	4,757,818 (9.6)	7331 (4.8)	18.1
Jinan	5645 (1.0)	594,226 (1.2)	2003 (1.3)	7.1
Muju	5662 (1.0)	626,209 (1.3)	2512 (1.6)	8.5
Jangsu	5155 (0.9)	603,202 (1.2)	1589 (1.0)	7.7
Imsil	6677 (1.2)	714,144 (1.4)	2257 (1.5)	8.5
Sunchang	6621 (1.2)	736,737 (1.5)	2132 (1.4)	8.7
Gochang	12,635 (2.2)	1,481,276 (3.0)	5502 (3.6)	7.5
Buan	12,624 (2.2)	1,415,039 (2.9)	4902 (3.2)	9.2

Note. 2017 Gross Regional Domestic Product (GRDP) is based on the KRW. Independent rate of finance: the share of self-income in the revenue of local governments. (Source: Korean Statistics Information Service by Statistics Korea [27,30–32]).

2.2. Theoretical Analysis Framework

This study focused on public service satisfaction as a factor having an influence on intention of continuous residence. Public services were divided for this study into housing support, residential environment management, and economic activity support, and the effects of these factors on intention of continuous residence were identified. In addition, this study exemplifies how the relationship between variables differs according to regional economic potential.

2.2.1. Relationship between Public Service Satisfaction and Intention of Continuous Residence

As mentioned before, Tiebout's theory [10] proposes satisfaction with public services provided by local governments as an important factor in residents' intention of continuous residence. Similarly, some studies explain that public service satisfaction has a positive effect on community satisfaction. For example, Kang [11] found that satisfaction with public services such as risk management systems, healthcare services, public transport, and policing systems can affect community satisfaction significantly. In addition, Ko [12] found that public services such as cultural facilities, leisure programs, public libraries, and cleanliness services can have a positive effect on community quality. High rates of community satisfaction could imply an increased intention of continuous residence.

Meanwhile, the types of public services vary widely, and residents' satisfaction with public services may also differ depending on the type. This study selected types of public

services that are highly related to the serious problems faced by rural areas today. This is based on the fact that the purpose of public services is to improve residents' quality of life [12]. In this regard, old houses have been reported to be an important cause of the migration of the young population in rural areas [4]. Moreover, Kwon et al. [9] explained that the contraction of investment in rural areas due to a decrease in population increases the number of aging residential environments. Furthermore, Cheon et al. [19] stated that a lack of employment opportunities is the primary factor causing younger residents to migrate from rural to urban areas.

Based on the above discussion, this study classified public services into housing support, residential environment management, and economic activity support, and proposes the following hypothesis:

Hypothesis 1 (H1). *Satisfaction with the public service types (a) housing support; (b) residential environment management; and (c) economic activity support has a positive impact on intention of continuous residence.*

2.2.2. Regional Comparison Based on Economic Potential

The purpose of public services provided by local governments is to meet the needs of residents. Therefore, if the needs of residents differ, the types of public services they value will also be different. Existing studies explain that residents' needs may differ depending on the economic level of the region. Based on the "Economics of Agglomeration" [33,34], industrial facilities are generally concentrated. As a result, residents in regions with high concentrations of industrial facilities may be more economically active than residents in non-industrial regions. Further, the economic level of these regions will also be higher than that of other regions [35]. Therefore, public services related to economic activities will be considered more important for residents in regions with high economic potential. Conversely, in areas with low economic potential, residents are likely to be not as economically active and income levels are typically low. Therefore, residents of these regions will prefer public services that can preserve the household income or ease the burden of household expenditure [36]. Based on these discussions, this study proposes the following hypothesis:

Hypothesis 2 (H2). *The effect of public service satisfaction with (a) housing support; (b) residential environment management; and (c) economic activity support on intention of continuous residence will differ depending on regional economic potential.*

2.3. Measures

This study constructed survey questions according to previous studies and used a 4-point Likert scale of very dissatisfied (1), dissatisfied (2), satisfied (3), and very satisfied (4). Respondents were required to respond only based on their district of current residence.

