The Development of a Measurement Method for Place Attachment and its Verification with a Housing Satisfaction Measure: A Survey of University Students About Their Homes

Byungsook Choi[1], Jung-a Park*[2] and Hyun-Jeong Lee[†3]

[1] Professor, Department of Housing and Interior Design, Chonbuk National University, Korea
[2] Assistant Professor, Department of Home Economics Education, Wonkwang University, Korea
[3] Associate Professor, Department of Housing and Interior Design, Chungbuk National University, Korea

Abstract

This study seeks to identify a conceptual model of place attachment to a home environment, including the relationship between attachment and housing satisfaction. The measuring tools for place attachment to the home environment and housing satisfaction were obtained from preliminary studies. Between October and November of 2011, a questionnaire survey was conducted with students at 'C' University living independently from their family, with 301 useable responses collected. According to the confirmatory factor analysis results, the five sub-dimensional concepts of affective bonding, place identity, place dependence, rootedness, and home meaning were verified as valid to measure place attachment to the home environment. Place attachment to the home environment was also found to be related to housing satisfaction with an explanatory power of .62, with correlations between place attachment to the home environment and housing satisfaction.

Keywords: home environment; place attachment; housing satisfaction; university students

1. Introduction

"Housing satisfaction," "housing preference," "housing value," "housing norm," and "place attachment to the home environment" are concepts of residents' thoughts and emotions about their home. These concepts have been used to explain housing behaviors, such as housing selection, housing adaptation, and housing movement. Place attachment, which stems from "placeness," refers to people's emotional bonds to a specific place. In addition, place attachment to the home environment represents emotional bonds to a home environment, as formed on the basis of the true meaning of a home. This differs slightly from place attachment to other places (Choi *et al.*, 2011; Shenk *et al.*, 2004).

*Contact Author: Jung-a Park, Assistant Professor,
Department of Home Economics Education in Wonkwang University, 460 Iksan-daero, Iksan City,
Jeonbuk, 54538, Republic of Korea
Tel: +82-63-850-6587 Fax: +82-63-850-7306
E-mail: japark@wku.ac.kr
[†]Co-Contact Author: Hyun-Jeong Lee, Associate Professor,
Department of Housing & Interior Design in
Chungbuk National University, 1 Choongdae-ro, Seowon-gu,
Cheongju, Chungbuk, 28644, Republic of Korea
Tel: +82-43-261-2740
E-mail: hlee@cbnu.ac.kr
(Received April 8, 2015 ; accepted February 12, 2016)
DOI http://doi.org/10.3130/jaabe.15.193

There is scant theoretical research that examines the concept of place attachment to the home environment in the Korean context. Recent research (Choi & Kim, 2011) investigated American university students to determine the influence of place attachment to childhood homes on current housing satisfaction levels. Another study (Choi, Lee, & Han, 2010) examined the place attachment to the home environment relationship in a comparison of current and childhood homes. These studies suggest the concept of place attachment to the home environment; they attempted to verify the measuring concepts of home attachment and aimed to develop a theoretical model by extending the study categories. However, these studies did not sufficiently complete the model, as they examined the general place attachment concept interpreted as place identity, place dependence, affection, rootedness, social or nature bonding (Harris *et al.*, 1996; Jorgensen & Stedman, 2006; Kyle *et al.*, 2004a, 2004b; Raymond *et al.*, 2010; Schereyer *et al.*, 1981; William & Vaske, 2003), remaining at the stage of adding the characteristics of the home environment. Attempts were made to define the concept of place attachment to the home, which included the restfulness of the home environment, through an analysis of empirical data (Choi & Kim, 2011; Choi *et al.*, 2011; Choi *et al.*, 2010; Lee *et al.*, 2009). These studies also suggested establishing a theoretical concept model through a literature review, after which more empirical studies would be required to confirm the findings.

This study confirms the conceptual model and the measurement of place attachment to the home environment, as suggested in earlier work, and added the meaning of home as a basic characteristic, through extensive investigations of university students in Korea. According to the theories (Kopec, 2012; Shumaker & Taylor, 1983; Taberbero *et al.*, 2010; Taylor *et al.*, 1985), place attachment to the home environment is constructed on the basis of housing satisfaction. This study also seeks to identify the concept model of place attachment to the home environment, including the relationship between attachment and housing satisfaction. The research aims are as follows: First, an investigation of the multi-dimensional concepts of place attachment to the home environment is made with university students in Korea, with a suggestion of a model structure of several sub-concepts. Secondly, how place attachment to the home environment, including the sub-concepts, is related to housing satisfaction is verified by a structural equation model, with a theoretical conceptual model on place attachment to home environment newly established.

