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Exploring the Association Between Length of Residence and Community Attachment: A Research Note*

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ABSTRACT Empirical examinations of the systemic model of community attachment have emphasized the relative importance of certain sociodemographic factors. Among them, length of residence generally has been viewed as the key variable influencing attachment to one's community. Despite the vast number of articles documenting the main effects of length of residence on community attachment, no published papers investigating the interactions between length of residence and additional important systemic-model and/or community-level predictors were uncovered in the literature. Using data collected in a general population survey from a random sample of individuals in two rural communities in Texas, I explore the main effects of length of residence and the interactive effects between length of residence and age, gender, education, income, and community of residence on community attachment. Findings indicate that the way length of residence relates to certain measures of community attachment depends upon the age of an individual. Possible implications of the findings are advanced, as are suggestions for future research.

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Contemporary studies of community attachment commonly root to Kasarda and Janowitz's (1974) article entitled "Community Attachment in Mass Society." Following Kasarda and Janowitz's work on community attachment, the literature generally has clustered under two broad theoretical perspectives. Kasarda and Janowitz (1974: 328) termed one theoretical perspective the linear development model "because linear increases in the population size and density of human communities are assumed to be the primary exogenous factors influencing patterns of social behavior." This model, also termed determinist or Wirthian theory (see Fischer 1976; Goudy 1990; Palisi and Canning 1986; Tittle 1989), is associated with the writings of Tönnies ([1887] 1957), Durkheim ([1893] 1984), Simmel ([1903] 1950), Redfield (1930, 1941, 1947, 1950), and Wirth (1938).

The other theoretical perspective, generally known as the systemic model, is traceable to the work of several Chicago school sociologists (Park and Burgess 1921; Park, Burgess and McKenzie 1967; Thomas 1967). This early ecological framework derived primarily from the direct experiences of these authors with the rapid changes of urban Chicago. Under the systemic (or compositional model, see Fischer 1976; Palisi and Canning 1986; Tittle 1989), the local community, although affected by the structure of mass society, is viewed "as a complex system of friendship, kinship, and associational networks into which new generations and new residents are assimilated while the community passes through its own life-cycle" (Kasarda and Janowitz 1974: 328).

Much of the recent work on community attachment has involved testing hypotheses derived from these two models. An overwhelming majority of the literature on community attachment favors the systemic model of attachment, or a slight variation thereof, over the linear development model (Beggs, Hurlbet and Haines1996; England and Albrecht 1984; Fischer 1982; Gerson, Stueve and Fischer 1977; Goudy 1990; Hunter 1974; Kasarda and Janowitz 1974; Oxley, Barrera and Sadalla 1981; Riger and Lavrakas 1981; Sampson 1988; Stinner et al. 1990; but see also Buttel, Martinson and Wilkenson 1979; Theodori and Luloff 2000; Zollinger 1994). Like the urban ecological literature which focuses on the aggregate sociodemographic characteristics of individuals,

much of the systemic-model attachment literature concentrates on amassed sociodemographic measures.

Empirical investigations of the systemic model have examined the effects of several objective and subjectively perceived variables. Findings from these studies show that attachment to the community is influenced by a vast array of factors, such as home ownership, race, income, number of children living at home, age, level of education, social interactions, marital status, presence of children, ages of children, and religious status. Another factor that has been shown to be relatively important is length of residence in the community (Austin and Baba 1990; Brown 1993; Goudy 1990; Kasarda and Janowitz 1974; St. John, Austin and Baba 1986; Theodori and Luloff 2000). Length of residence, as Kasarda and Janowitz (1974: 330) asserted, can be viewed as "the key factor influencing community behavior and attitudes." They stated that "length of residence plays a far more important role in assimilation into the social fabric of local communities than does population size, density, social class, or stage in life-cycle" (1974:336-338).

Despite the considerable number of social scientists who have documented the main effects of length of residence on community attachment, none have reported any interactions between length of residence and additional important systemic-model and/or community-level predictors. The purpose of this research note is very specific. Here, the main effects of length of residence and the interactive effects between length of residence and age, gender, education, income, and community of residence on community attachment are empirically explored.

