Journal of Environmental Psychology 23 (2003) 259–271

Journal of ENVIRONMENTAL PSYCHOLOGY

www.elsevier.com/locate/jep

Place attachment in a revitalizing neighborhood: Individual and block levels of analysis

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Received 11 February 2002; received in revised form 9 December 2002; accepted 10 December 2002

Abstract

Place attachments are positive bonds to physical and social settings that support identity and provide other psychological benefits. However, place attachments have been neglected as a potential strength in declining suburban neighborhoods. Hierarchical linear modeling analyses are used to examine attachment to the home and attachment to the block/neighborhood for over 600 residents of a neighborhood with a history of gradual decline. Results show that overall place attachment is higher for home owners, long-term residents, and non-Whites or Hispanics. Place attachment is also high for individuals who perceive fewer incivilities on their block, who have fewer observed incivilities on their property, who have lower fear of crime, and who have a higher sense of neighborhood cohesion and control (i.e. collective efficacy). Furthermore, blocks with more home owners, non-Whites or Hispanics, perceived and observed incivilities, and lower fear of crime have residents with higher overall place attachments. Differences between predictors of home and block/neighborhood attachment are discussed and place attachment is proposed as an underutilized tool for neighborhood revitalization.

Keywords: Place attachment; Housing; Neighborhood; Revitalization

1. Introduction

Neighborhood decline involves both social and physical aspects of decline, yet little is known about how decline relates to residents' bonds with home and neighborhood. Place attachments are profoundly disrupted when environments change rapidly, such as when floods or other environmental disasters strike (Brown & Perkins, 1992). Yet the more gradual process of neighborhood decline is likely to affect more residents and continue over longer periods of time (Fishman, 2000). The present study examines whether social and physical indicators of decline across a neighborhood relate to lower levels of place attachment. Specifically, the study tests whether residents' attachments to their homes and neighborhood relate to perceived and observed physical decline and incivilities, rental housing, crime fear and victimization, and low levels of social cohesion and control. If place attachment is related to social and physical indicators of decline then efforts to reverse decline require understanding and potential mobilization of place attachment bonds.

1.1. Defining place attachment and neighborhood decline

Place attachment involves dynamic but enduring positive bonds between people and prized sociophysical settings, such as homes (Brown & Perkins, 1992). These bonds reflect and help cultivate group and individual identity. Residential place attachments often translate into feelings of pride in the residential area and its appearance (Twigger-Ross & Uzzell, 1996) and a general sense of well-being (Harris, Werner, Brown, & Ingebritsen, 1995). Place attachments are nourished by daily encounters with the environment and neighbors, seasonal celebrations, continued physical personalization and upkeep, and affective feelings toward and beliefs about the home and neighborhood (Brown & Werner, 1985; Werner, Altman, Brown, & Ginat, 1993). Residential attachments promote and provide stability, familiarity, and security. Yet attachments also change as individuals and households develop, environments age, or the processes supported by settings alter. Many

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0272-4944/03/$ - see front matter
doi:10.1016/S0272-4944(02)00117-2

neighborhoods eventually decline, as housing stock and residents age, owned homes convert to rentals, and poor renters move in (Myers, 1983). Place attachments are often related to, but not determined by, changing housing and neighborhood conditions, as shown below.

Notable failures to secure quality housing and neighborhoods in the past have forced scholars and policy makers to acknowledge that good neighborhoods are not simple achievements. A classic case study of the urban renewal of Boston's West End showed that residents had strong place attachments and community viability, despite deteriorated housing (Fried, 1963). When forced out of their homes for urban renewal, West Enders grieved for years for lost homes and neighborhoods. Conversely, new high rise Pruitt-Igoe public housing in St. Louis, which was physically sound initially, did not invite place attachments or other commitments and the project rapidly deteriorated (Rainwater, 1970). Both examples, for different reasons, show the folly of equating good residential quality with strong residential bonds. Poor housing conditions may mask strong place attachments but reflect the declining physical and/or economic abilities of residents to maintain their housing. If these bonds exist and can be activated toward neighborhood improvement, then an understanding of place attachment may be important for neighborhood revitalization.

One study of severely distressed, landlord-abandoned housing in Harlem suggested place attachment was a key to revitalization. Revitalizing tenant groups were led by residents, usually older women, who felt attached to their neighborhood despite its poor physical condition (Saegert, 1989). They collected rent, arranged repairs, and persisted with bureaucracies to get needed improvements. Saegert believes place attachment provided a reservoir of motivation and commitment to sustain the time-consuming and often discouraging work of housing revitalization. Although in depth interviews revealed strong place attachments for the 37 tenant activists, the role of housing and neighborhood social and physical conditions in relation to place attachment merits broader confirmation.

The present study focuses on a declining first ring suburb, an understudied but important setting for relating place attachment to neighborhood conditions. Neighborhoods built in the first suburban ring around cities are declining physically and socially; experts have labeled deterioration of the first ring suburbs one of the ten most important problems facing cities in the US in the next 50 years (Fishman, 2000). In addition to problems of aging, their houses are often not large or modern enough to attract many new home buyers. In Harlem, residents were threatened by decline from landlord abandonment, an external disinvestment. First ring suburbs, in contrast, often have many home owners. When neighbors create disinvestment and decline, does this threaten place attachment? Or do residents tolerate or gradually adjust to physical decline, remaining attached in light of long tenure and social ties? Alternatively, does decline erode attachment selectively, perhaps lowering neighborhood attachment but not home attachment?