2. Research Method

2.1 Data Collection and Analysis

This study used a sample survey with a questionnaire. The questionnaire consisted of questions pertaining to general information, place attachment to the home environment, and housing satisfaction. The sample was selected from students at 'C' University, living either in dormitories or in an off-campus studio flat or room (called a 'Gosiwon' in Korea) apart from their family. The group of students living in a dormitory was surveyed during training or mealtimes, under permission from the dormitory. For the other group, sampling was fulfilled primarily in the housing-related courses, and these students and their friends were surveyed.

They were all informed of the purpose of the study, and the survey was given to the students who voluntarily agreed to participate between October and November of 2011. Four hundred questionnaires were distributed, and 301 useable responses were collected. The general backgrounds of respondents are shown in Table 1. Several foreign students participated on campus as well. The responses were analyzed by the SPSS 18.0 program for descriptive statics, explorative factor analysis, and with the Amos 18.0 program for a confirmatory factor analysis and path analysis. In this study, two factor analysis methods were used. Primarily, an explorative factor analysis was used to extract items for verification of the model of place attachment to the home environment. Then, two-step confirmatory analyses were executed. The first one verified the measuring model with the selected items, and the second one reconfirmed the validity of the model. A path analysis for the model was also performed to determine the relationship between housing satisfaction and place attachment to the home environment.

Table 1. The Respondents' General Backgrounds

Characteristics of Respondents	Levels	Frequency (%)
Gender	Male	106 (35.2)
	Female	195 (64.8)
	Total	301 (100.0)
Grade	Freshman	72 (22.5)
	Sophomore	65 (20.3)
	Junior	104 (32.5)
	Senior	79 (24.7)
	Total	301 (100.0)
Current Housing Type	Residence	10 (3.3)
	Apartment	16 (5.3)
	Studio Flat (One-room)	87 (28.9)
	Gosiwon	15 (5.0)
	Dormitory	169 (56.1)
	Other	4 (1.3)
	Total	301 (100.0)
Distance between School and Residential Place	Within 5 minutes	48 (16.1)
	5-10 minutes	98 (32.8)
	10-20 minutes	116 (38.8)
	20-30 minutes	18 (6.0)
	Over 30 minutes	19 (6.4)
	Total	299 (100.0)
Move Experience	Experienced	105 (36.7)
	Had no experience	181 (63.3)
	Total	286 (100.0)

2.2 Measurement

The questionnaire consisted of the measurement of place attachment to the home environment and each respondent's gender, grade, current home environment information, and levels of housing satisfaction. The measuring items for place attachment to the home environment were extracted based on preliminary research (Harris *et al.*, 1996; Jorgensen & Stedman, 2006; Kyle *et al.*, 2004b; Molcar, 2006; Stedman, 2002). Also, taking into account research in the context of Korea and housing for university students (Choi & Kim, 2011; Choi *et al.*, 2011; Choi *et al.*, 2010; Lee *et al.*, 2009), affective bonding, place identity, place dependence, rootedness, and home meaning were determined as the five sub-dimensions to measure place attachment to the home environment. Consequently, four items of five dimensions were selected for the measurement, as shown in Table 2.

Affection and affective attachment were used in related studies, but in this study, affective bonding was utilized as a sub-dimensional concept of place attachment. It is applicable to the "affect" stage in the psychological process, and refers to emotional concepts such as missing, happy, favorite, and positive feeling about the home. In contrast, place identity, place dependence, and home meaning are in the "cognition" stage of the psychological process. Place identity is interpreted memories about the home, self-expression, and differentiation; while place dependence involves familiarity and being accustomed to the facilities provided in the home. Home meaning covers the basic needs and meaning of the home, such as relaxation, feeling welcomed, feeling secure,

Table 2. The Sub-Concepts of Place Attachment to the Home Environment and 16 Measuring Items

Sub-concepts with Keywords	Measuring Items (Variable name)	Classify Dimensions by Supportive Research*
Affective Bonding: missing, happy, best, favorite	I really miss this dwelling place when I am away too long (PA-22_13)	JS, L, C, CK, CKA
	I feel happiest when I am at this dwelling place (PA-22_14)	JS, C, CKA
	It is the best place to do the things I enjoy (PA-22_15)	CKA
	This dwelling place is my favorite place to be (PA-22_16)	JS, L, CKA
Place Identity: express, identity, reflect, remind	Decorations in this dwelling place help express who I am (PA-22_34)	H, L, C, CK, CKA
	This dwelling place's style reflects my identity (PA-22_11)	H, C, CKA
	This dwelling place reflects the type of person I am (PA-22_17)	JS, C
	Decorations in this dwelling place remind me of family/friends (PA-22_35)	H, L, C, CK, CKA
Place Dependence: activities, enjoy, like	I prefer this dwelling place over other settings/facilities for the activities that I enjoy most (PA-22_31)	K, L, C, CK, CKA
	For the activities that I enjoy most, the setting and facilities provided by this dwelling place are the best (PA-22_30)	K, CK, CKA
	For what I like to do, I could not imagine anything better than the setting and facilities provided by this dwelling place (PA-22_32)	K, L, C, CK, CKA
	I enjoy going to this dwelling place more than any other sites (PA-22_33)	K, CK
Rootedness: belonging, means, attached, move	I feel a strong sense of belonging to this dwelling place and its settings/facilities (PA-22_9)	L, CK
	This dwelling place means a lot to me (PA-22_8)	L, C, CK, CKA
	I feel attached to this dwelling place (PA-22_7)	H, L, C, CK, CKA
	I will miss this dwelling place when I move out (PA-22_5)	H, L, C, CK, CKA
Home Meaning: relax, welcome, secure, home	This dwelling place is a place where I can relax (PA-22_1)	H, C, CKA
	I always feel welcome at this dwelling place (PA-22_3)	H, C, CKA
	I feel secure in this dwelling place (PA-22_24)	H, CKA
	I feel this dwelling place is a home to me (PA-22_23)	H, CKA