First, intention of continuous residence was measured as whether to continue residing in the current residential area [37]. To examine resident satisfaction with public services, this study divided public services into housing support, residential environment management, and economic activity, as these types of public services are more important in rural areas of Korea [9,19]. Housing support is composed of support for the repair of old houses, satisfaction with public housing supply, support for housing purchases, and rental costs [14,38]. Residential environment management is measured by satisfaction with sanitation services, traffic facilities, police services, convenience facilities, disaster management, and inspection and repair of old facilities [39,40]. These items are mainly used to measure the quality of the residential environment. Economic activity support is composed of the satisfaction level with the support for the social economy (i.e., social enterprises and cooperatives); self-employment; local tourism; sales of local products; agriculture, livestock, and fishery industries; and job creation in the region [38,41,42]. Finally, some studies emphasize that economic factors (i.e., household income and housing tenure) are the most important factors in determining where individuals will move [7,43]. In addition,

many studies have shown that demographic variables such as sex, age, and length of residence affect intention of continuous residence [44–46]. Therefore, this study employed these as control variables.

2.4. Data Collection

Data were collected through an online survey for Jeonbuk residents aged 25–49 years from 20 to 26 March 2020. The survey was conducted through online panels registered with a research institute and disseminated via email with a link to participate in the survey. Respondents were randomly selected among panels with no specific conditions. The total number of survey respondents was 980. Multistage stratified sampling based on the number of residents by district and their ages was applied to the sample design. More specifically, the sample total was divided based on the proportion of the districts' populations. Within each district, the sample was allocated according to the age ratio. Comparing the sample distribution of "14 Districts x Age" in the data of this study with the aged 25–49 years population distribution by "14 Districts x Age" in Jeonbuk, it does not exceed 1.5 times for each cell. This means that the two datasets have similar distributions and that the data from this study are highly representative.

The sample's characteristics are presented in Table 2. There were 403 men (41.1%) and 577 women (58.9%). The respondents' average age was 37.2 years old, and the proportion of residents whose monthly household income was less than 3 million won was the highest (346, 35.3%). In addition, of the total number of respondents, 66.6% (653) were homeowners. Finally, the average length of residence was shown to be approximately 20 years.

Table 2. Sample characteristics.

	<i>n</i> (%)
Total	980 (100.0%)
Sex	
Male	403 (41.1%)
Female	577 (58.9%)
Age (average 37.2 years old)	
25–29	190 (19.4%)
30–39	374 (38.2%)
40–49	416 (42.4%)
Monthly household income (KRW)	
<3 million won	346 (35.3%)
3–4 million won	186 (19.0%)
4–5 million won	185 (18.9%)
>5 million won	263 (26.8%)
Housing tenure	
Homeowners	653 (66.6%)
Renters	327 (33.4%)
Length of residence (average 20 years)	
<5 years	183 (18.7%)
5–10 years	117 (11.9%)
10–20 years	170 (17.3%)
20–30 years	222 (22.7%)
>30 years	288 (29.4%)

2.5. Analytic Method

For this study, an analysis was conducted using SPSS v23.0 and ArcGIS 10.8. The specific analysis procedure was as follows. First, an explanatory factor analysis (EFA) and a reliability analysis were conducted to examine the internal validity of the measures. Second, descriptive and correlation analyses were conducted to determine the means, standard deviations, and correlations between the factors. Third, spatial comparisons were conducted for each factor considered in this study by combining the respondents' districts with the survey results. This helped to clarify the overall satisfaction level depending on the region. Moreover, a *t*-test was conducted for each factor according to regional economic potential. Fourth, the moderating effect analysis recommended by Baron and Kenny [20] was performed to test the hypotheses. In many comparative studies between groups, moderating effect analysis is used on the basis of categorical variables that classify groups [47]. In this study, "Jeonju" was designated as the region with high economic potential and "other regions" were divided into regions with low economic potential and input as a categorical moderator. Figure 2 shows the input procedure for specific variables in this study. First, in Step 1, control variables, independent variables, and moderating variables were introduced. Subsequently, in Step 2, the interaction term between independent variables and the moderating variable was constructed and added.

