REPOSITIONING IDENTITY IN CONCEPTUALIZATIONS OF HUMAN-PLACE BONDING

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Abstract.—In this investigation, we adapted identity theory to reassess place attachment, a multidimensional concept with cognitive, affective, and conative elements. We hypothesized that the cognitive component—place identity—is an antecedent of the affective and conative facets of place attachment. We empirically tested this reconceptualization using data from a wildland-urban interface survey conducted in San Diego (n = 729) and Los Angeles (n = 929), CA. Analyses of both data sets provided strong support for our reconceptualization of the place attachment construct and its associated measures. We suggest that identification processes are a driver of other affective and conative elements of place attachment, rather than existing on the same temporal plane.

1.0 INTRODUCTION

Scholars in several fields use the construct of place attachment to describe the phenomenon of human-place bonding. Their work shows that through interaction a place can become important to a person as an object of attachment. Place attachment often emerges as a person endows a space with meaning and value (Relph 1976, Milligan 1998). Most conceptualizations of place attachment broadly consider the construct a multidimensional phenomenon consisting of cognitive, affective, and conative elements (Low and Altman 1992, Jorgensen and Stedman 2001). The affective element refers to emotional attachments to place whereas the cognitive element is generally conceptualized in terms of place identity that links the physical environment to self-conceptualizations (Kyle et al. 2004). The conative element is operationalized in terms of two dimensions: place dependence and social bonding (Kyle et al. 2004). Place dependence indicates how well a setting serves goal achievement given an existing range of alternatives. Social bonding refers to the social bonds that people share and associate with a specific place. Identity theory in social psychology suggests that the cognitive component (place identity) is central to the meanings and sentiments people ascribe to places and to conative actions in spatial contexts.

In social psychology, the central premise of identity theory is that identity is a primary motivator of individual behavior (Stryker and Serpe 1982; Burke 1989a, 1989b; Burke and Reitzes 1991; Stets and Burke 1996, Stets 1997). Since identity comprises a set of meanings defining who one is, this set of meanings serves as a standard or reference for a person in her or his evaluations of behavioral choices (Stets and Burke 2003). The work of Burke and his associates (Burke et al. 1988; Burke 1989a, 1989b, 2003) illustrates that a person acts in a self-regulatory manner with the goal of achieving consistency between the meanings associated with one's identity and meanings of the self in any given situation. Identities are "verified" when the self-in-situation meanings match the meanings held in the identity (i.e., self-verification).

Identity theorists have noted that self-verification arouses positive emotions and sentiment (Smith-Lovin 1995, Burke and Stets 1999, Stets and Tsushima 1999). For instance, Burke and Stets' (1999) longitudinal study of married couples showed that the confirmation of spousal identity produced positive self-feelings (e.g., competence, self-esteem, happiness, and satisfaction). The strength of an emotion is a function of how important an identity is; more important identities generate stronger emotion (Stryker 1987; Burke 1991, 1996; Burke and Stets 1999; Stets 2003). Thus, in the context of place attachment, places central to an individual's sense of self are more likely to be endowed with value and sentiment.

Individuals participate actively in the self-verification process (Sampson 1978, Leary et al. 1986, Burke and Reitzes 1991). People learn which behaviors help them achieve congruence between identity and meanings of the self in a situation (Burke and Reitzes 1991). People develop and stabilize patterns of actions (in leisure or work) and group relations (with friends and family) that repetitively verify their identity. In this way, the contexts and spatial settings that facilitate such behaviors and social ties are valued to the extent that individuals are committed to their identities. The verification of place identities evolves through place interaction, often in the context of activity-specific behaviors and in the presence of significant others. These interactions further affirm individual ties to place.

Based on this literature, we hypothesized that place identity (the cognitive component) is an antecedent of the other (affective and conative) facets of place attachment.

2.0 METHODS

2.1 Data Collection

For this investigation, we used data from a larger study of the public's perceptions of wildfire management in the wildland-urban interface near the Cleveland, Angeles, and Los Padres National Forests (NF) near Los Angeles and San Diego in southern California. We began by using ArcGIS (ESRI, Redlands, CA) to create half-mile buffers around each NF and selecting census tracts that intersect with the buffers. We then selected names and address of residents (N = 4,564) in the target census blocks from lists provided by a commercial research company. We aimed to get a mix of residents whose homes varied in proximity to the wildland-urban interface and whose communities varied in how recently they had experienced a wildland fire event. A modified Dillman (2000) procedure was used with four contacts: (1) initial introductory letter explaining the purpose of the investigation and drawing respondents' attention to the survey instrument that would be arriving in the coming weeks; (2) cover letter, survey, and return postage-paid envelope; (3) a postcard reminder; and (4) a second cover letter, survey, and return postage-paid envelope sent to nonrespondents. This sampling procedure yielded 1,653 completed surveys for a 36.2 percent response rate.

2.2 Measures

Place attachment was measured using items adapted from Kyle et al.'s (2004) place attachment scales. The 11 items measured four dimensions: *place identity, affective attachment, place dependence*, and *social bonding*.