* H: Harris, *et al.* (1996), K: Kyle, *et al.* (2004a), JS: Jorgensen & Stedman (2006), L: Lee, *et al.* (2009), C: Choi, *et al.* (2010), CK: Choi & Kim (2011), CKA: Choi, *et al.* (2011)

and as the place being regarded as one's home. The measuring items of each dimension were traced from prior studies; although the home meaning dimension was newly added in this study, the items came from work by Harris *et al.* (1996) and Choi *et al.* (2010, 2011b). In addition, Rootedness corresponds to the "behavior" stage of the psychological process. It involves a sense of belonging, not wanting to move; "This dwelling place means a lot to me" and "I feel attached to this dwelling place" are included, as suggested in previous studies. Respondents were asked to label each measuring item with one of five grades on a Likert scale between "not at all true of myself" and "completely true of myself" with regard to their current home.

On the other hand, the measuring items for housing satisfaction are those shown in Table 4. These were obtained through discussions with research staff based on a literature review (Huh *et al.*, 2011; Kang & Kim, 2010; Kim & Oh, 2008) regarding the internal environment of the home for university students. The items were categorized into three potential variables, i.e., physical, psychological, and physiological variables, and each observational variable was measured. Physical satisfaction variables included size, facilities, and space organization; psychological ones were noise and privacy; and physiological ones covered ventilation, sunlight, and the natural environment. The measurements were done in the same way, on a five-point Likert scale, with the respondents using one of five grades between "very unsatisfied" and "very satisfied" about their current home.

3. Results and Interpretation

3.1 Place Attachment to the Home Environment and Housing Satisfaction

The means of each of the measuring items for place attachment to the home environment were examined, and Table 3. shows the results. Among the five sub-dimensions, Home meaning (Mean=3.29~3.90) has higher marks than Affective Bonding (Mean=3.30~3.38) or Rootedness (Mean=3.14~3.39).

This indicates that the essential meaning of a home, happiness and positive feeling about the home and not wanting to move from the home increase place attachment to the home environment. Comparatively, the results of Place Identity (Mean=3.08~3.18) and Place Dependence (Mean=2.87~3.31) appeared low.

Housing satisfaction showed higher scores than average (Mean=3.00). As shown in Table 4., noise through floor marked the least satisfactory factor (Mean=2.91) and the size and natural environment marked high satisfactory factors (Mean=3.41).

3.2 Verification of the Measurement Model for Place Attachment to the Home Environment

For theories lacking empirical evidence, separate verifications of the measurement model and structural model are recommended in order to obtain better reliability (Anderson & Gerbing, 1988). As the theory of home place attachment is still developing, 20

Table 3. The Results of the Place Attachment to the Home Environment of University Students

Place Attachment	Variables	Mean (SD)
Affective Bonding	PA_22_13	3.30 (.968)
	PA_22_14	3.34 (.960)
	PA_22_15	3.38 (.954)
	PA_22_16	3.37 (.912)
Place Identity	PA-22_34	3.08 (.943)
	PA_22_11	3.09 (.939)
	PA_22_17	3.18 (.920)
	PA_22_35	3.11 (1.014)
Place Dependence	PA_22_31	3.13 (.937)
	PA_22_30	3.09 (.996)
	PA_22_32	2.87 (1.016)
	PA_22_33	3.31 (.902)
Rootedness	PA-22_9	3.14 (1.021)
	PA_22_8	3.35 (.971)
	PA_22_7	3.39 (.905)
	PA_22_5	3.37 (1.031)
Home Meaning	PA_22_1	3.90 (.918)
	PA_22_3	3.29 (.918)
	PA-22_24	3.51 (.871)
	PA-22_23	3.51 (.869)