Data

Data were collected in a general population survey from a random sample of individuals in two communities located in west Texas. The communities selected for indepth study included Stanton (located in Martin County) and Sanderson (located in Terrell County) (see Figure 1). In May of 2001, interviews were conducted with eight key informants in each study site to help identify timely and salient local social, economic, and environmental issues. The data gathered in the key informant interviews assisted in the development of a household questionnaire that asked specific questions

about local issues and also inquired into a variety of topics, such as community attachment.

Following a modified total design method (Dillman 1978), questionnaire data were gathered using mail survey techniques. During the spring of 2002, the survey questionnaire was mailed to a randomly selected sample of 498 households in Stanton and to all 423 residential addresses on file with the United States Post Office located in Sanderson.[1] To obtain a representative sample of individuals within households, a response from the adult with the most recent birthday was requested. The survey instrument, organized as a self-completion booklet, contained 38 questions and required approximately 40 minutes to complete. After the initial survey mail-out, a postcard reminder, and two follow-up survey mailings, a 46 percent response rate was achieved. Overall, this resulted in 428 completed questionnaires between the two sites.

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[1] In January of 2002, an informational letter was first mailed to a randomly selected sample of 500 households in Stanton and to the 423 residential addresses in Sanderson. The informational letter, which was printed in English on one side and Spanish on the other side, informed residents that their household was randomly selected for participation in an upcoming community study. Moreover, the letter indicated that although participation in the study would be entirely voluntary, completion and return of the questionnaire would automatically enter their household into a drawing for $200.00. Included with the letter was a pre-paid addressed postcard. Residents were instructed to return the postcard if they preferred to receive a copy of the questionnaire printed in Spanish. Instructions on the postcard were printed in both English and Spanish. One household in Stanton and one in Sanderson asked for and received a copy of the questionnaire in Spanish.

Eleven of the 500 initial informational letters were returned as undeliverable from the Stanton site. Those eleven households were replaced with randomly selected new addresses. Two of the eleven were returned as undeliverable; they were not replaced. Hence, the sample size was 498 in Stanton.

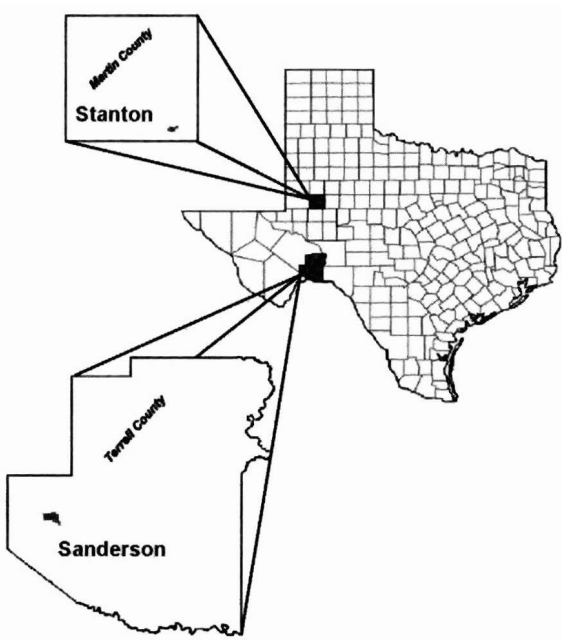

Figure 1: West Texas Study Sites

Measurement

Community Attachment

In previous research, items measuring sentiments and local social bonds have typically been used to capture attachments to the community (Connerly and Marans 1985; Goudy 1977, 1990; Kasarda and Janowitz 1974; Riger and Lavrakas 1981; Theodori and Luloff 2000; Theodori 2001). Similar items were used as measures of community attachment in this paper. One item read: "Some people feel their community is a real home to them, while others feel it is just a place where they happen to live." Respondents were asked to