1.2. Connecting place attachment and neighborhood decline

Drawing from past research and theory, we expect place attachment relates to temporal and financial investments, social cohesion and control, and low fear of crime. These variables also are indicators of healthy neighborhoods (Cisneros, 1995; Schorr, 1997). Place attachment may gain more attention as a neighborhood strength if it can be shown to be related to, yet not redundant with, these important aspects of neighborhood viability.

1.3. Temporal and financial investments

With decline, residents who can afford to move may leave, stimulating vacancies, rental conversions, and high residential turnover (Myers, 1983). Some stay because they have no choice (Stokols & Shumaker, 1981). But many achieve high attachment with longer years of residence (Ahlbrandt, 1984; Sampson, 1989; Brown & Perkins, 1992; Taylor, 1996). Highly attached residents are often older (Lawton, 1990) and spend more time in the neighborhood (Fuhrer, Kaiser, & Hartig, 1993).

Home ownership also represents an investment that predicts both neighborhood quality and place attachment (Taylor, 1996). Home owners, compared to renters, stay longer and invest more money in housing (Rohe & Stewart, 1996), know more neighbors (Fischer, 1982), participate more in community groups (Rossi & Weber, 1996), and are less likely to leave poor neighborhoods (South & Crowder, 1997). Short-term renters may have fewer rich and rewarding associations from the past to motivate the efforts needed to bring neighborhoods back from the brink of failure. Thus, both home ownership and length of residence promote stronger place attachments.

1.4. Housing incivilities and decay

Poor housing upkeep and appearance relates to other social indicators of decline, such as residents wanting to move out of the neighborhood (Taylor, 1995). Physical incivilities, such as graffiti or litter, poor roofs and crumbling sidewalks are costly to fix and signal neighborhood financial disinvestment. They also constitute symbolic insults, suggesting that residents are not

in control of the neighborhood and that the social fabric of the community is eroding as well.

However, past research has shown that incivilities do not always signal lower place attachment. In Baltimore, neighborhood place attachments were higher in areas with more police-reported crime and rater-observed incivilities (Taylor, 1996) or were unrelated to incivilities and decay (Taylor, Shumaker, & Gottfredson, 1985). Perhaps high home attachments were a reaction to neighborhood decline, with home valued as a relatively safe haven in a dangerous area (Rainwater, 1970). Alternatively, place attachments may be especially strong and resilient in lower income or ethnic neighborhoods, given their relative isolation from larger society and wide range of supports they provide residents (Fried, 2000). Conversely, the opposite of incivilities—home personalization and maintenance—relates to strong place attachment bonds (Brown & Werner, 1985; Saegert, 1989; Werner, Peterson-Lewis, & Brown, 1989; Evans, Kantrowitz, & Eshelman, 2002). Despite opposing empirical claims, we posit that there is sufficient conceptual rationale to expect observed incivilities to predict lower place attachments both cross-sectionally and over time.

1.5. Perceived incivilities

Residents are less attached to neighborhoods perceived as physically disorderly (McGuire, 1997) or deteriorated (LaGrange, Ferraro, & Supancic, 1992). These findings also replicate when aggregated to the neighborhood level (Skogan, 1990). However, it is not known whether perceived incivilities relate to lower place attachments to home as well as block, given that bonds to homes are typically stronger (Hidalgo & Hernandex, 2001). Recall that past research (Rainwater, 1979) suggests that bonds to home are especially valued when the surrounding neighborhood is perceived to be declining and crime ridden. Therefore, perceived incivilities may erode neighborhood attachments but leave intact or strengthen home attachments.

1.6. Collective efficacy

Defined as a combination of social cohesion and social control, low collective efficacy relates to neighborhood decline, high residential turnover, and perceived and official rates of violent crime (Sampson, Raudenbush, & Earls, 1997). Friendly relations with neighbors relate to place attachments to the neighborhood (Sampson, 1989; Mesch & Manor, 1998). Neighborhood events and interactions that promote cohesion also allow residents to know and value the homes, sidewalks, parks, and shops that constitute the physical fabric of the neighborhood, potentially enhancing place attachment. Social control may also relate to place attachment. Brown (1987) theorized that control might be a prerequisite for residents to extend their sense of identity to the place. Strong investments in a place that is capricious and uncontrolled would threaten identity and self-esteem. One study revealed that place attachment to the neighborhood was related to collective efficacy, but attachments to home were not tested and block-level attachments might have been influenced by the presence of many formal block association groups (Perkins & Long, 2002). Collective efficacy may, however, promote even greater attachment to the home, if it is located in a cohesive and protective block context.

1.7. Fear of crime and past crime victimization

A key indicator of neighborhood decline is crime and fear of crime (Taylor, 1995). Fear of crime (or perception of too many neighborhood delinquents; Mesch & Manor, 1998) has been related to less neighborhood attachment (Taylor, Gottfredson, & Brower, 1984; Sampson, 1989). Fear of crime may keep residents away from neighborhood places and events, shrinking the boundaries of place attachment, perhaps eroding attachments to neighborhood more than to homes. The effects of fear of crime and victimization on home attachments have not received much empirical attention. Although home place attachments are typically stronger than neighborhood attachments, neighborhood based fear of crime may lead one to feel more vulnerable, eroding home attachments.

Past research and conceptualization demonstrate that place attachments can form for a variety of places that vary in geographic scale; both home and block attachments are likely appropriate scales for the study of attachment in declining neighborhoods. Both the psychological centrality of the home and the cultural and legal mechanisms in the US protecting the home suggest bonds to homes may be stronger than attachments to blocks or neighborhoods—a pattern of results found in Spain (Hidalgo & Hernandex, 2001). But block-level attachments are also important, given how frequent exposure to a small residential area and group can create a natural territorial group (Taylor, 1988, 1997). The effects of neighborhood decline may have its strongest effects closest to home, suggesting that variations across blocks are important to assess. Both the appearances of immediate neighbors' homes and their psychological bonds to home and block may influence a resident's attachment. Small block groups may also be easier to mobilize to counter decline if both attachments and decline vary across blocks. Most statistical examinations of place attachment cannot assess both individual and contextual predictors of attachment.