Table 4. The Results of the Housing Satisfaction of University Students

Housing Satisfaction	Items	Mean (SD)
Physical Satisfaction	Size	3.41 (.857)
	Facilities (kitchen, toilet, bathroom)	3.32 (.924)
	Space Organization (floor plan, circulation)	3.39 (.856)
Psychological Satisfaction	Noise through Floor	2.91 (1.040)
	Outdoor Noise	3.04 (1.019)
	Privacy	3.16 (.987)
Physiological Satisfaction	Ventilation	3.06 (.988)
	Sunlight	3.22 (.995)
	Natural Environment	3.41(.759)

observatory variables were investigated initially as to whether they correspond to the potential variables of the five sub-dimensional concepts. Secondly, this study sought to examine whether the five sub-dimensional approaches including Home Meaning, or the existing four sub-dimensional approaches were more applicable for measuring place attachment to the home environment. Therefore, exploratory factor analyses of the possibilities of a model with 20 items from five factors (66.84% explanatory power) and one with 16 items from four factors (64.98% explanatory power) were initially implemented. A confirmatory analysis of the models followed to verify the measuring concepts.

3.2.1 The Results of the Confirmatory Analysis of the Five Factors

According to exploratory factor analysis, models 1 (Fig.1.) and 2 (Fig.2.) with five sub-dimensional factors, and models 3 (Fig.3.) and 4 (Fig.4.) with four sub-dimensional factors were set up. Table 5. shows the results gained through the confirmatory factor

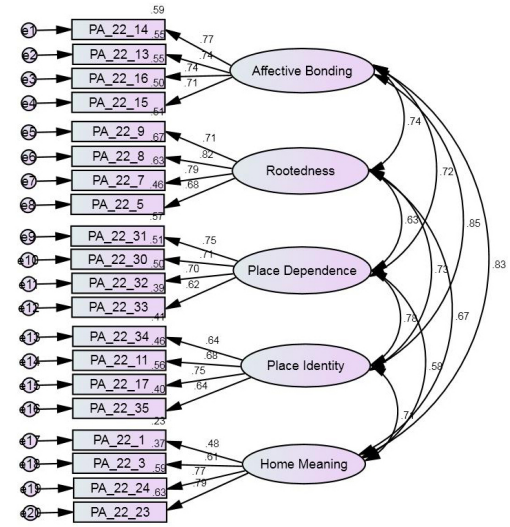

Fig.1. First-order Confirmatory Factor Analysis of Model-1 (Standardized Regression Weight Estimate)
Chi-square= 425.950 (df=160, *p*=.000)

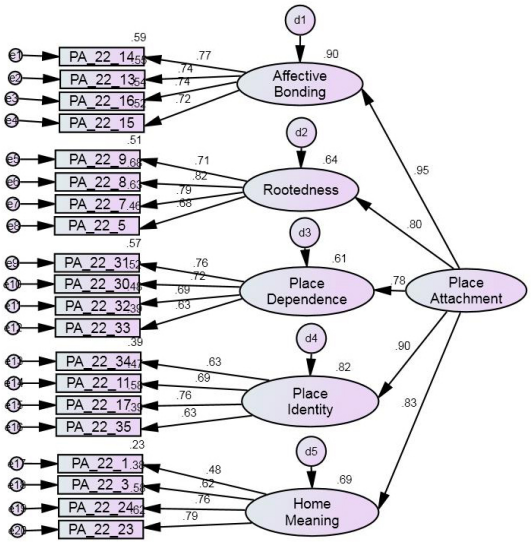

Fig.2. Second-order Confirmatory Factor Analysis of Model-2 (Standardized Regression Weight Estimate)
Chi-square= 442.280 (df=165, *p*=.000)

analysis of the models.

The analyses of models 1 and 2 showed that the explanation level of measuring the variables towards each latent variable of the sub-dimensions exceeded 0.6; in other words, this proved that the five-sub-dimensional approach is appropriate for measuring place attachment to the home environment. Only one of the items for the home meaning dimension, "This dwelling place is a place I can relax," (PA_22_1 variable) recorded a standardized regression weight of 0.48, slightly lower than the other variables but still very close to .50; hence, it was regarded as correlated. Most latent variables in model 1 were correlated at more than 0.7, except for the correlations between Rootedness and Place dependence (.63), between place dependence and home meaning (.58), and between

Rootedness and home meaning (.67). In model 2, the correlations of the five latent variables with place attachment were found to be even higher (.78). In particular, home meaning had a correlation of .83 with place attachment to the home environment.

Through the analysis of the suitability of the models, models 1 and 2 appeared to be appropriate (RMSEA=.071 & CFI=.912, RMSEA=.071 & CFI=.908 respectively). Without a major difference between models 1 and 2, this result confirmed that home meaning can be regarded as an adequate measurement of place attachment to the home environment.

