Determinants of Resident Satisfaction with Urban Renewal Projects

Focusing on South Gyeongsang Province in South Korea

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Abstract: South Korea's urban renewal policy emphasizes resident participation and multidimensional activities. This study identifies the determinants of resident satisfaction with five urban renewal projects implemented in South Gyeongsang Province, Changwon, Gimhae (Gaya, Jangyu), Sacheon, and Miryang. Multiple regression analysis was utilized for survey data from these five areas. Results reveal that the resident satisfaction was positively influenced by 1) the level of the resident's opinions reflected in the project, 2) the expectations for improving the local economy, 3) the level of satisfaction with living environments, 4) the importance of improving neighbourly relations, and 5) the level of satisfaction with public hearings/discussions in the decreasing order of severity. Meanwhile, the 1) the need for urban renewal projects, 2) the importance of tourist visits, 3) the importance of improving living environments, and 4) the level of satisfaction with recreational/sports facilities negatively affected resident satisfaction with urban renewal projects in the decreasing order of severity. The aforementioned factors have significant implications to promote practical resident participation in the establishment of renewal strategies tailored to the regional contexts of South Gyeongsang Province.

1. INTRODUCTION

1.1 Research background and purpose

South Korean urban management system tends to have greater authority than the Western countries in implementing urban revitalization projects. The previous large-scale and speculative development has resulted in urban problems such as overpopulation in major cities, gentrification, and lack of regional competitiveness, social exclusion, real estate speculation, and urban sprawl. As a result, the traditional urban redevelopment methods are not sustainable anymore, which focused on making profits and destroying regional communities. Residents cannot perceive any impact of urban renewal projects in the traditional government-led mechanism, as well. To address such limitations, the Korean government proactively stimulates the humanistic and multi-dimensional approaches in urban renewal projects. This trend is reflected in the Urban Renewal New Deal Project in Korea.

This New Deal Project has initiated in July 2017; it follows delicate approaches that take into consideration residents' demands and daily life ([Ministry of Culture, 2020](#)).

The New Deal Project mainly includes two aspects: hardware and software. The former supports physical environmental factors, whereas the latter enhances residential involvement and empowerment. Further, the target areas of the New Deal Project are of five types: 1) neighbourhood, 2) residential areas, 3) semi-residential areas, 4) city centres, and 5) industrial areas, as shown in *Table 1*. This study considers the following two types: 3) the semi-residential areas and 4) the city centres. The type of semi-residential area aims to support the facilities for residents and local businesses and to increase social cohesion by providing social activities. Moreover, the type of city centres revives a stagnant local economy by utilizing regional historical and cultural values ([Urban Regeneration Information System, 2014](#)). Recently, many studies investigated several optimized urban redevelopment strategies to gain awareness of residents' views. Moreover, the essential purpose of the New Deal Project is to recover a local community by following bottom-up and small-scale approaches. Thus, awareness of the residents' perspectives is significant and necessary for all the phases of the project ([Joo & Ma, 2019](#)); however, there is a dearth of literature on a renewal project from residents' perspectives. The current study addresses this research gap by diagnosing residents' opinions and analysing the essential factors that aid in improving residents' satisfaction with urban revitalization projects.

Table 1. Target area types covered by the New Deal Project

(Present) since 2018	Project	Urban Renewal New Deal Project				
	Type	1 (new)	2 (new)	3	4	5
		Renewal of neighbourhood	Support of residential areas	Support/Renewal of neighbour -hoods	city centres	city's economy
(Past) up to 2017	Project	Urban renewal projects				
	Type	-	-	Neighbourhood	Economy	
Underlying law	Special Act on Balanced National Development	Special Act on Renewal	the Promotion and Support of Urban			
Area	Small-scale residential area	Residential area	Semi- residential area	Commer- cial area	Industrial area	
Targeted area	Small-scale/ low-rise high- density residential area	Low-rise high-density residential area	Local business, residential area	The historic area, tourist spot, etc.	An area adjacent to a port, station, industrial complex	
Duration (year)	3	4	4	5	6	
Area (10,000 m ²)	5	5–10	10–15	20	50	
Details	Deteriorated house, public facility, road, amenity, etc.	Deteriorated house, alley, parking, amenity, road, etc.	Reusing existing public facility, anchor facilitv	Support facilities to revive the economy	Improving infrastruct ures, mixed- use/anchor facility	

2. LITERATURE REVIEW

2.1. Resident participation in urban renewal projects

2.1.1 Definition of resident participation

Participatory planning in the decision-making process is recognized as an advanced planning method that arises from the civil conflicts in the 1960s, and newly emerged social activities ([Innes, 1995](#)) Healy (2003)). Today's participatory planning in the urban planning field developed from communicative planning ([Healey, 2003](#); [Innes, 1995](#)) (Forester (1989)), which is originated from the theory of Communicative Action (Habermas 1984 cited in the work of [Cheng \(2013\)](#)). Successful communicative planning recommends a horizontal participation system that every public can involve a certain process freely and equally ([Solitare, 2005](#)) (Fainstein (2000); Young (2002)).