The present study utilizes hierarchical linear models that can assess variations across blocks and to detect

predictors of place attachments to the home and the block. Within this model, aspects of neighborhood decline, such as fear, lowered collective efficacy, residential transience and rental status, are used to predict lower place attachments. These predictors have not yet been combined in a single study, examined with both block and individual level predictors of a resident's attachment to both home and block, or tested for a declining suburban area. Finally, the present study is also goes beyond self-report to test whether systematically observed physical incivilities predict attachment cross-sectionally and longitudinally.

2. Methods

As part of a larger study of neighborhood revitalization that focused especially on home owners, the sampling frame for the neighborhood encompassed eight contiguous and socially similar census block groups, which were largely bounded by major roads or freeways (see Brown & Perkins, 2001, for details).

2.1. Neighborhood decline in the sample area

The target neighborhood had experienced decline according to a number of indicators. Census data from 1970 to 1990 indicate that household incomes in this area have decreased from $26,000 to $19,000 (in constant 1989 dollars), despite a city average that remained stable at about $29,000. The census block groups have an (unweighted) average of 29.43% in poverty compared with 16.4% city wide (Salt Lake City Corporation, 1993). Although single family detached houses comprise the majority of the housing stock, owner occupancy decreased from 68% in 1980 to 56.6% in 1990.

An increase in ethnic diversity involves young families, as school enrollment figures show that 42% of the student body are ethnic or racial minorities (Salt Lake City Corporation, 1994), compared to about 35% for the population at large. The neighborhood also has one of the worst reputations for, and reports of, crime in Salt Lake City. In sum, the neighborhood resembles a classic neighborhood in transition, with more transient housing conditions and poorer residents, reflecting the aging of long-term residents and the influx of younger ethnically diverse families.

2.2. Sampling and procedures

2.2.1. Sample selection

Within the sample area, a multi-stage cluster sampling procedure was developed to select residential properties to assess and households to interview. Eligible blocks had between 10 and 100 residential properties (which skipped sparsely settled blocks or those with large rental complexes). A total of 55 sample blocks were chosen with a probability proportionate to size procedure that enumerated households from the 1990 census, followed by random selection of a household, which then determined the chosen face block. In addition, four blocks were chosen at random from blocks within two blocks of a new housing intervention (the focus of a separate study[1]). The residents on these four oversampled blocks did not differ from surrounding residents on any variables in the present study so the samples were pooled. Once a block face was chosen, properties were selected on the block by starting with the lowest address, then selecting every third residence until at least 10 properties, if possible, were selected. The physical conditions of between 9 and 19 properties were studied per block, yielding 849 property assessments; between 7 and 15 interviews were completed per block, yielding 619 interviews.

2.2.2. Data collection procedures

The environmental assessment, conducted by pairs of trained raters, measured physical signs of housing decay or improvement (e.g. roof and paint conditions; yard maintenance, graffiti and litter; Brown & Altman, 1983; Perkins, Meeks, & Taylor, 1992). Neither a criss-cross nor electronic phone directory provided adequate coverage of the area, so they were supplemented by in-person home interviews. Spanish and English versions of the approximately half hour interview addressed perceptions of neighborhood social and physical fabric, among other issues. Of 930 initial contacts for interviews, 13.65% refused and 16.76% were unresolved (no one at home for eight or more contacts or no English or Spanish spoken). Thus 86.4% of English or Spanish speakers contacted provided interviews, whereas 69.6% of all addresses contacted yielded interviews.

2.3. Measures

Means and standard deviations and simple correlations for variables at the individual level and at the block level, are listed in Tables 1 and 2, respectively. Cronbach's coefficient α tests internal consistencies of multi-item composites. Composites involving different response metrics (such 2- vs. 10-point scales) were first z-transformed to allow comparable measures for averaging.

[1] The separate study tests whether proximity to a new 84-unit single family detached housing subdivision alters residents' experiences of revitalization or decline. Neither physical proximity nor psychological proximity (knowing about the development and defining it as part of one's own neighborhood) were related to any of the three measures of place attachments (all simple $rs < 0.065$), so these variables are dropped from further consideration.