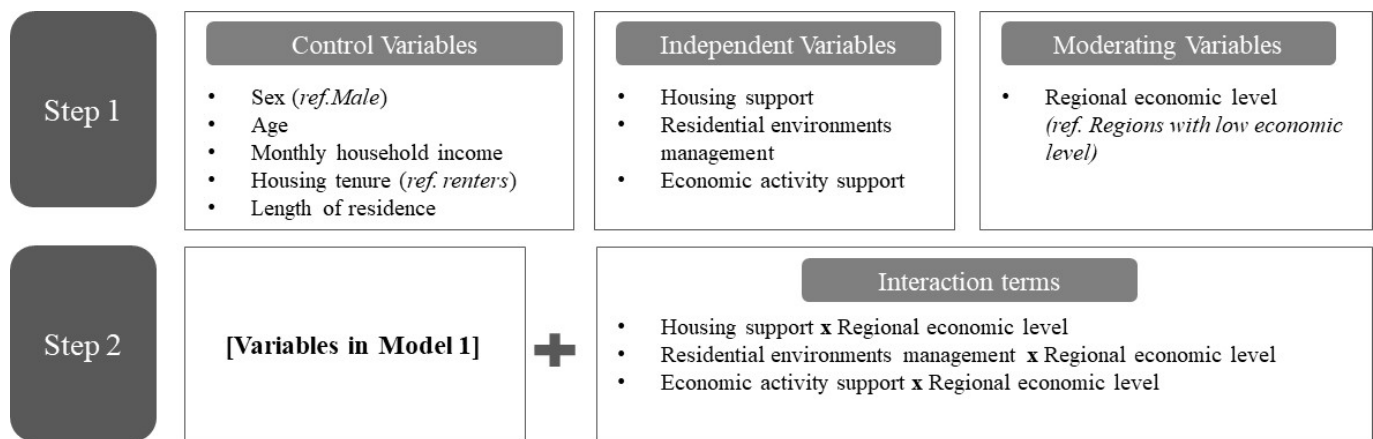


Figure 2. Research model.

At present, the interpretation of the categorical moderating effect is based on the sign of the interaction term that has a statistically significant effect on the dependent variable. If the interaction term has a negative (−) sign, it can be concluded that the influence of the independent variable on the dependent variable in the reference group has expanded. Conversely, if it has a positive (+) sign, it can be concluded that the influence of the independent variable on the dependent variable in the comparative group has strengthened [48]. In this study, "Jeonju" was the comparative group, and "other regions" was the reference group.

3. Results

3.1. Exploratory Factor Analysis (EFA) and Reliability Analysis

In this study, public service satisfaction, an independent variable, was composed of multiple items. Therefore, EFA and reliability analysis were conducted to verify the validity and reliability of the measurements (Table 3). As a result, a total of three factors were generated from 15 items. For each, the factor loadings were determined to be >0.5, and the eigenvalues were also higher than 1. This means that the measurements' abilities to explain each factor were reasonable. Moreover, a Cronbach α of ≥ 0.6 is considered acceptable [49]. All factors reached >0.7.

Table 3. Exploratory factor analysis (EFA) and reliability analysis.

Category	Measurements	Factor Loading	Eigenvalue/Cronbach's α
Housing support	Support for repair of old houses	0.784	2.289/0.739
	Satisfaction with public housing supply	0.728	
	Support for housing purchases and rental costs	0.652	
Residential environment management	Satisfaction level with sanitation services	0.765	3.362/0.857
	Satisfaction level with traffic facilities	0.717	
	Satisfaction level with police services	0.717	
	Satisfaction level with convenience facilities	0.654	
	Satisfaction level with disaster management	0.646	
	Satisfaction level with the inspection and repair of old facilities	0.550	
Economic activity support	Support for self-employment	0.769	3.918/0.891
	Support for social economic organizations	0.748	
	Support for sales of local products	0.722	
	Support for the creation of jobs in the region	0.722	
	Support for agriculture, livestock, and fishery industries	0.713	
	Support for local tourism	0.701	

Note. Kaiser–Meyer–Olkin = 0.942, Bartlett's sphericity test = 0.000.

3.2. Descriptive and Correlation Analyses

Table 4 shows the results of the descriptive and correlation analyses between factors. First, intention of continuous residence was at 2.88 (on a four-point scale), the highest among all factors. Next, residential environment management was the highest of the public service satisfaction sub-types at 2.83 and housing support was the lowest at 2.53.