3.0 RESULTS

3.1. Sample Characteristics

Respondents were divided into two groups: people from the Los Angeles area and people from the San Diego area. The socio-demographic profile of respondents is in Table 1. For both groups, respondents were mostly white (San Diego = 91 percent; Los Angeles = 87 percent), older (San Diego and Los Angeles = average 61 years old), and male (San Diego = 61 percent; Los Angeles = 68 percent). They were generally well-educated (San Diego = average 15 years of education; Los Angeles = average 16 years), with annual household incomes in excess of $60,000 (San Diego = 61 percent; Los Angeles = 68 percent).

3.2. Model Testing

Our analyses tested the measurement properties of the place attachment scale in addition to our hypothesized structure (i.e., place identification processes that drive other affective and conative outcomes). We tested both the scale's measurement properties and structural relations using data drawn from the two spatial contexts. Our model-testing procedure began with an examination of the measurement model (confirmatory factor analysis in LISREL version 8.5 [Scientific Software International, Inc., Lincolnwood, IL]), which examined the suitability of our hypothesized factor structure for these data. For both groups, the fit indices (San Diego, χ^2 = 177.77, df = 36, RMSEA = .071, NNFI = .984, CFI = .989; Los Angeles, χ^2 = 197.17, df = 36, RMSEA = .069, NNFI = .984, CFI = .990) for the model and the tests of internal consistency (all $\alpha \approx .70$)[1] indicated that the model satisfactorily fit the data (see Table 2). Following

[1]Nunnally (1978) suggests that Cronbach's alpha coefficients equal to or greater than 0.70 are acceptable.

Table 1.—Sample demographics

Indicator	San Diego (*n* = 729)	Los Angeles (*n* = 929)
Gender *n* (%)		
Male	445 (61.0)	627 (67.5)
Female	275 (37.7)	291 (31.3)
Age (*M* years, *SD*)	61.4 (13.47)	61.8 (13.5)
Education (*M* years, *SD*)	15.4 (2.64)	16.3 (2.7)
Income *n* (%)		
Under $20,000	24 (3.3)	35 (3.8)
$20,000 - $59,999	176 (24.2)	178 (19.1)
$60,000 - $99,999	186 (25.5)	230 (24.7)
$100,000 - $139,999	139 (19.1)	166 (17.9)
$140,000 – 179,000	62 (8.5)	113 (12.2)
$180,000 or more	60 (8.2)	122 (13.1)
Race/Ethnicity		
Hispanic	19 (2.6)	49 (5.3)
White	662 (90.8)	808 (87.0)
Asian American	3 (.4)	19 (2.0)
Black or African American	2 (.3)	13 (1.4)
Native Hawaiian or other Pacific Islander	21 (2.9)	12 (1.3)
American Indian or Alaskan Native	2 (.3)	2 (.2)

the establishment of a valid measurement model, we then tested the structural model (Anderson and Gerbing 1982). The final model indicated satisfactory model fit (San Diego, χ^2 = 177.77, df = 36, RMSEA = .071, NNFI = .984, CFI = .989; Los Angeles, χ^2 = 197.17, df = 36, RMSEA = .069, NNFI = .984, CFI = .990) (see Table 3).

Bollen (1989) referred to the procedure we used for model comparison across the two groups as invariance testing. Bollen (1989) also noted that testing for model comparability across groups is a matter of degree in that the researcher decides which parameters should be tested for equality across groups and in what order these tests should be made. The hierarchy of invariance[2] employed in this study involved the testing of increasingly restrictive hypotheses concerning equality between the two samples in terms of:

H_1: equality of structure - examines the suitability of a four-factor solution across the two groups;

H_2: equality of scaling - examines the similarity in the pattern of factor loadings among the groups; and

H_3: equality of structural coefficient estimates - examines the similarity of the regression paths for groups.

These hypotheses were tested sequentially by constraining the relevant elements of the model to be equal across groups. The effect of these constraints was examined using the χ^2 difference test (Byrne 1998). In essence, these tests establish the degree to which our conceptualization of place attachment applies in different spatial contexts.

Table 3 presents a summary of the analysis. The first test examined the form of the factor solution (H_1) across the two groups. The models were hypothesized to have the same pattern of fixed and free values in the matrices containing factor loadings, structural coefficients, and the variance/covariance matrices. Non-fixed parameters were not restricted to have the same value across groups in this first test. The fit of this unconstrained model was considered adequate (χ^2 = 374.96, df = 72, RMSEA = .070, NNFI = .984, CFI = .990). This unconstrained model served as a point of comparison for the second test (equality of scaling) discussed below.

In our second test (H_2), the factor loadings were constrained to be equal across the two groups (Marsh and

[2]For a more detailed discussion of invariance testing, see Bollen (1989) or Byrne (1998).