Public participation is a fundamental component to promote collaborative governance, because it involves two-way interaction between citizens and governments, thereby strengthening relationships ([Viale Pereira et al., 2017](#)). A majority of literature emphasizes public participation and empowerment in community participation. [Arnstein \(1969\)](#) recommends that "community participation without redistribution of power is an empty and frustrating process for the powerless." [Paul \(1987\)](#) defines community participation as "an active process whereby beneficiaries influence the direction and execution of development projects rather than just share some project benefits." To sum up, residents' engagements in the decision-making process indicate the level of residents' participation in projects, which signifies power distribution and decentralization among stakeholders, especially residents. Further, [Choi, M. H. and Jeong \(2015\)](#) defined resident participation as an 'act of participating in and exerting influence on the government's decision-making process regarding community social issues as the entity of community autonomy'. Lee and Yoon (2009:569) described resident participation as the 'overall processes by which ordinary people influence local policy decisions and enforcement within the existing political system' (as cited by [Choi, M. H. and Jeong \(2015\)](#)). Similarly, according to Choi (2009:442), resident participation in urban renewal projects is 'the exercise of citizens' rights to participate in politics and administration' and the 'pursuit of the interests or ideologies of all citizens, not those of certain individuals or groups' (as cited by [Choi, M. H. and Jeong \(2015\)](#)). Further, [Lee, J. W. \(2014\)](#) defined resident participation as a 'participatory act to reflect individual opinions in the decision-making process of issues of the public sector'.

Many earlier studies consider the terms of *community participation*, *public participation*, *citizen participation*, and *resident participation* to be similar. Finally, the conclusive definition of *resident participation* in previous studies is 'an act of exercising citizen's right in the decision-making process'. In line with this context, we define the concept of *resident participation* as 'residents presenting their opinions to exert their rights in making decisions on the issues concerning urban renewal projects'.

2.1.2 Determinants of resident participation

Resident participation is a prerequisite to realize sustainable and effective urban renewal projects. Today, the goal of the urban revitalization project is based on the theory of ‘communication participation’, according to which the motive of resident participation is not individual interests, but the common good of all community members ([Lee, T. H., 2015](#)). Many studies examine the determinants of resident participation. [Solitare \(2005\)](#) explores how to realize practical participation in brownfields redevelopment and proposes political suggestions. The author summarized five fundamental determinants of citizen participation: 1) commitment to joined groups; 2) understanding participation chances; 3) having times and resources; 4) interactions and trust-building; 5) setting common problems. [Tavano Blessi et al. \(2012\)](#) define indicators to evaluate resident involvement and community empowerment based on the theory proposed by [Jackson and Herranz \(2006\)](#). The theory explains components of resident participation as follows: 1) the existence of cultural programs for the public; 2) specific contributions of the public; 3) governance stimulating activities for citizens. The researchers point out that building networks among local organizations can facilitate building local communities and boosting local economic growth. To interconnect the groups, the four indicators are recommended: 1) social activities; 2) a sense of participation; 3) cultural programs; 4) education programs and employment. [Lee, J. W. \(2014\)](#) identifies a significant positive correlation between policy awareness and resident participation in some community design programs implemented in Seoul. The higher the understanding of the related policy or business, the higher the motivation for residents to participate, which enables them to easily express their opinions and participate in the decision-making process. [Choi, M. H. and Jeong \(2015\)](#) point out affinity building as an important promoter of resident participation. Further, the mutual influence/affinity among community members positively affects both individual and group levels of resident participation.

[Lee, K. Y. and Kim \(2018\)](#) find that resident satisfaction with the residential environment has a direct effect on their participation based on two districts in Seoul. Further, this element has an indirect positive effect, with a mediation factor (i.e. attachment to the community), on resident participation. The result of this paper emphasizes the connections of the ‘improvement of the residential environment—enhancement of attachment to the community—increase in resident participation’ ([Lee, K. Y. & Kim, 2018](#)). [Lee, Y. R. and Lee \(2018\)](#) evaluate the sense of community leading to resident participation among two groups indicating residents and commuters. The result implies that the residents have a relatively higher sense of community than the commuters. [Kim, J. Y. and Jang \(2019\)](#) observe that community participation experience has a positive effect on the intent of participation in an urban renewal project in Daegu. The study highlights that the experience involved in the community is positively related to the residents’ intent to participate.

In summary, as for the resident participation in urban renewal projects, the above major variables seem to be closely connected to urban management systems and social interactions, for example, systems for promoting participation, socio-cultural programs, understanding common goals and problems, experiences/methods of participation.

2.2 Resident satisfaction with urban renewal projects

2.2.1 Definition of resident satisfaction

Resident satisfaction is a conceptual measurement to evaluate residents' perceived quality of the urban environment. To understand the concept of *resident satisfaction*, a conceptual definition of *satisfaction* is necessary. The concept of *satisfaction* was actively investigated by studies on the customer evaluation of products conducted in the 1970s. Customer satisfaction results when customers experience the products of a certain brand. In the application of this concept to *resident satisfaction*, the subject is a resident and the objects are such factors as urban policy and residential environment. Hence, *resident satisfaction* with urban renewal projects can be defined as its emotional reactions to a project when the latter exceeds the former's expectations and experiences of urban renewal projects. It involves the following process: 'recognition of the project—experience—find a gap between expectation and experience—result (satisfaction/dissatisfaction)' ([Suh & Kim, 2019](#)).