3.2.2 The Result of the Confirmatory Analysis of the Four Factors

Models 3 and 4 were also described as appropriate to explain place attachment to the home environment, showing standardized regression weight estimates which exceeded 0.6 of in both cases. In model 3, the correlations between the latent variables exceeded 0.7, except for that between Rootedness and Place dependence (.63). In model 4, all latent variables showed very high explanatory power for (over 0.8) measuring variables. Models 3 and 4 had better explanatory power than models 1 and 2 in terms of the explanatory power of the measuring variables towards latent variables, the correlations between potential variables, and the explanation level of latent variables towards place attachment to the home environment. The analysis of the model fits of models 3 & 4 also proved that both models were appropriate (RMSEA=.067 & CFI=.939, RMSEA=.066 & CFI=.939 respectively), and that there were no major differences between the two.

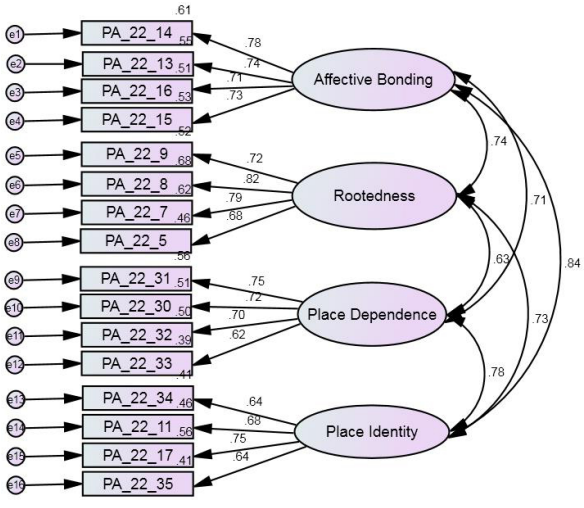

Fig.3. First-order Confirmatory Factor Analysis of Model-3 (Standardized Regression Weight Estimate)
Chi-square= 241.659 (df=98, *p*=.000)

In conclusion, it is difficult to judge which model is better, as both the five-dimensional and four-dimensional approach proved to be appropriate. The same result was noted in the study of Kyle *et al.* (2005),

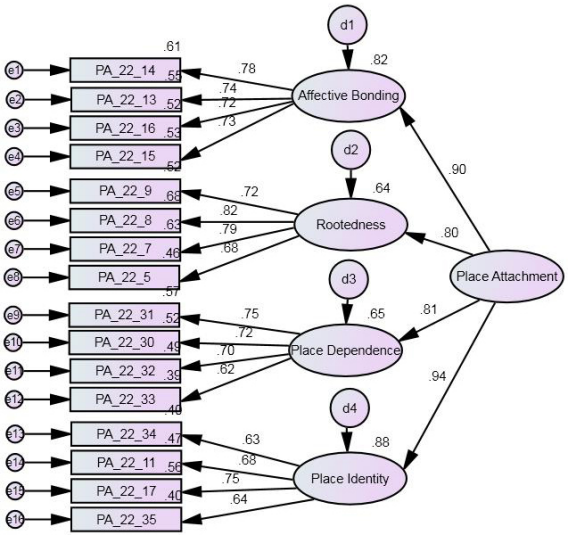

Fig.4. Second-order Confirmatory Factor Analysis of Model-4 (Standardized Regression Weight Estimate)
Chi-square= 243.559 (df=100, *p*=.000)

which suggested using the first-order confirmatory factor analysis model for place attachment to the home environment. That study, however, did not aim to find which model is more appropriate but instead aimed to prove that place attachment to the home environment is composed of sub-dimensions such as general place attachment, and to investigate the sub-dimensional concepts in detail. According to the model fit index shown in Table 5., the four-factor model appears to be more applicable, as the RMSEA is closer to 0 and the CFI, IFI, and TLI are closer to 1. However, nothing appeared to be dominant, as the difference was only .04 with regard to the RMSEA value. In consideration of developing the previous study of Choi *et al.* (2011), which especially asserted the importance of home meaning with regard to place attachment to the home environment, the five-factor model was finally accepted to measure place attachment to the home environment.

Table 5. Model Fit Index of Models 1, 2, 3, and 4

Factors	Model	CFI	IFI	TLI	RMSEA
Five-factor	Mode-1 (first-order)	.912	.914	.885	.071
	Model-2 (second-order)	.908	.910	.883	.071
Four-factor	Model-3 (first-order)	.939	.940	.916	.067
	Model-4 (second-order)	.939	.940	.918	.066

3.3 Verification of the Model between Housing Satisfaction and Place Attachment

Because the measuring model was verified, two models of the relationship between housing satisfaction and place attachment were established in an effort to test the structural model of place attachment to the

home environment. As a result, the appropriateness of both was proved by the Chi-square values and the RMSEA values, as shown in Table 6. To be specific, model 5 showed a Chi-square value of 877.445 (df=369, p=.000), which was significant but not enough to be assessed as appropriate (CFI=.874, IFI=.876, TLI=.885). However, the model was accepted according to the RMSEA value of .065. Meanwhile, model 6 was recognized as significant (Chi-square=759.917 (df=368, p=.000) and was also proved appropriate because CFI=.903 and IFI=.904. Although the TLI value (.885) did not reach 0.9, the RMSEA value (.057) made it acceptable. By all measures, model 6 according to the results of the second-order confirmatory analysis appeared to be more appropriate than model 5, which was analyzed with a first-order confirmatory analysis, obtaining a lower RMSEA value, and scores of more than 0.9 for the CFI and IFI values.