Table 4. Descriptive statistics and correlations between factors.

Variable	Mean	Std. Dev.	1	2	3	4
1 Intention of continuous residence	2.88	±0.852	1			
2 Housing support	2.53	±0.589	0.307 ***	1		
3 Residential environment management	2.83	±0.537	0.315 ***	0.587 ***	1	
4 Economic activity support	2.57	±0.611	0.255 ***	0.571 ***	0.674 ***	1

*** $p < 0.01$.

In addition, this study performed Pearson's correlation analysis between factors. Therefore, all factors show significant positive correlations at the 99% confidence level. In this regard, a correlation coefficient of 0.7 or higher raises concerns regarding multicollinearity in regression analysis [49]. However, the correlation coefficient was found to be <0.7 for all factors.

3.3. Spatial Comparison for Factors and t-Test

This study presents satisfaction levels with various factors depending on districts (Figure 3). Specifically, Jeonju had the highest intention of continuous residence. As mentioned earlier, Jeonju is the core city of Jeonbuk with the largest population and the highest economic level (Table 1). Next, among sub-types of public service satisfaction, housing support showed a low level of satisfaction in approximately half of the districts in Jeonbuk Province. In addition, Iksan, Gunsan, and Gimje showed low levels of satisfaction in all sub-types of public services. Overall, compared with that in the east, the level of satisfaction with public services in the west was relatively low. This can be attributed to the fact that the western districts are in contact with the coast (Figure 1) where there are

restrictions on land use [50,51].