Table 1
Individual level variables: means, standard deviations, and correlations

	Variable name	Description (range)	*N*	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11
1	T2paboth	Overall attachment (1–10)	617	7.41	1.99	1										
2	T2pr3w	Home attachment (1–10)	617	8.00	2.22	0.87**	1									
3	T2pahi4	Neighborhood attach. (1–10)	617	6.82	2.31	0.88**	0.55**	1								
4	T2yrsres	Years residence (0–79)	611	13.21	15.51	0.15**	0.15**	0.11**	1							
5	T2owner	Home owner (0–1)	615	0.75	0.44	0.24**	0.24**	0.18**	0.30**	1						
6	T2white	White, non-Hispanic (0–1)	604	0.62	0.49	−0.23**	−0.17**	−0.23**	0.29**	0.07	1					
7	T2samp	Collective efficacy (*z*, -1.19 to 1.18)	618	0.00	0.46	0.32**	0.19**	0.36**	0.11**	0.14**	0.06	1				
8	T2vic4	Past victimization (0–1)	616	0.48	0.50	−0.20**	−0.15**	−0.21**	−0.04	−0.04	0.09*	-.01	1			
9	Z2hciv8	Home incivilities (*z*, −0.87 to 2.42)	901	0.00	0.53	−0.27**	−0.34**	−0.13**	−0.20**	−0.15**	−0.14**	−0.11**	0.07	1		
10	Z2pciv10	Perceived incivilities (*z*, −0.93 to 1.43)	618	0.00	0.55	−0.33**	−0.19**	−0.38**	−0.04	−0.07	0.21**	0.01	0.36**	0.08	1	
11	T2rawf4	Fear of crime (1–4)	618	2.39	0.73	−0.25**	−0.14**	−0.29**	0.01	−0.05	0.13**	−0.13**	0.21 **	0.02	0.36 **	1
12	T2house	Detached house (0–1)	616	0.85	0.36	0.21 **	0.18 **	0.18 **	0.14**	0.46**	−0.01	0.10*	−0.00	−0.10*	−0.10*	−0.06
13	T2lds	LDS religion (0–1)	613	0.36	0.48	−0.02	0.03	−0.06	0.33**	0.15**	0.38**	0.11**	−0.01	−0.06	0.10*	0.10*
14	T2age	Age (18–96)	610	43.64	18.24	0.14**	0.12**	0.13**	0.71**	0.25**	0.34**	0.07	−0.10*	−0.21**	−0.09*	−0.07
15	T2female	Female (0–1)	597	0.66	0.47	0.04	0.02	0.04	−0.03	0.06	−0.02	−0.06	0.01	0.02	0.05	0.23**
16	T2inc	Income (1–19; 6 = $25,000–30,000)	536	6.12	3.61	−0.03	0.03	−0.08	−0.04	0.17**	0.03	0.16**	0.07	−0.15**	0.06	0.00

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

Table 2
Block level variables: means, standard deviations, and correlations ($n = 60$)

	Variable name	Description (range)	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	A2paboth	Overall attachment (1–10)	7.40	0.90	1														
2	A2pr3w	Home attachment (1–10)	7.99	0.88	0.93 **	1													
3	A2pahi4	Neighborhood attach. (1–10)	6.81	1.03	0.95 **	0.77 **	1												
4	A2yrsres	Years residence (0–79)	13.13	5.81	0.29 *	0.25	0.30 *	1											
5	A2owner	Home owner (0–1)	0.75	0.18	0.45 **	0.39 **	0.46 **	0.34 **	1										
6	A2white	White, non-Hispanic (0–1)	0.63	0.20	−0.21	−0.27 *	−0.13	0.36 **	−0.07	1									
7	A2samp	Collective efficacy (*z*, -1.19–1.18)	0.01	0.19	0.52 **	0.40 **	0.56 **	0.25	0.14	0.14	1								
8	A2v4yes	Past victimization (0–1)	0.48	0.16	−0.19	−0.13	−0.21	0.18	−0.24	0.03	0.08	1							
9	A2hciv8	Home incivilities (*z*, −0.87 to 2.42)	0.03	0.29	−0.57 **	−0.57 **	−0.51 **	−0.23	−0.25	−0.10	−0.31 *	0.04	1						
10	A2pciv10	Perceived incivilities (*z*, −0.93 to 1.43)	0.00	0.19	−0.62 **	−0.58 **	−0.59 **	−0.13	−0.35**	0.07	−0.27*	0.27*	0.41**	1					
11	A2rawf4	Fear of crime (1–4)	2.39	0.24	−0.42**	−0.26*	−0.52**	−0.09	−0.07	−0.02	−0.37**	0.30 *	0.09	0.41 **	1				
12	A2house	Detached house (0–1)	0.85	0.17	0.41 **	0.29 *	0.47 **	0.21	0.49 **	−0.17	0.19	−0.04	−0.14	−0.37 **	−0.17	1			
13	A2lds	LDS religion (0–1)	0.35	0.16	−0.00	0.03	−0.03	0.38 **	0.07	0.31 *	0.18	0.21	0.03	0.18	0.05	−0.02	1		
14	A2age	Age (18–96)	43.63	7.03	0.26 *	0.19	0.30 *	0.73 **	0.29 *	0.45 **	0.10	−0.17	−0.26 *	−0.15	−0.25	0.07	0.23	1	
15	T2fem	Female (0–1)	0.66	0.14	0.00	0.13	−0.11	−0.08	0.19	−0.28 *	−0.32 *	−0.22	0.06	0.03	0.32 *	0.07	−0.08	0.02	1

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

2.3.1. Place attachment

In keeping with the focus on physical incivilities on private properties, we assessed place attachment for the house as residents' feelings of pride in their house and appearance of their yard and house exterior (three items, $\alpha = 0.90$). To assess a broader level of attachment to the residential block and neighborhood residents expressed (on 10-point scales) their attachment to the block; and pride in their block and neighborhood. Residents also described how they would feel ("happy to move" to "very unhappy," four options) if they had to leave the neighborhood (four items, $\alpha = 0.80$). The overall measure of place attachment averaged both composites ($\alpha = 0.71$).

2.3.2. Proportion of home owners

This is a measure of the proportion of residents interviewed on the block who were home owners (not renters). The proportion ranged from 0.25 to all interviewees per block being owners, with an average of 0.74 (S.D. = 0.18).

2.3.3. White

Residents were asked for their racial/ethnic identification, with Hispanic ethnicity comprising its own category, regardless of race. The sample was 63% White and 28% Hispanic, with fewer residents (9%) describing themselves as other races or ethnicities. After examining the place attachment data, the small numbers of other races were collapsed with Hispanics, due to similar levels of place attachment.[2]

2.3.4. Years of residence

Respondents reported their years of residence in their home, which averaged 13 years, but ranged widely. Many were recent in-movers, with 28% having lived there 2 or fewer years but many were long-term residents, with 24.5% living there more than 20 years (with the longest living there 79 years).