In other words, *resident satisfaction* refers to residents' subjective evaluation of their neighbourhood conditions, which contains both perceived and real aspects ([Améigo & Aragonés, 1997](#); [Francescato, 2002](#); [Marans, Robert W & Rodgers, 1975](#); [Marans, R.W. & Spreckelmeyer, 1981](#); [Weidemann & Anderson, 1985](#))(cited in the work of [Hur, Nasar, and Chun \(2010\)](#)). In line with the concept of earlier studies, this study defines *resident satisfaction* as 'the level of satisfaction arising from the degree of coincidence between the residents' expectations of and experience with urban revitalization projects'.

2.2.2 Determinants of resident satisfaction

Numerous literature has described resident satisfaction as being closely related to the residents' perceived or subjective evaluations of their living environments. [Permentier, Bolt, and van Ham \(2010\)](#) classified variables in three dimensions, such as personal salient characteristics; subjective evaluations of particular neighbourhood attributes; and objective neighbourhood characteristics. Among them, subjective specific neighbourhood attributes are strongly and significantly related to neighbourhood satisfaction. For example, satisfaction with schools ([Parkes, Kearns, & Atkinson, 2002](#)); satisfaction with public services ([Basolo & Strong, 2002](#)); subjective safety ([Basolo & Strong, 2002](#); [Mohan & Twigg, 2007](#); [Parkes, Kearns, & Atkinson, 2002](#)); satisfaction with neighbours ([Mohan & Twigg, 2007](#); [Galster & Hesser, 1981](#)) are vital components of neighbourhood satisfaction ([Permentier, Bolt, & van Ham, 2010](#)). [Basolo and Strong \(2002\)](#) reveal the variables including 'perception of neighbourhood safety', 'perception of the quality of public services', 'average housing conditions on the block', and 'neighbourhood social contact' are statistically significant and have a positive impact on neighbourhood satisfaction. Besides, neighbourhood satisfaction is a highly significant indicator, a positive effect on individual housing satisfaction. In line with the above context, locational characteristics and service are additional outstanding factors of resident satisfaction. Specifically, physical conditions such as perceived physical building conditions, perceived accessibility to a central area, shopping districts, workplace and diverse

services ([Campbell, Converse, & Rodgers, 1976](#); [Michelson, Belgue, & Stewart, 1973](#)), quality of neighbourhood maintenance ([Marans, Robert W & Rodgers, 1975](#)), satisfaction with educational and social services have positive effects on resident satisfaction ([Türkoğlu, 1997](#))

Resident satisfaction is closely related to the sociocultural dimension implying social relations among people. [Dassopoulos and Monnat \(2011\)](#) estimated the influences of social cohesion, social support, and community involvement on neighbourhood satisfaction in Los Angeles County. The result indicates that personal socioeconomic positions, perceived social cohesion, and social control are connected with greater levels of neighbourhood satisfaction. It also indicates that frequent meetings and engagements in communities and groups who have a higher income enhance satisfaction with the neighbourhood. [Austin and Baba \(1990\)](#) estimate social ties and satisfaction with the neighbourhood is noticeable predictors of neighbourhood attachment. In this study, satisfaction is considered as an independent factor to explain neighbourhood attachment. The two conditions are examined to evaluate perceived neighbourhood satisfaction, including safety aspects and physical conditions of the neighbourhood. The result found that social participation and satisfaction of physical conditions have a strong impact on neighbourhood attachment. [Gruber and Shelton \(1987\)](#) classified the housing types such as conventional homes, mobile homes, and apartments and investigated three parts of variables regarding neighbourhoods as follows: 1) satisfaction with the home, 2) subjective views about the neighbourhood, and 3) satisfaction with the neighbourhood. The outcomes of the analyses point out that in all housing types, the critical factors are related to how residents perceive their neighbourhood to be friendly, attractive, and liveable. These elements are deeply related to residents' positive assessment and neighbourhood satisfaction. Besides, several studies mention some crucial predictor of higher neighbourhood satisfaction, for example, levels of trust-buildings, a sense of social cohesion, and social collective efficacy among residents ([Grogan-Kaylor et al., 2006](#)).