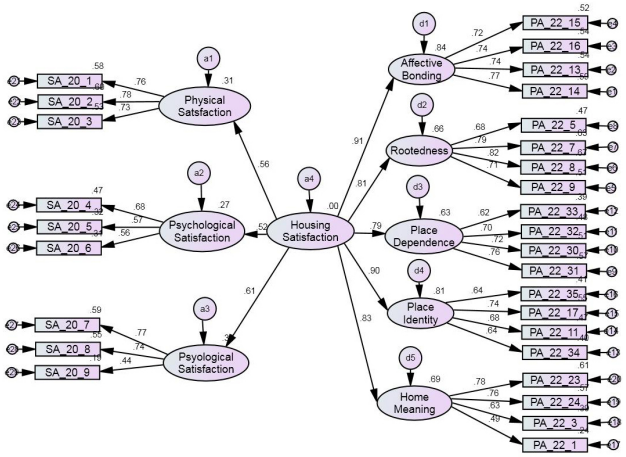

Fig.5. The Relationship between Housing Satisfaction and Place Attachment to the Home Environment in the First-order Confirmatory Factor Analysis of Model-5
(Standardized Regression Weight Estimate)

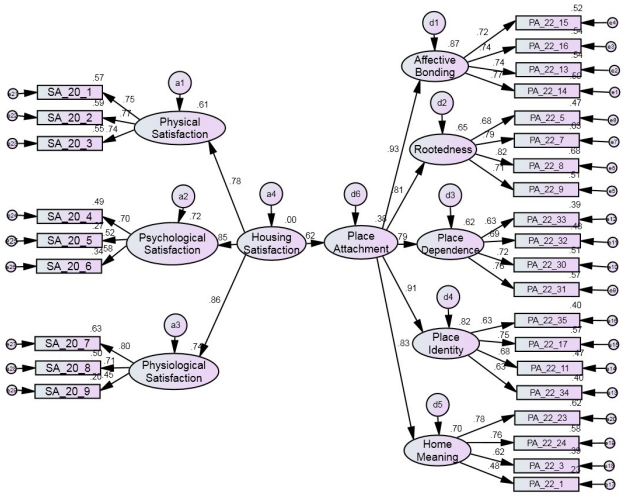

Fig.6. The Relationship between Housing Satisfaction and Place Attachment to the Home Environment in the Second-order Confirmatory Factor Analysis of Model-6
(Standardized Regression Weight Estimate)

Table 6. Model Fit Index of the Relationship between Housing Satisfaction and Place Attachment to Home Environment

Model	Chi-square	CFI	IFI	TLI	RMSEA
Model-5 (first-order)	877.445 (df=369, p=.000)	.874	.876	.851	.065
Model-6 (first-order)	759.917 (df=368, p=.000)	.903	.904	.885	.057

Consequently, the analysis using model 6 found a correlation (standardized regression weight estimate =.62) between housing satisfaction and place attachment to the home environment. This implies that students who were more satisfied with housing were more attached to their homes (C.R.=7.206, p=.000). Among the three variables of housing satisfaction, physiological factors (ventilation, sunlight, natural environment) showed the highest correlation (=.86), as compared to psychological factors (noise through the floor, outdoor noise, privacy) and physical factors (size, facilities, space organization), in that order (=.75, =.77, =.74, respectively). In addition, place attachment to the home environment, affected by housing satisfaction, affective bonding, place identity, home meaning, rootedness, and place dependence, showed correlations in that order (.93, .91, .83, .81, and .79, respectively). These findings also explain that physiological and psychological factors such as ventilation (.80), sunlight (.71), and noise through the floor (.70) were more effective with regard to place attachment to the home environment than the physical factors. In addition, affective bonding and place identity were more related to place attachment to the home environment than home meaning according to the results of the survey of the university students.

4. Conclusion

This study sought to identify the conceptual model of place attachment to the home environment, including the relationship between attachment and housing satisfaction. Through an empirical analysis of 301 data instances, the findings allow the following conclusions.

1) To measure place attachment to the home environment, five sub-dimensional concepts – Affective Bonding, Place Identity, Place Dependence, Rootedness, and Home meaning – were found through confirmatory factor analyses to be appropriate. This result is empirical evidence that home meaning is closely related to place attachment to the home environment compared to general place attachment with four sub-dimensional concepts. However, this is limited to a group of university students. Choi *et al.* (2011) found the concept of a "Restful home" as symbolic of home attachment with the essential function of a home, but their study developed the concept by covering measurement items such as the affection or emotion of psychological process, and changes to the term superordinate concept. In addition, the model applied

in this study, which has five sub-dimensions with four measuring items each, is an advancement of earlier work study in the context of Korea (Choi *et al.*, 2010, 2011b). Furthermore, verification of the correlations between the models of housing satisfaction and place attachment to the home environment proved that the measurement tool with five sub-dimensions was valid.