Table 2.—Confirmatory factor analysis, internal consistency, and item descriptive

		San Diego (n = 729)					Los Angeles (n = 929)				
		α	*M*	*SD*	Factor Loadings	*t*-value	α	*M*	*SD*	Factor Loadings	*t*-value
Place Identity		.92					.90				
PI_1	I feel the National Forest is a part of me		3.04	.95	.90	--		3.12	.94	.90	--
PI_2	I identify with the National Forest		3.12	.93	.87	34.24		3.20	.91	.86	36.98
PI_3	I feel that my identity is reflected in the National Forest		2.92	.88	.84	31.90		2.90	.85	.84	34.16
PI_4	Visiting the National Forest says a lot about who I am		3.06	.86	.84	27.81		3.08	.82	.79	29.68
Place Dependence		.69					.73				
PD_1	I can't imagine a better place for what I like to do		2.88	.88	.83	--		3.20	.91	.88	--
PD_2	The National Forest is the best place for the recreation activities that I enjoy		3.19	.85	.65	17.26		3.12	.94	.65	18.13
Affective Attachment		.87					.85				
AA_1	The National Forest means a lot to me		3.63	.88	.91	--		3.08	.82	.91	28.71
AA_2	I really enjoy the National Forest		3.74	.83	.85	27.61		2.91	.85	.82	23.71
Social Bonding		.88					.88				
SB_1	I associate special people in my life with the National Forest		3.09	.95	.88	--		3.20	.91	.87	--
SB_2	The time spent on the National Forest allows me to bond with my family and friends		3.32	.94	.76	21.86		3.12	.94	.76	24.22
SB_3	Visiting the National Forest allows me to spend time with my family and friends		3.74	.83	.77	22.33		2.91	.85	.77	24.83
Fit index			χ2 = 177.77, df = 36 RMSEA = .071 NNFI = .984 CFI = .989					χ2 = 197.17, df = 36 RMSEA = .069 NNFI = .984 CFI = .990			

Note. Items measured on a 5-point scale, where 1 = Strongly disagree and 5 = Strongly agree.

Table 3.—Summary of cross-validation

Model	χ^2	*df*	$\Delta\chi^2$	Δdf	*RMSEA*	*NNFI*	*CFI*
Baseline							
Cleveland	177.77	36			.071	.984	.989
Angeles and Los Padres	197.17	36			.069	.984	.990
H_1- Form	374.96	72			.070	.984	.990
H_2- Invariant factor loadings	382.77	79	7.83	7	.067	.985	.990
H_3- Regression coefficients	386.97	82	4.20	3	.066	.986	.990

Grayson 1995). The fit of this model was compared with the fit of the model above that did not require this invariance (equality of structure). As shown in Table 3, the imposition of this constraint did not significantly impact the goodness-of-fit indices ($\Delta\chi^2 = 7.83$, Δ df = 7). Thus, the pattern of factor loadings was held constant across the two groups.

For the final test (H_3), equality constraints were placed on each element of beta matrix to test the equality of regression coefficients across two groups. Model fit was compared with the fit indices from the model tested above (H_2) and illustrated that this constraint did not significantly impair the model's fit to the data ($\Delta\chi^2 = 14.20$, Δdf = 3). This finding indicates that the latent structure tested in our hypothesized model was equivalent between the two groups.

3.3. Summary

These findings offer support for the hypothesized model, suggesting that the identity-related dimension would positively predict each of the place attachment dimensions. Specifically, the following relationships were observed in the final model (see Table 4):

a. *Place dependence* was positively predicted by *place identity* (β = .83, t = 35.12). *Place identity* accounted for 77 percent of the variation in *place dependence* for the San Diego data, and 63 percent of the variation for the Los Angeles data. Thus, the degree of self-identification with these national forests influenced respondents' dependency on the ability of the setting to provide or facilitate functional outcomes (e.g., leisure experiences).

b. *Affective attachment* was positively influenced by *place identity* (β = .77, t = 34.46) and accounted for 64 percent of the variance for the San Diego data and 65 percent of the variance in the Los Angeles data. Thus, the sentiment respondents associated with the setting was a product of the association between the physical environment and their self-conceptualization.

c. *Place identity* positively predicted *social bonding* (β = .80, t = 34.40). This dimension accounted for 64 percent of the variance in *social bonding* for the San Diego data and 65 percent of the variance for the Los Angeles data. This finding suggests that self-conceptualizations are closely intertwined with respondents' social ties.

Table 4.—Structural model analysis

Dependent variable	β	t-value	R^2	
			San Diego	Los Angeles
Place dependence	.83	35.12	.77	.63
Affective attachment	.77	34.46	.59	.60
Social bonding	.80	34.40	.64	.65

4.0 CONCLUSIONS

In this investigation, we adapted identity theory to reposition identity in the conceptualization of human-place bonding. Guided by tenets of identity theory, we proposed a revised causal structure of place attachment in which the cognitive component (place identity) precedes other affective and conative facets. Analyses of two datasets (San Diego and Los Angeles) provided strong support for our reconceptualization of the place attachment construct and its associated measures. In our results, all significant relationships demonstrated that place identity positively predicted the other dimensions (i.e., affective, place dependence, and social bonding). We therefore suggest that identification processes are a driver of other affective and conative elements. As a guide for future model testing, identity theory could provide researchers with a stronger theoretical base to construct hypotheses about the relationships between other leisure-related constructs, such as enduring involvement, commitment, loyalty, and specialization.

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