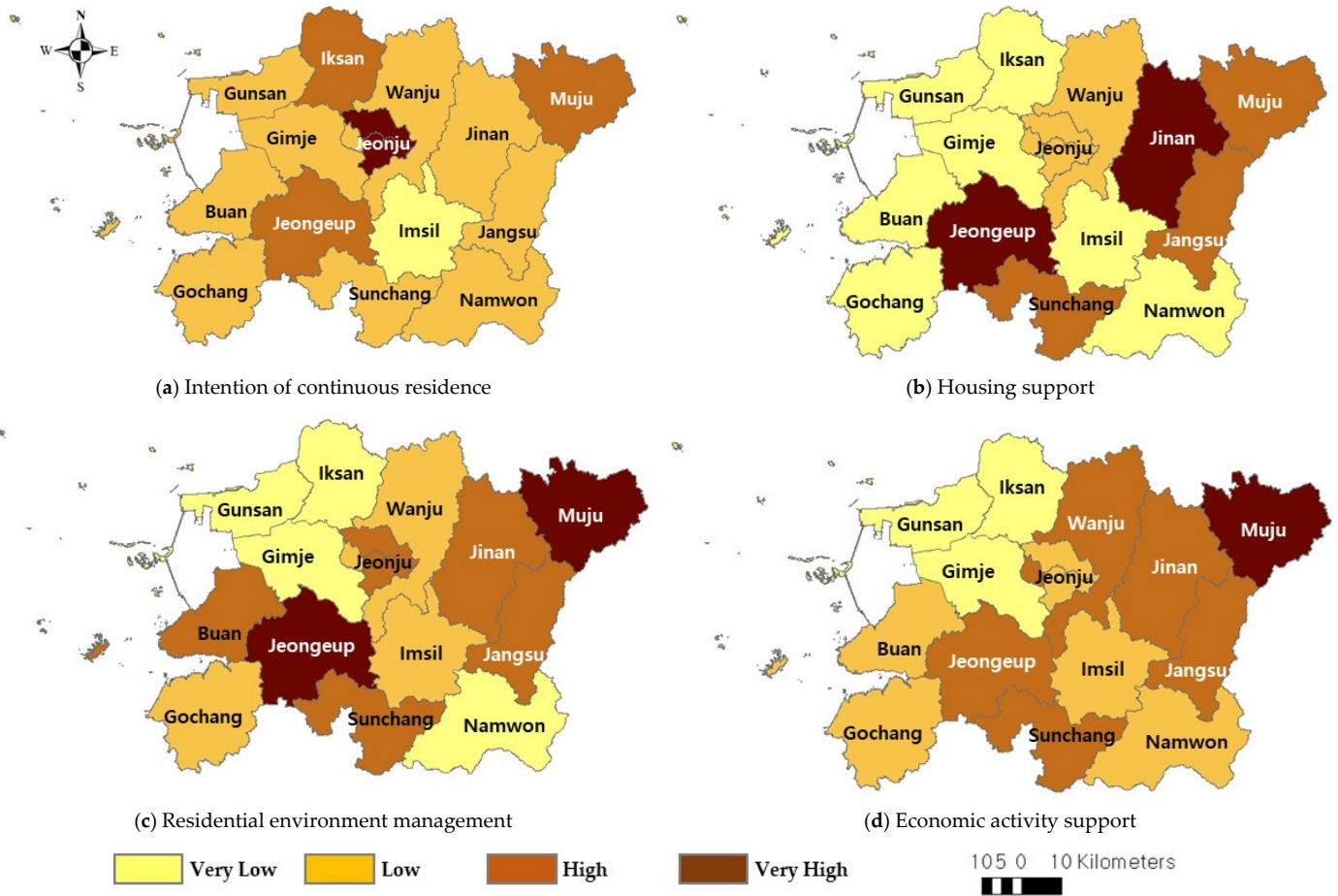


Figure 3. Spatial comparison of factors.

Furthermore, this study conducted a *t*-test on all factors based on regional economic potential (Table 5). As a result, the level of satisfaction with all factors was higher in the region with high economic potential. Among these factors, there were statistically significant differences in intention of continuous residence at the 99% confidence level, as well as in residential environment management and economic activity support at the 95% confidence level. These results increase the validity of the comparative discussion of regional economic potential.

Table 5. T-test based on regional economic potential.

Factors	Regions with Low Economic Potential (a) (n = 666)	Regions with High Economic Potential (b) (n = 314)	Gap (b)–(a)
Intention of continuous residence	2.76	3.14	0.38 ***
Housing support	2.51	2.54	0.03
Residential environment management	2.80	2.88	0.08 **
Economic activity support	2.54	2.64	0.10 **

** *p* < 0.05, *** *p* < 0.01.

3.4. Moderating Effect Analysis

The purpose of this study was to verify the influence of public service satisfaction on intention of continuous residence and at the same time to examine how the relationship

between these variables differs based on regional economic potential. To this end, this study employed the moderating effect analysis using the categorical moderator reflecting the economic level of each region. Prior to the analysis, the model fit for all steps was determined to be statistically significant, and the p -value for ΔF was also found to be significant at the 90% confidence level. In addition, the explanatory power was measured as 22.0% ($R^2 = 0.220$) based on Step 2 (Table 6), which included all variables.

Table 6. Moderating effect analysis.

		Step 1		Step 2	
		B (S.E)	β	B (S.E)	β
Control Variables	Sex (<i>ref. male</i>)	0.019 (0.050)	0.011	0.021 (0.050)	0.012
	Age	0.011 (0.003)	0.097 ***	0.011 (0.003)	0.096 ***
	Monthly Household Income	0.000 (0.015)	−0.001	−0.002 (0.015)	−0.003
	Housing Tenure (<i>ref. renters</i>)	0.066 (0.055)	0.036	0.062 (0.055)	0.034
	Length of residence	0.001 (0.000)	0.187 ***	0.001 (0.000)	0.183 ***
Public Service Satisfaction	Housing support (<i>a</i>)	0.234 (0.054)	0.162 ***	0.233 (0.054)	0.161 ***
	Residential environment management (<i>b</i>)	0.223 (0.065)	0.140 ***	0.221 (0.065)	0.139 ***
	Economic activity support (<i>c</i>)	0.088 (0.057)	0.063	0.091 (0.057)	0.066
	Regional economic potential (<i>ref. regions with low economic potential</i>) (<i>d</i>)	0.331 (0.052)	0.182 ***	0.331 (0.052)	0.182 ***
Interaction terms	(<i>a</i>) x (<i>d</i>)			−0.305 (0.116)	−0.097 ***
	(<i>b</i>) x (<i>d</i>)			0.003 (0.144)	0.001
	(<i>c</i>) x (<i>d</i>)			0.141 (0.135)	0.044
Constant		0.226 (0.222)		0.242 (0.221)	
	<i>n</i>		980		980
	F-value		29.292 ***		27.258 ***
	<i>p</i> -value for ΔF		0.000 ***		0.053 *
	R^2		0.214		0.220

* $p < 0.1$, *** $p < 0.01$.