2.3.5. Observed housing incivilities

Trained raters observed amounts of litter; graffiti; broken windows or lights; peeling paint; roofs, lawns, and sidewalks in poor condition; and the absence of flower or vegetable gardens (eight items, coefficient $\alpha = 0.62$). Inter-rater reliabilities, based on pairs of raters assessing 201 houses, were acceptably high (Cohen's kappa averaged 0.81, ranging from 0.68 to 0.90).

2.3.6. Perceived incivilities

Residents reported whether the block, in the last year, had vacant homes/buildings, neighbors who do not keep up their property, house or place on the block where the resident suspects drug dealing occurs, houses on the block burglarized, incidents of street robbery or assault on the block, or evidence of gang activity (1 = yes, 0 = no). Residents also rated, on a 10-point scale, the degree to which their block had experienced, in the past 12 months, problems with graffiti, loud neighbors, traffic, and loose or stray dogs and cats (ten items, adapted from Taylor & Hale, 1986; Covington & Taylor, 1991; Rohe & Stegman, 1994; coefficient $\alpha = 0.72$).

2.3.7. Collective efficacy: cohesion and control

Sampson's view that social cohesion and control are two essential components of collective efficacy is reflected in this composite (Sampson, Raudenbush, & Earls, 1997). To assess social cohesion residents reported their frequency (never, less than once a month, monthly, weekly, daily) of four different informal neighboring contacts: borrowing/loaning something, visiting, speaking with a neighbor about a neighborhood problem, and keeping watch on neighbors' homes while they are away. Residents also reported how many block neighbors they knew by sight or name (five options, from "none" to "all or almost all") and how much they felt they had in common with neighbors (nothing, not much, a little, a lot) and neighbor friendliness (on a 10-point scale). Social control items include wanting to be involved in neighborhood improvements; feeling in control of the sidewalk in front of the home (both on 10-point scales); willingness to join a block association; belief that their neighbors would confront kids, talk to neighbors, and/or call the police when they see kids spraying graffiti; and having called a local official in the last year (with the last five items rated yes = 1, no = 0; 14 items, coefficient $\alpha = 0.71$).

2.3.8. Fear of crime and past crime

Residents stated the extent to which they would feel fearful if out alone at night on their block or if stopped by a stranger for directions in the neighborhood. They also declared their degree of worry regarding criminal victimization of someone in their household and whether they avoid specific places in the neighborhood because they are dangerous (four items, coefficient $\alpha = 0.77$). To assess past crime, residents reported whether they had experienced any of four common household crimes (burglary, larceny, vandalism, and assault) during the past year.

[2] Sample sizes were small for the other races (from two to 21, each), so they were not represented by separate variables. Initial examination of their means show that they score very similarly with Hispanics on all three categories of place attachment. That is, African-American ($n = 10$), Asians ($n = 11$), Native Americans ($n = 12$), Pacific Islanders ($n = 21$), and "Unknown" ($n = 10$) are similar to Hispanics in having higher place attachment means than Whites. The only exception is the two individuals who identified themselves as "other or combination." Consequently, a split between Whites and Hispanics/others seemed to fit the data and sample size limitations best without biasing the sample by dropping all minority individuals except Hispanics.

3. Results

3.1. Strategy of analysis

The empirical strategy balances the need to minimize the number of irrelevant variables with the need to capture conceptually meaningful variance (Bryk & Raudenbush, 1992). Compared to other hierarchical studies across varied neighborhoods, residents have limited demographic variability. In addition, a limited number of demographic variables have been conceptualized as important predictors of place attachment. In order to guard against the possibility that important demographic predictors of place attachment are omitted from the model, a series of analyses were conducted to determine which demographic predictors should stay in the model, with home ownership and years of residence tested first, given their conceptual important in predicting place attachments.[3] Tests revealed that three variables adequately captured sociodemographic variability in the multivariate model: home ownership, years of residence, and White non-Hispanic race/ethnicity.

Hierarchical linear modelling (HLM) is an appropriate technique for understanding how processes such as place attachment relate both to individual and residential block-level qualities. When residents of the same block are analysed as if they are independently drawn samples, the analysis is biased by overlooking the effect that living on the same block has on individual responses. If indeed residents are drawn systematically to particular blocks, or if blocks evolve in ways that create distinct cultures of place attachments, then the embeddedness of residents in their block needs to be taken into account statistically. The following models are based on HLM analyses that used full maximum likelihood estimation, pairwise deletion of missing values (given low levels of missing data for variables in the final analyses), and robust standard errors (Bryk & Raudenbush, 1992). Block-level predictors were constructed by aggregating individual scores within the block. Individual scores were block centered and block scores were grand mean centered. Because HLM does not accept missing data at Level 2, two blocks with missing data were deleted, leaving 58 blocks for the remaining analyses.

3.2. Predictors of place attachment

Analyses of the three different measures of place attachment—attachment to the house, to the block/neighborhood, and an average of the two—yielded similar results for several predictors. Consequently, the discussion will focus on the overall attachment measure that averages across house and block/neighborhood attachments, concluding with discussion of the differences among the three analyses.

3.2.1. Block and individual differences

In HLM, the first step involves examination of the empirical evidence for the existence of place attachment as a block-level phenomena instead of an exclusively individual level phenomena. Analogous to running a one-way analysis of variance on blocks, the unconditional model reveals that blocks do differ significantly in their levels of place attachment, $\chi^2(57) = 336.67$, $p < 0.01$.