[Kim, K. S. \(2014\)](#) examines the relationship between resident satisfaction with projects/sense of community and the physical, social, and economic aspects of a revitalization project for each of the 25 districts in Seoul. Results reveal that the projects proceed very smoothly in several districts where residents have high satisfaction/sense of community. Further, the social aspect has the most positive influence on the residents' sense of community. The outcomes highlight the importance of developing a sense of community by supporting various social elements (e.g. communication with residents, resident participation programs, utilization of public facilities, and educational/health services). Further, [Sung and Kim \(2014\)](#) propose that the residents enjoy higher levels of satisfaction when community-led approaches are adopted than government-led activities. [Choi, M. G. and Hwang \(2014\)](#) examine the relationship between cooperative governance and resident satisfaction in physical, social, and economic aspects in a government-initiated project in Korea. According to the first result, engagement in collaborative governance significantly affects the social and economic aspects of resident satisfaction; further, the participation program in cooperative governance vitally influences the economic aspect of resident satisfaction. Second, only the directly involved resident group indicates meaningful collaborative governance engagement and the social aspect of resident satisfaction. Further, [Kang and Song \(2017\)](#) discussed the gap in

satisfaction between experts and residents in an ongoing urban redevelopment case in Seoul. From the perspective of expert groups, resident satisfaction is highly influenced by the creation of local events; however, local event creation cannot affect the satisfaction of the resident groups. This implies that the two subjects, expert groups, and resident groups, have different views regarding the project's progress.

To sum up, although earlier studies found several estimating factors to identify the current level of resident satisfaction, relatively little attention has hitherto been paid to understanding the resident's future expectations in urban renewal projects. According to the study of [Nachmias and Palen \(1986\)](#), the expected neighbourhood improvement is a more meaningful factor than the level of current neighbourhood satisfaction. This factor has positive influences on residents' plans to move and renovating their own houses. Besides, the two elements, indicating the expected neighbourhood improvement and neighbourhood satisfaction, are associated with the decision to stay in the neighbourhood and willingness to participate in renewal programs ([Permentier, Bolt, & van Ham, 2010](#)). Therefore, the current study addresses this research gap by considering both the resident's 'level of satisfaction', indicating the level of resident satisfaction at the time of the study, and the resident's 'importance of/need for improvement' implying the resident's future expectations regarding urban renewal projects.

In other words, this study investigates the essential factors to improve resident satisfaction with urban renewal projects in five areas of South Gyeongsang Province. These projects are initiated by the Korean central government, thus, scrutinizing these cases can suggest policy implications and strategies realize sustainable development in the Korean context. The practical implications will be expected to provide fundamental guidelines to facilitate other renewal projects in the same province.

3. MATERIALS AND METHODS

3.1 Research hypotheses

This study diagnoses resident satisfaction with the renewal projects implemented in South Gyeongsang Province and determines the residents' demands that should be considered by future renewal projects in the province. To this end, the study formulates some research hypotheses. Further, this study identifies the determinants of resident satisfaction with renewal projects by observing the interests of the province's current residents and their future demands. To achieve this goal, we consider the following hypotheses (*Figure 1*):

Hypothesis 1: Each resident's subjective 'level of satisfaction with living environments' will have a positive effect on its satisfaction with the urban renewal project.

Hypothesis 2: Each resident's subjective 'level of his or her opinions reflected in the project' will have a positive effect on its satisfaction with the urban renewal project.

Hypothesis 3: When implementing the project in the near term, each resident's subjective 'importance of improving living environments' will have a positive effect on its satisfaction with the urban renewal project.

Hypothesis 4: When implementing the project in the near term, each resident's subjective 'importance for improving neighbourly relations' will have a positive effect on its satisfaction with the urban renewal project.

Hypothesis 5: When implementing the project in the near term, each resident's subjective 'expectations for improving the local economy' will have a positive effect on its satisfaction with the urban renewal project.

Figure 1. Research hypotheses

3.2 Research scope and method

Many renewal projects have been implemented in South Gyeongsang Province (*Gyeongsangnam-do* in Korean), for example, a pilot project in Changwon in 2014, an urban renewal project in Gimhae in 2016, and 68 New Deal Projects since 2017. We focus on the following five areas: 1) Changwon, 2) Gimhae (Hoehyeon-dong (Gaya)), 3) Sacheon, 4) Gimhae (Mugye-dong (Jangyu)), and 5) Miryang. The selected projects either have been completed or are ongoing. Therefore, the selected projects are expected to provide a practical evaluation of resident satisfaction with the projects.

The data were mainly collected by on-site surveys on the residents living in each project site from the end of April to mid-May 2019. The populations of five project sites are generally elderly. Thus, we distributed the structured questionnaire and performed the questions face-to-face with all residents. Every fifty residents in one project site participated in the survey. We can complete total two-hundred-fifty questionnaires and it took about twenty minutes at least to finish one questionnaire. Further, multiple regression analysis in SPSS is used based on the collected data for 16 days.

3.3 Project site

The aforementioned five research sites are included in the types of support for a neighbourhood/city centre (*Table 1*), as well as having been selected as renewal project sites from 2014 to 2017. The locations of the sites are presented in *Figure 2*. All these sites are characterized by dilapidated living conditions, a decrease in the number of residents/workers, regional decline, and dissolution of local communities; however, specific conditions differ among the sites. *Table 2* depicts the overall distribution of the sites.