The specific results of this analysis are as follows. Step 1 (Table 6) confirms that public service satisfaction with housing support and residential environment management had a positive effect on intention of continuous residence. Based on the standard coefficient, satisfaction with housing support ($\beta = 0.162$) had a relatively strong influence. Moreover, regional economic potential was also shown to affect intention of continuous residence positively. In other words, residents in regions with high economic potential have a higher intention of continuous residence than those in regions with low economic potential. In Step 2, this study additionally inputted interaction terms between independent variables and the moderator. Likewise, housing support, residential environment management, and regional economic potential had positive effects on intention of continuous residence. In addition, among interaction terms, “housing support x regional economic potential” was found to have a significant effect. At this time, the interaction term appeared to have a negative (−) sign. Therefore, it can be concluded that in the case of housing support services, the influence on the intention of continuous residence in regions with low economic potential is further strengthened [48]. Additionally, sex and length of residence as control variables had significant impacts on intention of continuous residence. Women had a higher intention of continuous residence than men, and the longer the time of residence, the higher the intention of continuous residence.

4. Discussion

First, public service satisfaction with housing support and residential environment management was found to have a positive effect on intention of continuous residence. This can be seen as a similar result to previous studies in that higher public service satisfaction indicates higher community satisfaction [52,53]. This also partially supports Hypothesis 1. In relation to housing support, repair of old houses is suggested to be the most urgent problem in rural areas of Korea today [9]. Additionally, in rural areas with a high proportion of people engaged in agricultural work, income levels are lower than those of urban areas, so the burden on housing-related costs is greater. In Lee and Jun [54], it was found that non-metropolitan areas in Korea had relatively low housing affordability. Next, in terms of residential environment management, it can be suggested that investment in rural areas has decreased over time. For example, if there was a sufficient population in the region, large corporations would supply an abundance of apartments, which could lead to investment in the region. However, as the population of rural areas continues to decrease, such investments are not occurring [9]. As a result, residential environment management was found to be an important factor in determining intention of continuous residence. In some studies, satisfaction with the residential environment was also verified as a very important factor in community satisfaction [55,56]. Specifically, it was found that satisfaction with the residential environment had a positive effect on place attachment in Seoul, the capital of Korea [57]. This means that the residential environment is a very important factor in increasing residents' community satisfaction. Therefore, to increase the intention of continuous residence for younger generations in rural areas, it is necessary to expand housing support services and effectively manage residential environments. The supply of relatively low-cost public housing should be increased and supportive policies for housing purchases and rental costs should be further expanded. Further, old facilities should be inspected and repaired intermittently to prevent inconveniences to residents and to manage public safety and cleanliness.

Second, this study found that the influence of housing support on intention of continuous residence is stronger in regions with low economic potential. This result is similar to those in previous studies that show differences in influencing factors on residents' community satisfaction depending on regional economic potential and partially supports Hypothesis 2 [15,17,36]. In the regions with low economic potential, residents are less economically active and tend to have lower income levels as a result [35]. Accordingly, residents of these regions become more sensitive to housing-support-related services, as housing-related costs (e.g., rent, mortgages) account for the largest portion of household spending. Meanwhile, Figure 4 shows the graph of the moderating effect according to regional economic potential based on the regression coefficient value of housing support, which was significant as shown in Table 6. For regions with low economic potential, the graph rises to the right, indicating the increased importance of housing support to intention of continuous residence for those living in these regions. In the region with high economic potential, the graph goes down to the right. From this, we can conclude that the effect of housing support services on the intention of continuous residence increases in regions with low economic potential but is not significant in the region with high economic potential. Based on these discussions, it is necessary to implement customized policies according to regional economic potential. For example, housing support services should be prioritized in regions with low economic potential. Considering the limited budget available to local governments, ensuring that this is a priority will be very important for retaining rural populations [57].