Furthermore, HLM can describe the extent to which the variability in place attachment occurs at the individual level versus the block level. Typically, HLM analyses find that many social phenomena are more strongly weighted toward individual level sources of variability. That is also true in this analysis of place attachment, although a relatively substantial 23.87% of the variability in attachment is between blocks (as calculated from variance components of 0.67076 and 2.20272 for blocks and individuals, respectively).

3.2.2. Individual (level 1) predictors

Within HLM approaches, model fit and sample size limitations are often addressed by selecting a small number of important predictors (Bryk & Raudenbush, 1992, p. 201). Preliminary analyses (see footnote[3]) revealed that three individual difference variables either altered the effects of other predictors or were significant direct predictors in the final equation. As shown in Table 3, place attachment was higher for those with more years of residence, for home owners, and for non-Whites or Hispanic residents (all $p < 0.01$).

In addition, both psychological and physical features were important predictors of place attachment. Those who felt more collective efficacy, with a greater sense of social control and social cohesion with neighbors, also felt stronger place attachments ($p < 0.01$). Those who perceived more incivilities on their block had lower place attachments ($p < 0.01$). Those with a greater fear of

[3] Bryk and Raudenbush (1992, pp. 201–202) recommend a series of step up analyses to assure that a model is not over-determined but also includes important predictors. Years of residence and home ownership have been noted in past research and theory as important predictors of place attachment; they were tested first and found to be important to retain. Although older individuals ($r = 0.142$) and those living in single family detached houses ($r = 0.205$) appear in Table 1 to experience greater place attachments, these variables are not significant as multivariate predictors; for HLM, this means they had no significant fixed effects or slope heterogeneity. Other potential predictors, important to consider in field studies, including income, gender, and religious affiliation (Latter-Day Saints or not), also had no significant effects (either bivariate or multivariate) and were dropped from further analyses. Past research and conceptualization highlights the important of years of residence and homeownership in predicting place attachment; retaining these variables is important for both empirical and conceptual reasons. Past research does not provide a compelling conceptual rationale for the importance of ethnicity, but its empirical significance argues for its retention in the model as well.

Table 3
Predicting place attachment: HLM summary ($n = 617$ individuals, 60 blocks)

Fixed effects Level 2—block		Overall attachment			Home attachment/pride			Block/neighborhood attachment					
		Coefficient	St. error	$p<$	Coefficient	St. error	$p <$	Coefficient	St. error	$p<$			
Intercept	γ00	7.414577	0.057320	0.01	8.009957	0.065247	0.01	6.820096	0.069899	0.01			
Years residence	γ01	0.019288	0.013011	0.14	0.021212	0.016159	0.20	0.017111	0.013997	0.23			
Home ownership	γ02	0.912684	0.343139	0.01	0.500856	0.422656	0.24	1.325127	0.381975	0.01			
Proportion White, non-Hispanic	γ03	–1.266653	0.288586	0.01	–1.486865	0.359444	0.01	–1.038102	0.334216	0.01			
Past year victimization	γ05	–0.211625	0.218113	0.34	–0.210756	0.261015	0.42	–0.213729	0.242191	0.38			
Collective efficacy	γ04	1.437488	0.270543	0.01	1.089508	0.409086	0.01	1.787922	0.289807	0.01			
Home incivilities	γ06	−1.003648	0.196603	0.01	−1.091325	0.245298	0.01	−0.915044	0.221463	0.01			
Perceived incivilities	γ07	−1.115895	0.336768	0.01	−1.322098	0.424509	0.01	−0.913247	0.394429	0.03			
Fear of crime	γ08	−0.477652	0.276884	0.09	0.093842	0.317943	0.77	−1.049555	0.327841	0.01			
Level 1–Individual													
Years of residence	Γ10	0.008207	0.003044	0.01	0.008168	0.003649	0.03	0.008246	0.003200	0.01			
Home ownership	Γ30	0.393062	0.157966	0.01	0.550816	0.182247	0.01	0.235309	0.173763	0.18			
White non-Hispanic	γ40	–0.620758	0.099306	0.01	–0.630166	0.112902	0.01	–0.611349	0.128814	0.01			
Past year victimization	γ20	–0.155730	0.112384	0.17	–0.168732	0.132226							
0.20	–0.142728	0.130001	0.27										
Collective efficacy	γ80	0.658430	0.105337	0.01	0.344581	0.134823							
0.01	0.972279	0.113273	0.01										
Home incivilities	γ50	–0.381520	0.126236	0.01	–0.728459	0.159059							
0.01	–0.034580	0.114296	0.76										
Perceived incivilities	γ60	−0.411482	0.117317	0.01	−0.118094	0.132036							
0.37	–0.704870	0.135896	0.01										
Fear of crime	γ70	−0.152559	0.084656	0.07	−0.122984	0.102024							
0.01	–0.182135	0.090153	0.04										
Random effects		s.d.	Variance component	$\chi^2(49)$	$p<0.01$	s.d.	Variance component	$\chi^2(49)$	$p <0.01$	s.d.	Variance component	$\chi^2(49)$	$p < 0.01$
Intercept	U_0	0.28034	0.07859	97.27		0.29665	0.08800	90.29		0.36113	0.13042	106.31	
Level 1 effect	R	1.34840	1.81817			1.59888	2.55643			1.55897	2.43038		

crime also tended to have lower place attachments ($p<0.07$). Finally, those who had more objectively observed physical incivilities and decay on their property had lower place attachment ($p<0.01$). Goodness of model fit improved, as shown by decreases in deviance statistics, when comparing the two-variable Level 1 model with the unconditional model (Deviance decreased from (three parameters) 3416.74 to (19 parameters) 3170.18, χ^2 (8) = 82.88, $p<0.01$).