Figure 2. Distribution of project sites

Table 2. Characteristics of research sites

Type	Selected year	Project cost (100 million won)* (H.W=Hardware, S.W=Software)**				Area (1,000m ²)
Site	Project duration (year)	H.W	H.W+S.W	S.W	Total	
Neighbourhood	2014	1,707	39	15	1,761	1,780
Odong neighbourhood, Happo district, Masan, Changwon	4 (2014–2017)	(96.9%)	(2.2%)	(0.9%)	(100%)	
Neighbourhood (a city centre)	2016	68	105.6	8.7	182.3	2,100
Hoehyeon neighbourhood (Gaya), Gimhae	5 (2016–2020)	(37.3%)	(57.9%)	(4.8%)	(100%)	
Support of a city centre	2017	257.8	9.2	-	267	291.83
		(96.6%)	(3.4%)		(100%)	
Dong neighbourhood, Sacheon Mogye neighbourhood (Jangyoo), Gimhae	5 (2018–2022)	53	197	-	250	199.6
		(21.2%)	(78.8%)		(100%)	
Support of a neighbourhood	2017	103.9	57.4	6.4	167.7	147
		(62.0%)	(34.2%)	(3.8%)	(100%)	
Naeyi neighbourhood, Miryang	4 (2018–2021)					

* The total project cost is the sum of the costs for national and local support, inter-departmental, and local government projects.

** The contents of the project classified into hardware and software. The hardware means that strategies focus on improving physical facilities, such as depilated infrastructures, pedestrian roads or signs, insufficient community centers, etc. The software indicates social programs to promote building-relations among participants, for example, educational programs, health care supports, seminars, etc.

3.4 Variables

The dependent variable is resident satisfaction with urban renewal projects; it is used to verify the four research hypotheses. The independent variables include both the resident's subjective 'level of satisfaction' and 'importance of/need for improvement'. The resident's subjective 'level of satisfaction' category refers to the present resident's opinions, which have been formed by accumulating related experiences. Further, the resident's subjective 'importance/need for improvement' category signifies the current resident's demands, which are expected to consider potential projects that may soon arise. Moreover, to organize the independent variables, we considered the following three aspects of renewal projects: physical (infrastructure/physical living environments), social (resident engagement systems/programs), and economic (local economy-related elements) aspects. In comparison, [Choi, M. G. and Hwang \(2014\)](#) considered resident satisfaction to be the dependent variable and divided it into environmental, social, and economic aspects. Similarly, a study by [Suh and Kim \(2019\)](#) analyse three aspects of urban renewal projects identify the factors influencing resident satisfaction as follows: 1) physical/environmental (supporting infrastructure, improving street environments), 2) social (encouraging resident involvements, organizing collaborative systems), and 3) economic (growing floating population, increasing new constructions) aspects. In this context, each variable was measured using a 4-point Likert scale of the survey, as shown in *Table 3*.

Table 3. Measurement of variables

Scale		Dependent variable	Questionnaire item
Level of satisfaction		Satisfaction with urban renewal projects	Please indicate your opinion on the level of satisfaction with the urban renewal project in your neighbourhood.
Scale	Sub-scale (aspects of a project)	Independent variables	Questionnaire item
Level of satisfaction	Physical/envir onmental	Level of satisfaction with living environments	How satisfied or dissatisfied are you with the overall living environment of your (current) neighbourhood?
		Level of satisfaction with recreational/sports facilities	What are your subjective level and satisfaction with the recreational/sports facilities in your neighbourhood?
		Level of satisfaction with green spaces/parks	What are your subjective level and satisfaction with the green spaces/parks in your neighbourhood?
	Social	Level of the resident's opinions reflected in the project	Please indicate your general opinion on the degree of the residents' opinion reflected on the ongoing urban renewal project in your neighbourhood.
		Level of satisfaction with public hearings/discussions	(For participants alone) What are your subjective level and satisfaction with the public hearing/ discussion on the ongoing project in your neighbourhood?

Importance of/need for improvement	Economic	Level of satisfaction with local prices	What are your subjective level and satisfaction with local prices (including living expenses) in your neighbourhood?
	Physical/environmental	Importance of improving living environments	How necessary is it to improve the living environment to make your neighbourhood a more liveable place?
	Social	Importance of improving neighbourly relations	How necessary is it to improve neighbourly relations to make your neighbourhood better for a living?
	Economic	Need for urban renewal projects	Please indicate your general opinion on the need to implement an urban renewal project in your neighbourhood.
		Importance of tourist visits	How necessary is it to attract tourists (regional revitalization) to make your neighbourhood better for a living?
		Expectations for improving the local economy	What are your economic expectations for the ongoing urban renewal project in your neighbourhood?

4. RESULTS

4.1 Data analysis

We conducted structured questionnaires on the residents of the study sites for 16 days from late April to mid-May 2019. A total of 241 valid samples were used for quantitative analysis. The *Table 4* provides following results: Changwon (n=56, 23.2%), Sacheon (n=55, 22.8%), Miryang (n=50, 20.7%), Gimhae (Hoehyeon-dong area (Jangyu)) (n=49, 20.3%), and Gimhae (Mugye-dong area (Gaya)) (n=31, 12.9%).