circle a number between 1 (It is just a place to live) and 7 (It is a real home) that corresponded to how they feel about their community. A second measure was a multi-item index composed of eleven items. Respondents were asked to respond to the following statements: (a) "Overall, I am very attached to this community;" (b) "I feel like I belong in this community;" (c) "The friendships and associations that I have with other people in this community mean a lot to me;" (d) "If the people in this community were planning something, I'd think of it as something WE were doing rather than THEY were doing;" (e) "If I needed advice about something, I could go to someone in this community;" (f) "I think I agree with most people in this community about what is important in life;" (g) "Given the opportunity I would move out of this community;" (h) "I feel loyal to the people in this community;" (i) "I plan to remain a resident of this community for a number of years;" (j) "I like to think of myself as similar to the people who live in this community;" (k) "The future success of this community is very important to me." Response categories included (1) strongly agree, (2) agree, (3) disagree, and (4) strongly disagree. After reverse coding of items "a" through "f" and items "h" through "k," a composite community attachment score was calculated by averaging the scores for the individual items. High scores reflected high levels of community attachment; low scores indicated low levels. A principal-axis factor analysis with oblique rotation revealed that these measures of community attachment were unidimensional and explained 55 percent of the variance; Cronbach's alpha for this scale was 0.93. Lastly, a third item measured social bonds by asking respondents whether or not they (1) strongly disagreed, (2) disagreed, (3) agreed, or (4) strongly agreed with each of the following items concerning their family members and/or friends: (a) "I know enough people to help me with tasks or errands"; (b) "I know someone who will take care of my house while I am away"; (c) "If I am sick, I have someone to care for me"; and (d) "If I need a ride to some place, I have someone to take me." A composite social bonds score was calculated by averaging the scores for the individual items. High scores reflected high levels of social bonds; low scores indicated low levels. The first two measures primarily tap sentimental or affective attachments to the community, while the third item refers to social attachment or bonding.

Table 1. Descriptive Statistics.[a]

Measures	Mean	SD	Min	Max
Community Attachment				
Social bonds	3.3043	0.6751	1	4
Feel like the community is a real home	5.7065	1.7619	1	7
Multi-item community attachment scale	3.0604	0.6631	1	4
Independent Variables				
Length	29.0937	21.8123	0.50	91
Age	53.3230	16.2406	19	99
Gender (1 = female)	0.5745[b]	0.4952	0	1
Education	2.8602	1.2339	1	5
Income	4.9689	2.8216	1	10
Control Variable				
Community of residence (1 = Stanton)	0.5248[b]	0.5002	0	1

[a] A listwise deletion reduced the sample to 322 cases.
[b] Indicates the proportion associated with the reference category (i.e., proportion of responses coded as 1).

Independent and Control Variables

Length of residence in the community, measured in years, was the primary independent variable of interest in this paper. Age, gender, education, and income were also included as independent variables. Age was measured in years. Gender was dummy coded (1 = female). Education was scored as (1) less than high school, (2) high school equivalent, (3) some college, (4) college graduate, and (5) training beyond college. Income was measured by 10 categories, ranging from (1) less than $9,999 to (10) $90,000 or more.

Community of residence was dummy coded to indicate in which site the respondent lived (1 = Stanton). This measure was included as a control to account for any differences that existed between the two sites with respect to levels of community attachment.

Table 1 provides descriptive statistics for the variables used in the analyses.

Procedures and Results

The association between length of residence and community attachment was assessed using bivariate and multivariate ordinary least squares (OLS) regression techniques. The OLS regression results are reported in Tables 2, 3, and 4. In each Table, Model I included only the regression of the respective community attachment measure on length of residence. This procedure revealed the bivariate effects of length of residence on the measures of community attachment. Model II revealed the regression of each community attachment measure on length of residence and the other independent and control variables. This step displayed the net effects of length of residence, age, gender, education, income, and community of residence on the respective measures of community attachment. Two-way interaction terms were then created between length of residence and each of the independent and control variables (i.e., length x age; length x gender; length x education; length x income; and, length x community of residence) and checked for statistical significance. Nonsignificant interaction terms were removed one at a time. All interaction terms that reached statistical significance were added to the equation (as shown in Model III of Tables 3 and 4). Finally, all equations containing statistically significant interactive effects were solved using selected values. Estimated community attachment scores are reported in Tables 5 and 6.