3.2.3. Block (level 2) predictors

Across blocks, the higher the proportion of residents interviewed who were home owners ($p<0.01$) and the lower the proportion of White non-Hispanic residents ($p<0.01$), the greater the place attachment. Neither the average years of residence nor the average past year self-reported crime victimization for households on the block were associated with place attachment. However, the greater the block-level sense of collective efficacy, the higher the place attachment ($p<0.01$). The lower the level of fear of crime on the block, the higher the tendency toward place attachment ($p<0.09$). Finally, both the perception of low levels of incivilities on the block ($p<0.01$) and rater observations of few incivilities on properties on the block ($p<0.01$) are associated with higher place attachments. Goodness-of-fit statistics show strong improvement in model fit, compared with the Level 1 model alone (χ^2 (8) = 82.88, $p<0.01$). The final model accounts for 17.46% of variability between individuals on the block and 88.28% of variability between blocks.

3.2.4. Attachment to the house

When attachment to the house itself is the outcome variable, results are identical for the overall level of place attachment, with the following exceptions. First, residents who perceive more incivilities on their block do not have lower attachment to their home. In contrast, when outcomes are either overall or block attachments, perceiving more incivilities does relate to lower attachment (both $p<0.01$). Block levels of home ownership and fear of crime are not significant predictors of attachment to the house (both $p>0.10$). Greater proportions of home owners on the block and lower levels of block fear do predict more block/neighborhood ($p<0.01$ and $p<0.01$) and overall levels of place attachment ($p=0.01$ and 0.09). Place attachment to the individual property also varies significantly by block. A significant 16.67% of the variability in attachment is between blocks (as calculated from variance components of 0.58077 and 2.90394 for blocks and individuals, respectively; Deviance (three parameters) = 3650.10; $\chi^2(57) = 239.60$, $p<0.01$). Final variance components show that 84.84% of between block variability and 11.97% of within block variability are explained (variance components of 0.08800 and 2.55643 for block and individual levels, respectively).

3.2.5. Attachment to the block/neighborhood

For attachment to the block and neighborhood, results are identical for the overall level of place attachment, with the following exceptions. First, home ownership and observed incivilities associated with the home itself were unrelated to residents' levels of place attachment to the block and neighborhood (p's >0.10). Both home ownership and low levels of observed incivilities had predicted attachment to the dwelling itself ($p<0.01$ and $p<0.01$) and overall ($p<0.01$ and $p<0.01$).

Place attachment to the block and neighborhood also varies significantly by block. A significant 22.64% of the variability in attachment is between blocks (as calculated from variance components of 0.87811 and 2.99288 for blocks and individuals, respectively; Deviance (three parameters) = 3695.16; $\chi 2$ (57) = 328.40, $p = 0.000$). Final variance components show that 88.22% of between block variability and 18.79% of within block variability are explained (variance components of 0.13042 and 2.43038 for block and individual levels, respectively).

3.2.6. Examining block attachment changes over time

Another set of analyses assessed changing physical incivilities on the block. The eight-item physical incivilities composite had been assessed for a smaller sample ($n = 480$) drawn from the same blocks approximately 6 years earlier. The block-level physical incivilities composite presented in Table 3 was deleted from the analysis and the same composite from 6 years earlier, as well as the unexpected change in incivilities over the next 6 years (the standardized residualized change score from predicting Time 2 incivilities from Time 1 incivilities, see Taylor, 2001) were entered into the equation. Results reveal that incivilities 6 years earlier did not predict subsequent overall place attachments ($p = 0.12$). However, unexpected decreases in observed block aggregated incivilities did predict higher subsequent place attachments ($p<0.01$). For attachment to the house, again unexpected decreases in observed block incivilities predicted greater subsequent attachment ($p<0.01$), and earlier low levels of block incivilities also tended to predict subsequent high levels of place attachment ($p = 0.09$). For attachment to the block/neighborhood, unexpected decreases in observed block incivilities predict higher subsequent place attachment ($p<0.01$) but earlier block levels of incivilities do not predict later levels of place attachment ($p = 0.33$).

4. Discussion

The results of the present study suggest that place attachment deserves serious consideration by practitioners and scholars devoted to improving deteriorating

neighborhoods. As expected from past research, long-term residents and home owners reported more positive overall place attachments. Unexpectedly, White non-Hispanics experienced less place attachment. Furthermore, residents who perceived more incivilities, residents whose properties were observed to have more incivilities, residents with more fear of crime and with less neighborhood cohesion and control also felt less overall place attachment. Despite the socio-economic similarity of the neighborhood, blocks within the neighborhood varied significantly in terms of all three measures of place attachment, according to the hierarchical linear models. Residents experienced more positive place attachments if their blocks, collectively, had a greater proportion of home owners and non-Whites or Hispanics, fewer observed and perceived incivilities, higher neighborhood control and cohesion, and less fear of crime. Thus, the individual experience of place attachment is embedded within the immediate physical and social context of the block in important ways. The fact that blocks vary on place attachments may reflect the fact that in declining neighborhoods, decline sets in block by block; the implication for activists is that revitalization may take root block by block as well.

Although measurement items are not constructed to be worded identically, it is nonetheless useful to compare home and block attachments. Residents experienced higher levels of home attachment (8.00 on a 10-point scale) than block/neighborhood attachment (6.82 on a 10-point scale; Table 1). Despite neighborhood decline, residents receive psychological benefits from their homes. Attachment to the block and neighborhood are still positive, but less striking. This may reflect the lower value of the shared and more public neighborhood than the more private home. It is consistent with the idea that attachments can be very strong in primary territories, where one can feel secure enough in a place to cultivate positive bonds with it and experience it as an extension of the self (Brown, 1987).