Table 4. Descriptive statistics of the respondents

Region	Respondents (n, %)	Gender (n, %)		Residential type (n, %)				
		Men	Women	Detached house	Multi-family residential	Apart-ment	Studio apart-ment	Flats above retail
Changwon	50	13	36	12	7	23	2	6
	20.7%	26.5%	73.5%	24.0%	14.0%	46.0%	4.0%	12.0%
Gimhae (Gaya)	49	20	28	14	4	26	1	4
	20.3%	41.7%	58.3%	28.6%	8.2%	53.1%	2.0%	8.2%
Sacheon	55	30	24	14	3	26	3	7
	22.8%	55.6%	44.4%	26.4%	5.7%	49.1%	5.7%	13.2%
Gimhae (Jangyoo)	31	15	16	8	5	13	3	2
	12.9%	48.4%	51.6%	25.8%	16.1%	41.9%	9.7%	6.5%
Miryang	56	20	35	16	4	21	3	11
	23.2%	36.4%	63.6%	29.1%	7.3%	38.2%	5.5%	20.0%
Average		41.7%	58.3%	26.8%	10.2%	45.6%	5.4%	12.0%
Region	Ownership of property (n, %)		Family member (n, %)			Duration		

	One's own	Jeonse*	Rent	1	2	3	4	Average (year)
Changwon	32	9	8	7	12	10	20	2.68
	65.3%	18.4%	16.3%	14.3%	24.5%	20.4%	40.8%	
Gimhae (Gaya)	43	5	0	1	6	16	25	3.14
	89.6%	10.4%	0.0%	2.1%	12.5%	33.3%	52.1%	
Sacheon	41	7	6	9	9	13	22	3.60
	75.9%	13.0%	11.1%	17.0%	17.0%	24.5%	41.5%	
Gimhae (Jangyoo)	17	8	6	4	7	8	12	2.65
	54.8%	25.8%	19.4%	12.9%	22.6%	25.8%	38.7%	
Miryang	37	12	6	6	9	13	28	3.43
	67.3%	21.8%	10.9%	10.7%	16.1%	23.2%	50.0%	
Average	70.6%	17.9%	11.5%	11.4%	18.5%	25.5%	44.6%	3.10

*A Korean lump sum rental deposit (in place of a monthly rent) that is refunded at the end of the contract period.

The respondents comprised 41.7% men and 58.3% women, that is, a relatively higher proportion of women, on average, participated. The most typical respondent age group was the 50s (29.7%), followed by the 40s (27%). The highest proportion of the respondents were people living in one's own house (70.6%), mostly apartments (45.6%), and having a family of four members (44.6%). The average residence duration was 3.1 years. In sum, most of the respondents were women in their 40s and 50s living in their apartments and having two children each.

4.2 Determinants of resident satisfaction

Multiple regression analysis was performed in SPSS to evaluate resident satisfaction with urban renewal projects as shown in *Table 5*. Subsequently, multicollinearity, or the inter-association among independent variables, was diagnosed as follows: the tolerance number ranging from 0.519 to 0.809 (≥ 0.1) and the variance inflation factor measuring 1.236 to 1.929 (≤ 10).

Therefore, both the values of all the variables of the analysis model satisfied standard values, the problem of multicollinearity between the independent variables was considered absent. The modified R-squared (adj-R²) value for the model was 0.689, and the Durbin-Watson value was 2.010, to which the value near 2 presents no autocorrelation. Analysis of variance was performed to calculate the F value, which was 14.091 with 0.000 (< 0.05), and indicated the validity of the multiple linear regression model.

The independent variable with $p \leq 0.05$ or $|t| \geq 2$ was considered to have a significant relationship with the dependent variable. According to the analysis results, the remaining variables had a positive effect on resident satisfaction in the decreasing order of severity: 1) the level of the resident's opinions reflected in the project, 2) the expectations for improving the local economy, 3) the level of satisfaction with living environments, 4) the importance for improving neighbourly relations, and 5) the level of satisfaction with public hearing/discussions. Meanwhile, some variables negatively influenced the resident satisfaction with urban renewal projects; they are arranged in the decreasing order of severity as follows: 1) the need for urban renewal projects, 2) the importance of tourist visits, 3) the

importance of improving living environments, and 4) the level of satisfaction with recreational/sports facilities. The others, 'level of satisfaction with green spaces/parks' and 'level of satisfaction with local prices', insignificantly affected resident satisfaction.

Table 5. Analysis results

Model	Unstandardized coefficient		Standardized coefficient	T	P	Multicollinearity statistic	
	B	S.E.	Beta			Tolerance	VIF
(Constant)	1.298	0.611		2.123	0.038		
Level of satisfaction with living environments	0.227	0.071	0.266	3.210	0.002	0.696	1.436
Level of satisfaction with recreational/sports facilities	-0.153	0.072	-0.205	-2.134	0.037	0.519	1.929
Level of satisfaction with green spaces/parks	0.120	0.065	0.154	1.840	0.071	0.683	1.464
Level of the resident's opinions reflected in the project	0.407	0.079	0.409	5.123	0.000	0.751	1.331
Level of satisfaction with public hearings/discussions	0.223	0.092	0.187	2.428	0.019	0.809	1.236
Level of satisfaction with local prices	-0.138	0.081	-0.147	-1.708	0.093	0.646	1.548
Importance of improving living environments	-0.181	0.079	-0.176	-2.281	0.027	0.802	1.247
Importance of improving neighbourly relations	0.234	0.096	0.213	2.442	0.018	0.628	1.593
Need for renewal projects	-0.258	0.101	-0.222	-2.553	0.014	0.630	1.586
Importance of tourist visits	-0.215	0.084	-0.238	-2.547	0.014	0.550	1.817
Expectations for improving the local economy	0.286	0.084	0.314	3.394	0.001	0.558	1.793

VIF, variance inflation factor.