2) Place attachment to the home environment is formed on the basis of housing satisfaction. In particular, place attachment to the home environment with university students is more affected by physiological and psychological satisfaction levels than by physical satisfaction. This ensures the notion that the nature of the home environment differs from that of other places, being more closely connected to the satisfaction achieved from psychologically pleasant and physiologically comfortable factors than to the physical factor itself. The correlations between housing satisfaction and place attachment to the home environment were positive (.62), which clearly reconfirms the belief that satisfactory housing is a fundamental factor for shaping place attachment to a home environment.

3) In everyday life, place attachment improves an individual's survival, safety, sense of achievement, sense of belonging, identity, and relationships with others. It boosts motivation toward higher aims and achievement, and the relationship with the place. The respondent students, apart from their families and home environments, strongly attached the meaning of a home, which is a sub-concept of place attachment to the home environment. Their current house is not a true home but is instead a temporary dwelling, and the psychological satisfaction with noise and privacy are at average levels. The structural equation model result showed that the home environment was important to students, who have unlimited possibilities. The satisfaction with the home environment was related to place attachment, and the positive relationship can affect the success of their school adaptation and their capabilities.

4) In this study, measuring concepts for place attachment to the home environment were suggested, and their validity levels were proved through an analysis of their relationships with housing satisfaction. However, because the samples in this study were limited to students at one university in Korea, more empirical studies should be conducted in different cities and regions to ensure more universal validity of this concept model.

Furthermore, the study can be expanded to a greater variety of sample groups, such as children, youths, adults, and the elderly. These attempts will allow variations in the measuring concepts for place attachment to the home environment to be found according to the human developmental stage. To formulate housing policies pertaining to multi-cultural families or to residential district revitalization efforts, place attachment research is needed. For instance, comparisons of place attachments between diverse pairs of groups such as locals and immigrants; natives and outsiders; and domestic students and foreign students would be beneficial to develop housing policies accommodating a diversity of housing needs. Especially, comparisons between domestic and foreign students would be useful in planning and designing college dormitories. Whether or not there are variations, the experiments would help discover the ultimate meaning of a home.

References

1) Chawla, L. (1992). Childhood place attachment. In I. Altman and S. Low (Eds) Place attachment (pp.63-85). New York: Plenum.
2) Chatterjee, S. (2005) Children's friendship with place: a conceptual inquiry. Children, Youth and Environment, 15, pp.1-26.
3) Choi, B., Kim, S. and Allen, A. (2011) Place attachment to home environments: focusing on U.S. and Korean college students. Housing and Society, 38(2), pp.169-190.
4) Choi, B. and Kim, S. (2011). The effects of place attachment to childhood home to the housing satisfaction. Journal of the Korean Housing Association, 22(2), pp.111-120.
5) Choi, B., Lee, J. and Han, Y. (2010) The relationship between childhood and collegehood place attachment to home environment for college students. Korean Journal of Human Ecology, 19(5), pp.905-918.
6) Devine-Wright, P. (2014) Dynamics of place attachment in a Climate changed world. In L. C. Manzo and P. Devine-Wright (Eds), Place attachment: advances in theory, methods and applications (pp.165-177). London and New York: Routledge.
7) Dovey, K. (1978). Home; an ordering principle in space. Landscape, 22(2), pp.27-30.
8) Droseltis, O. and Vignoles, V. (2010) Towards an integrative model of place identification: dimensionality and predictors of intrapersonal-level place preferences. Journal of Environmental Psychology, 30, pp.23-34.
9) Giuliani, M. (2003) Theory of attachment and place attachment. In M. Bonnes, T. Lee, and M. Bonaiuto (Eds) Psychological Theories for Environmental Issues (pp.137-170). Aldershot: Ashgate.
10) Hammitt, W., Backlund, E. and Bixler, R. (2006). Place bonding for recreation places: conceptual and empirical development. Leisure Studies, 25, pp.17-41.
11) Harris, P., Brown, B. and Werner, C. (1996) Privacy regulation and place attachment: predicting attachment to a student family housing facility. Journal of Environmental Psychology, 16, pp.287-301.
12) Hernández, B., Hidalgo, M. and Ruiz, C. (2014) Theoretical and Methodological Aspects of Research on Place Attachment. In L. C. Manzo and P. Devine-Wright (Eds), Place attachment: advances in theory, methods and applications (pp.125-138). London and New York: Routledge.
13) Hernández, B., Hidalgo, M., Salazar-Laplace, M. Hess, S. (2007) Place attachment and place identity in natives and non-natives. Journal of Environmental Psychology, 27, pp.310-319.
14) Huh, Y., Hong, H. and Lee, H. (2011). Analysis of the residential satisfaction of SHift. Proceeding of Spring Annual Conference of Korean Housing Association, 1, pp.256-230.
15) Izard, C. and Kobak, R. (1991) Emotions system functioning and emotion regulation. In J. Garber and K. Dodge (Eds) The Development of Emotion Regulation and Dysregulation (pp.303-321). Cambridge, UK: Cambridge University Press.
16) Jorgensen, B. and Stedman, R. (2006) A comparative analysis of predictors of sense of place dimensions: attachment to, depended on, and identification with lakeshore properties. Journal of Environmental Management, 9, pp.316-327.
17) Kang, H. and Kim, M. (2010). Priority of residential choice and housing satisfaction among studio-type multi-family housing dwellers in the city of Gwangju. Journal of the Korean Housing Association. 21(3). pp.11-21.