Because the independent and control variables were measured in different units, both metric regression coefficients (*b*) and standardized regression coefficients (B) are reported in each analysis. Although metric regression coefficients (*b*) do not allow for comparisons of the relative strength among indicator variables, they are necessary for retrieval of estimated scores. Conversely, standardized regression coefficients (B) do allow for comparisons of the relative effects of different explanatory variables because they rely upon standard deviations as common units of measure (Agresti and Finlay 1997). The explanatory power of each model was measured by the adjusted coefficient of multiple determination (the adjusted R^2). Adjusted R^2 is a modified measure of the multiple coefficient of determination (R^2) that adjusts for the number of predictor variables in the model (Neter et al. 1996).

Table 2. Regression of "Social Bonds."

	Model I		Model II	
Variable	*b*	B	*b*	B
Main Effects				
Length of residence	.0045*	.1445	.0056*	.1821
Age			-.0041	-.0986
Gender (1 = female)			.1041	.0764
Education			-.0438	-.0801
Income			.0471*	.1967
Community of residence (1 = Stanton)			-.0418	-.0309
Constant	3.1743**		3.2125**	
Adjusted R^2	.0178		.0481	

* p < .01; ** p < .001.

Table 3. Regression of "Feel Like the Community is a Real Home."

	Model I		Model II		Model III	
Variable	*b*	B	*b*	B	*b*	B
Main Effects						
Length of residence	.0290***	.3587	.0258***	.3192	.0626***	.7769
Age			.0049	.0454	.0211*	.1947
Gender (1 = female)			.4446*	.1250	.4951**	.1391
Education			-.1296	-.0907	-.1215	-.0851
Income			.0866*	.1387	.0824*	.1319
Community of residence (1 = Stanton)			.1666	.0473	.1083	.0307
Interaction						
Length x Age					-.0006*	-.5535
Constant	4.8635***		4.2911***		3.3631***	
Adjusted R^2	.1260		.1423		.1528	

* p < .05; ** p < .01; *** p < .001.

Table 4. Regression of "Multi-Item Community Attachment Scale."

	Model I		Model II		Model III	
Variable	*b*	B	*b*	B	*b*	B
Main Effects						
Length of residence	.0093***	.3058	.0065**	.2137	.0257***	.8456
Age			.0041	.0996	.0125**	.3057
Gender (1 = female)			.1609*	.1202	.1871**	.1397
Education			-.0851*	-.1583	-.0809*	-.1505
Income			.0361*	.1536	.0339*	.1442
Community of residence (1 = Stanton)			.0324	.0244	.0206	.0016
Interaction						
Length x Age					-.0003**	-.7641
Constant	2.7899***		2.6091***		2.1269***	
Adjusted R^2	.0907		.1151		.1375	

* p < .05; ** p < .01; *** p < .001.

Length of Residence Only (Model I)

As shown in Model I of Tables 2, 3, and 4, the bivariate relationships between length of residence and each measure of community attachment were positive and statistically significant. This indicated that long-term community residents were more likely than their short-term counterparts to have greater social and sentimental attachments to their community.

Introducing the Independent and Control Variables (Model II)

The addition of the systemic-model variables and the community of residence measure resulted in very little change to the regression coefficients for length of residence. As indicated in Model II of Tables 2, 3, and 4, holding constant the effects of age, gender, education, income, and community of residence, length of residence remained positive and statistically significant.