R²=0.861, adj-R²=0.689, Durbin-Watson value=2.010, F value=14.091 (p=0.000).

5. DISCUSSION

5.1 Hypotheses testing

This study focused on five variables, 1) the level of satisfaction with living environments, 2) the level of the resident's opinions reflected in the project, 3) the importance of improving living environments, 4) the importance of improving neighbourly relations, and 5) the expectations for

improving the local economy, to examine residents' satisfaction with the completed or ongoing projects in their neighbourhoods and their demands from future projects.

Hence, hypotheses 1, 2, 4, and 5 were supported by the dependent variables, and 'level of satisfaction with living environments', 'level of the resident's opinions reflected in the project', 'importance of improving neighbourly relations', and 'expectations for improving the local economy' had positive effects on the residents' satisfaction with urban renewal projects. However, hypothesis 3 was not supported because the variable, 'importance of improving living environments', had a negative influence on the dependent variable. The result of these hypotheses testing was presented in *Figure 3*.

Hypothesis 1 (supported): The higher each resident's subjective 'satisfaction with living environments', the higher its satisfaction with urban renewal projects.

Hypothesis 2 (supported): The higher each resident's subjective 'level of its opinions reflected in the project', the greater its satisfaction with the urban renewal project.

Hypothesis 3 (unsupported): When implementing the project in the near term, the higher each resident's subjective 'importance of improving living environments', the lesser its satisfaction with the urban renewal project.

Hypothesis 4 (supported): When implementing the project in the near term, the higher each resident's subjective 'importance of improving neighbourly relations', the greater its satisfaction with the urban renewal project.

Hypothesis 5 (supported): When implementing the project in the near term, the higher each resident's subjective 'expectations for improving the local economy', the greater its satisfaction with the urban renewal project.

Figure 3. Hypothesis testing

5.2 Interpretation of results

Table 6 summarizes the data analysis results to clarify the importance of resident satisfaction with urban renewal projects in the specified three aspects.

First, significant factors such as 'level of satisfaction with living environments' and 'level of satisfaction with recreational/sports facilities' represent the physical aspect of urban rehabilitation projects. The satisfaction with the living environment refers to residents' satisfaction with their overall neighbourhood environment. The residents' answers regarding this factor imply that they mostly considered the physical/environmental aspect of their living conditions. This result indicates that the resident who

has a higher level of satisfaction with the living environment tends to have been more satisfied with the rejuvenation project, whereas the level of recreational/sports facilities negatively affects the dependent variable. In other words, the people who are less satisfied with the level of recreational/sports facilities tend to be more satisfied with the renewal project. This outcome could be considered when the prevalent recreational/sports facilities are in objectively poor conditions or the residents' demand for these functions increases; hence, they feel a shortage in these aspects.

Table 6. Significant variables

Scale	Sub-scale (aspects of a project)	Significant variables
Level of satisfaction	Physical	Level of satisfaction with living environments (+)
	/environmental	Level of satisfaction with recreational/sports facilities (-)
	Social	Level of the resident's opinions reflected in the project (+) Level of satisfaction with public hearing/discussions (+)
	Economic	-
Importance of/need for improvement	Physical	Importance of improving living environments (-)
	/environmental	
	Social	Importance of improving neighbourly relations (+)
	Economic	Need for urban renewal projects (-) Importance of tourist visits (-) Expectations for improving the local economy (+)

(+) : the relationship between a variable and a dependent variable is in a positive direction.

(-) : the relationship between a variable and a dependent variable is in a negative direction.

Second, the meaningful variables 'level of the resident's opinions reflected in the project' and 'level of satisfaction with public hearing/discussions' conform to the project's social aspect. They both exert positive influences on the dependent variable. Hence, the resident who experienced a higher level of satisfaction with the resident's opinions reflected in the project or had satisfaction with the public hearing/discussion would have greater satisfaction with the revitalization project. These two factors are closely connected to resident participation.

Third, the variable 'importance of improving living environments' indicates the importance of/need for physical/environmental improvement in the project. This variable negatively affects resident satisfaction. It implies that residents are not urgently needed in the improvement of physical environments. Further, the consideration of physical aspects alone will not improve resident satisfaction. Therefore, project managers and decision-makers should consider the aforementioned result during policymaking.