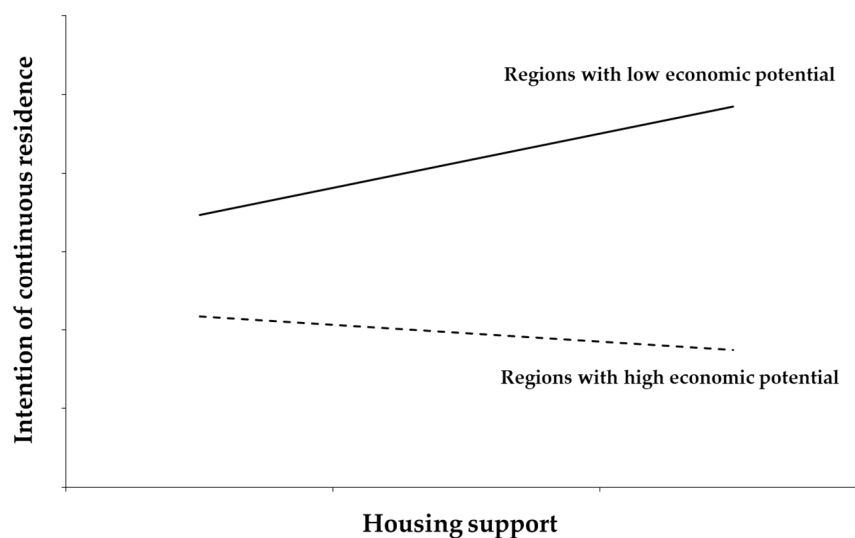


Figure 4. Moderating effect of regional economic potential on housing support and intention of continuous residence.

5. Conclusions

This study focused on the population decline in rural areas today and designated factors influencing particularly the younger generation's intention of continuous residence. Existing studies on intention of continuous residence lack a discussion of the role of local governments; however, regional living conditions have an important impact on residents' quality of life and are highly influenced by public services of local governments. Further, public services are more important in rural areas where market benefits are relatively scarce. Therefore, this study explores the effects of public service satisfaction on intention of continuous residence. Specifically, public service satisfaction was divided into housing support, residential environment management, and economic activity support. Each of these factors was investigated by their effect on intention of continuous residence, and differences according to regional economic potential were also analyzed.

Based on the findings, this study contributes to the literature in the following ways. First, the study verifies that the role of local governments can have a significant influence on decisions regarding continuous residence or migration. More specifically, although various demographic characteristics (e.g., monthly housing income, housing tenure, length of residence) were controlled, public service satisfaction had a significant effect on intention of continuous residence (Table 6). This implies that the role of the public sector may be important in rural areas and indicates that Tiebout's theory [10] was empirically verified. Second, this study verifies that the impact of public services on intention of continuous residence may differ based on regional economic potential (Table 6) and analyzed the moderating effect using categorical variables reflecting regional economic potential. Through this, we can see that the types of public services that residents respond more sensitively to may differ depending on the economic level of the region. For example, most regions with low economic potential tend to focus on job creation; however, according to the results of this study, strategies to reduce the burden of household spending should be prioritized.

The regional disparity between urban and rural areas is more serious in developing countries, including Korea and Japan [21–23]. This disparity is caused by the fact that governments choose strategies to maximize economic efficiency by allocating resources to specific regions while pursuing rapid economic growth at the national level [58]. However, at the same time, this further accelerates the outflow of population from relatively underdeveloped areas and negatively affects the sustainability of certain regions [4,6]. Therefore, preventing the outflow of the resident population from rural areas is a very important policy task today and, in this regard, this study provides important implications for policymaking in developing countries.

Finally, the limitations of this study are as follows. First, the respondent sample in this study included individuals who generally have a high income level and a high ratio of homeowners. Of course, this study controlled for these demographic characteristics, but these characteristics would not have been completely excluded. Second, the age range of younger generations may differ depending on the research. For the purposes of this study, we employed the definition provided by Statistics Korea, which regards the population aged 25–49 years and classified as “Prime-Age workers” as young. Those aged 50–64 years are classified as being in the middle-aged group. However, these classifications may vary depending on the country of study.

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