18) Kim, M. and Oh, J. (2008). University students' housing satisfaction of the university dormitory. Journal of the Korean Housing Association, 19(6), pp.145-155.
19) Kopec, D. (2012) The environment called home. Environmental Psychology for Design. 2nd edition. Canada: Fairchild Books.
20) Korpela, K. (1989) Place-identity as a product of environmental self-regulation. Journal of Environmental Psychology, 9, pp.241-256.
21) Kyle, G., Graefe, A. and Manning, R. (2005). Testing the dimensionality of place attachment in recreational settings. Environment and Behavior, 37, pp.153-177.
22) Kyle, G., Graefe, A., Manning, R. and Bacon, J. (2004a) Effects of place attachment on users' perceptions of social and environmental conditions in a natural setting. Journal of Environmental Psychology, 24, pp.213-255.
23) Kyle, G., Mowen, A. and Tarrant, M.(2004b) Linking place preference with place meaning: an examination of the relationship between place motivation and place attachment. Journal of Environment Psychology, 24, pp.439-454.
24) Lee, J., Choi, B., Han, J. and Han, Y. (2009) Development and validation of place attachment to childhood home scale. Korean Journal of Child Studies, 30(6), pp.549-566.
25) Lewicka, M. (2011a) On the variables of people's relationships with places: Hummon's typology revisited. Environment and Behavior, 43(5), pp.676-709.
26) Lewicka, M. (2011b) Place attachment: How far have we come in the last 40 years? Journal of Environmental Psychology, 31, pp.207-230.
27) Low, S. and Altman, I. (1992) Place attachment: a conceptual inquiry. In I. Altman and S. Low (Eds), Place Attachment (pp.1-12). New York: Plenum Press.
28) Manzo, L. C. and Devine-Wright, P. (2014). Place attachment: advances in theory, methods and applications. London and New York: Routledge.
29) Molcar, C. (2006). The relationship of place attachment to spiritual well-being across the lifespan. Unpublished doctoral dissertation. Dept. of Graduate Psychology, Seattle Pacific University, Seattle, WA.
30) Raymond, C. M., Brown, G. and Weber, D. (2010) The measurement of place attachment: personal, community, and environmental connections. Journal of Environmental Psychology, 30, pp.422-434.
31) Rubenstein, R. and Parmelee, P. (1992) Attachment to place and the representation of the life course by elderly. In I. Altman and S. Low (Eds) Place attachment (pp.139-163). New York: Plenum.
32) Scannell, L. and Gifford, R. (2010). Defining place attachment: a tripartite organizing framework. Journal of Environmental Psychology, 30, pp.1-10.
33) Shenk, D., Kuwahara, K. and Zablotsky, D. (2004) Older women's attachments to their home and possessions. Journal of Aging Studies, 18, pp.157-169.
34) Shumaker, S. A. and Taylor, R. B. (1983) Toward a classification of people place relationships: a model of attachment to place. In N. R. Feimer and E. S. Geller (Eds), Environmental Psychology: Directions and perspectives (pp.219-251). New York: Praeger.
35) Stedman, R. (2002) Toward a social psychology of place. Environment and Behavior, 34(5), pp.561-581.
36) Stokols, D. and Shumaker, S. A. (1981) People in places: a transctional view of settings. In J. Harvey (Ed), Cognition, Social Behavior, and the Environment (pp.441-488). Hillsdale, NJ: Erlbaum.
37) Tabernero, C., Briones, E. and Cuadrado, E. (2010) Changes in residential satisfaction and place attachment over time. Psychology, 1(3), pp.403-412.
38) Taylor *et al.* (1985). Attachment to place: discriminant validity, and impacts of disorder and diversity. American Journal of Community Psychology, 13(5), pp.525-542.
39) Williams, D. Z and Vaske, J, J. (2003) The measurement of place attachment: validity and generalizability of a psychometric approach. Forest Science, 49, pp.830-840.