Fourth, the factor 'importance of neighbourly relations' is included in the importance of/need for social improvement in the project. This factor positively affects the dependent variable. In other words, the improvement of neighbourly relationships is a vital factor that makes a place more liveable. Moreover, it reveals that the residents emphasize the necessity of communicating/maintaining cordial relationships with neighbours. One reason may be that they have not experienced any efforts for community building in their neighbourhood or making their voices heard in establishing neighbourly relations.

Finally, the variables 'need for urban renewal projects', 'importance of tourist visits', and 'expectations for improving the local economy' represent the importance of/need for economic improvement as specified by the

project. Among them, ‘need for urban renewal projects’ and ‘importance of attracting tourists’ have negative effects, whereas ‘expectations for the improvement of the local economy’ positively influence resident satisfaction. We can interpret the result of the negative impact on the need for urban renewal projects based on its question. The question of this variable asks that the respondents’ general opinions on the need to implement urban renewal projects. We inquire about the residents’ general opinions regarding the four factors: the satisfaction with urban renewal projects; the level of satisfaction with living environments; the level of the resident’s opinions reflected in the project; the need for urban renewal projects. Among these variables, the front three items inquire the present resident’s opinions, while, the last factor, the need for urban renewal projects, asks the resident’s future demands. We presume that this question asks too general the need for urban renewal projects, not presents specific examples to help the respondents’ understanding. It seems to need more precise compositions to understand the resident’s future demands of urban renewal projects more exactly. Furthermore, the other negatively significant factor, the importance of attracting tourists, includes the residents’ perceptions of a way to revive the local economy. A tourism-focused revitalization method could cause an effect that is contrary to resident satisfaction ([Jin, 2014](#)). This result highlights that strategies to revive the local economy must consider the residents’ interests and demands. Further, the factor expectations for improving the local economy would not explain a specific demand by the residents to stimulate the local economy. However, the residents’ demands for local economy revitalization are obvious, which could eventually improve their satisfaction with the project.

6. CONCLUSIONS

The primary goal of this study is to examine the residents’ perspectives and to improve resident satisfaction with urban renewal projects conducted in the five areas in South Gyeongsang Province (Gyeongsangnam-do in Korean). To achieve this objective, this study investigates the determinants of resident satisfaction by measuring ‘level of satisfaction’ and ‘importance of/need for improvement’ in three aspects of the renewal projects: physical/environmental, social, and economic. The plus and minus symbols in parentheses refer to the direction of the relationship between the independent variable and the dependent variable. As a result, the significant factors are announced in decreasing order of severity as follows: 1) level of the resident’s opinions reflected in the project (+), 2) expectations for improving the local economy (+), 3) level of satisfaction with living environments (+), 4) need for renewal projects (–), 5) importance of tourist visits (–), 6) importance of improving neighbourly relations (+), 7) level of satisfaction with public hearings /discussions (+), 8) importance of improving living environments (–), and 9) level of satisfaction with recreational/sports facilities (–).

The most essential determinant of resident satisfaction is the ‘level of the resident’s opinions reflected in the project’ in that the higher each resident’s subjective ‘level of its opinions reflected in the project’, the greater its satisfaction with the urban renewal project. Further, the second vital determinant of resident satisfaction is the ‘expectations for improving the local economy’, because the higher each resident’s subjective ‘expectations

for improving the local economy', the greater its satisfaction with the urban renewal project. Urban revitalization projects should adequately consider diverse opportunities to incorporate residents' opinions in the projects. For this purpose, more opportunities should be provided for residents to involve themselves in these renewal projects through diverse programs. The application of various chances to build a sense of community/relationships among neighbours would identify the exact demands to stimulate the local economy.

Furthermore, the expenses for these five projects indicate that improving the physical aspect is relatively higher than the supporting local business and social interaction among neighbours. This disparity might be due to the huge expense of infrastructure construction. However, policymakers should consider the result that only renovating physical living conditions could not increase resident satisfaction with urban renewal projects. The previous government-led urban management system is hard to reach a successful neighbourhood revitalization in sustainable ways. Though Korea follows government-led actions when implementing urban renewal projects, the governments have to contrive effective strategies for promoting the participation of multiple subjects in the renewal processes. Further, a majority of neighborhoods and districts in Korea suffer from absences of maintenance subject and independent system for continuous financing after finishing the renewal activities in their neighborhoods. Diverse sociocultural and economic programs should be prepared to strengthen residents' abilities to manage their neighborhood in long-term perspectives. In conclusion, this study suggested pertinent outcomes for government leaders and urban planners in South Gyeongsang Province by analysing the factors influencing residents' satisfaction with urban renewal projects in their neighbourhoods. These significant factors should be considered by policymakers while developing strategies for local revitalization.

The limitation of this study is the presence of limited data collected by onsite surveys. Several sites with high elderly or low residential population posed difficulties in the accumulation of quantitative data. Future research should address this limitation to integrate a qualitative study by conducting in-depth interviews. Moreover, we dealt with the residents' satisfaction with the five urban renewal projects by considering the residents' perspectives. A multi-dimensional approach should be considered by future researchers for other related parties such as project managers and local government officers. Moreover, similar and diverse case studies should be analysed to postulate an optimized direction for the renewal of South Gyeongsang Province in Korea.

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