Introducing the Interaction Terms (Model III)

All two-way interactions between length of residence and the independent and control variables failed to reach statistical significance with respect to the social bonds measure of community attachment (Table 2). Thus, the final equation (Model II) in Table 2 revealed that length of residence and income were both positively and significantly related to levels of social bonds within the community. Long-term residents and those with greater incomes were more likely than their opposites to have higher levels of social bonds. Concomitantly, analyses from the two affective measures of community attachment uncovered a statistically significant interaction between length of residence and age (Model III of Tables 3 and 4).[2] This interactive effect is illustrated below in Tables 5 and 6. Before proceeding, though, it is important to note that the final regression results (Model III of Tables 3 and 4) also revealed that income was positively and significantly associated with both sentimental measures of community attachment. Individuals with greater incomes were more likely than those with lesser incomes to feel like their community is a real home (Table 3) and score higher on the multi-item attachment index (Table 4). Females were significantly more likely than males to feel like their community is a real home (Table 3) and report higher levels of overall attachment (Table 4). Lower educated individuals were significantly more likely than their higher educated counterparts to view their community as a real home (Table 3).

Estimating the Interactive Effects

The two equations containing statistically significant interaction terms were solved using selected values for length of residence and age. The remaining variables in the models (i.e., gender, education, income, and community of residence) were set equal to their mean values. Estimated scores for the sentimental measures of community attachment are reported in Tables 5 and 6.

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[2] The model improvement F statistics (Agresti and Finlay 1997) indicated that the introduction of the interaction terms in Tables 3 and 4 significantly improved the explanatory power of Model III over Model II.

Table 5. Estimate Scores for "Feel Like the Community is a Real Home."

Length	Age				
	25 years	35 years	45 years	55 years	65 years
5 years	4.53	4.71	4.89	5.08	5.26
10 years	4.77	4.92	5.07	5.22	5.37
15 years	5.01	5.13	5.25	5.37	5.49
20 years	5.25	5.34	5.43	5.52	5.61

Table 6. Estimated Scores for "Multi-Item Community Attachment Scale."

Length	Age				
	25 years	35 years	45 years	55 years	65 years
5 years	2.59	2.70	2.81	2.92	3.03
10 years	2.68	2.77	2.87	2.96	3.06
15 years	2.77	2.85	2.93	3.01	3.09
20 years	2.86	2.92	2.99	3.05	3.12

As shown in both tables, the way length of residence related to the two affective measures of community attachment depended upon age. For younger and older persons alike, length of residence was positively related to community attachment. In other words, regardless of age, as an individual's duration of residence in a community increased, his/her view of the community as being a real home and score on the multi-item attachment scale also increased. The interactive effect between length of residence and age is manifested in the differing amounts of increase in the estimated community attachment scores for younger and older individuals. For younger individuals, the estimated community attachment values started low and increased relatively quickly with more years in the community. For older folks, the estimated community attachment scores started relatively high (higher than that for younger individuals) and increased somewhat slower (slower than that for younger individuals).

Summary and Implications

The purpose of this research was to empirically explore the main effects of length of residence and the interactive effects between length of residence and important community-level and systemic-model predictors on three measures of community attachment. Length of residence had a direct, significant main effect on the social bonds measure of attachment to the community. However, with respect to the two affective items, the way length of residence related to community attachment depended upon the person's age. As noted above, failure to check for statistical interactions would have led to somewhat misleading conclusions about the effects of length of residence on these measures of community attachment.

The findings of this study have important implications for future theoretical developments and empirical analyses in the area of community attachment. As stated earlier, much of the previous research on community attachment has involved testing hypotheses derived from the linear development and systemic models. Most of the literature on community attachment favors the systemic model of attachment, or a slight variation thereof, over the linear development model. Within the prevailing systemic model, length of residence has been viewed as a crucial factor responsible for creating and maintaining attachments to the local community. A common background assumption, or sub-theoretical belief, often espoused by researchers who subscribe to the systemic model is that greater time in a community produces positive local affective and social attachments. The results reported here do not discount that assumption. The role that length of residence plays in the production of positive local affective and social attachments is clearly evidenced here. What these data do suggest, however, is that the way or extent to which length of residence produces positive attachments to the community may, in fact, differ depending upon the level or value of other variables. Additional research examining the interactions between length of residence and other community-level and systemic-model indicators of community attachment is warranted. Knowledge about such interactions would be of vital interest to both community theorists and community development practitioners.

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