Attachments to the home itself were less responsive to the neighborhood context than were attachments to the block/neighborhood. Neither higher block averages on fear of crime nor lower proportions of home owners predicted place attachments to the home, but they did predict lower attachments to the block/neighborhood. Similarly, at the individual level, residents who perceived more incivilities than their block neighbors did not have distinctive home attachments, but did have lower block/neighborhood attachments.

Attachments to the block/neighborhood are also less responsive to individual qualities of physical environmental ownership and condition. Although owning one's home and having fewer incivilities observed on the property predicted higher home attachments, they did not predict high block/neighborhood attachments. Nevertheless, these variables are important at the block level. Blocks with more home owners and fewer-observed incivilities had residents who were more attached to the block/neighborhood. Thus renters, or those with poor housing conditions pay a price in terms of lower place attachment to the home, but not lower place attachment to the block/neighborhood. In this way, renters and residents in properties with more incivilities receive spillover benefits from their neighbors who are home owners and who maintain good physical conditions because such block conditions are associated with higher individual place attachment. Furthermore, block proportions of home owners significantly predicted attachment to the block/neighborhood, but average years of residence on the block did not. These results suggest that neighborhood turnover from older to younger home owners would be less disruptive of place attachment than turnover from owner to renter.

The finding that White non-Hispanics are less attached to the neighborhood than others is a puzzling result, given that Whites have lived longer in the neighborhood (16.7 vs. 7.4 years), although they are equally likely to be home owners (77% vs. 71%). This effect was consistent across types of attachments. Non-Hispanic Whites had lower attachment to the home (7.72 vs. 8.72), the block/neighborhood (6.41 vs. 7.61), and the combined attachment index (7.07 vs. 8.17). Indeed, little is known about the relationship between racial and ethnic differences and place attachment elsewhere in the US. Two contradictory lines of thought have emerged. Research in an orthodox Jewish neighborhood enclave suggested that place attachments were high in the neighborhood because of similarities within the group and distinctiveness from other groups (Rivlin, 1987). In contrast, African-American neighborhoods were predicted to experience lower place attachments, due to their generally poorer conditions reflecting racial discrimination (Taylor, 1996). Although this prediction was not empirically supported, it is possible that race and ethnicity could have contradictory effects on place attachment, depending on other factors such as physical upkeep. One study did find that Hispanic residents were relatively more upbeat regarding their neighborhood than their non-Hispanic White or African-American neighbors (Taub, 1990). Additional research is needed on place attachments among Hispanics to determine if these patterns are replicated elsewhere and to understand how Hispanics are able to cultivate such strong place attachments. In the present study, the target neighborhood is one of the few places in the region where minority ethnic/racial composition surpasses 30% of residents. Therefore, the neighborhood may act as a sort of enclave, allowing ethnic/racial minorities to feel at home in this neighborhood moreso than elsewhere, thus abetting the positive effects (Mazumdar, Mazumdar, Docuyanan, & McLaughlin, 2000).

The fact that home ownership is a key variable in predicting place attachment is not surprising but is troubling for those interested in improving the neighborhoods of renters. In past research, even short-term student renters have been shown to enjoy higher levels of place attachment when their rental quarters allow them a satisfying amount of privacy and family togetherness (Harris, Brown, & Werner, 1996). Therefore, place attachment is not an irrelevant goal for rental communities, but it is more difficult to experience high levels of place attachment when one is a renter. New housing policies designed to mix home owners and renters have been proposed to provide neighborhoods with better adult role models, higher levels of services, and the benefits of higher average levels of income (Brophy & Smith, 1997). The present study demonstrates that any residents who live on blocks with high standards for neighborhood social and physical conditions can experience more positive place attachments; perhaps mixed tenure blocks will provide better place attachment opportunities for all residents.

The results also suggest that place attachments can provide untapped potential neighborhood strengths that might aid community development efforts. Many residents of aging neighborhoods may wish to keep up their homes and express their place attachments but are unable to do so due to poverty, health problems, or lack of skills. Therefore, housing repair, maintenance, or rehabilitation programs may enable residents to convert place attachment to housing improvement. The data provide two sources of information that such programs might be effective. First, cross-sectional relationships link low observed incivilities to high place attachments. Second, when block-level incivilities decline unexpectedly, place attachments are higher. So residents' place attachments may be supported by both current low levels of incivilities and diminishing levels over time of incivilities on their blocks.

Place attachments may also provide the focal point of programs designed to cultivate social relationships protective of common places in the neighborhood as well. Programs could bring highly attached long-term residents together with new residents in ways that socialize newcomers to the strengths and history of the neighborhood. In the present neighborhood an oral history project led to a publication designed to showcase the rich history and vitality of the neighborhood. If such efforts could be integrated into the schools or other places with many newcomers, then place attachments may be more quickly cultivated and more visible in the area.

Although community development experts are increasingly advocating building upon existing strengths in declining neighborhoods (Kretzmann & McKnight, 1993), place attachment may provide an especially tangible starting point. Regardless of how diverse the residents' demographic and age structures are, all residents have the neighborhood turf in common. There is little argument that residents of all ages and cultural backgrounds enjoy living in a place that instills pride (although there may be important differences about the proper appearances of such places). Therefore, an emphasis on the potential of pride in the neighborhood, including public areas as well as homes, can automatically emphasize what residents have in common. Even historic preservationists, who some have criticized for having interests in only elite places, have been instrumental in turning around declining neighborhoods by knitting diverse residents together in the common cause of neighborhood improvement (Moe & Wilkie, 1997). Again, the comprehensiveness of preservation efforts may be the key to their success. In describing a series of preservation case studies, Moe and Wilkie (1997) claim successful efforts recognize the importance of "the preservation of people in a place, the preservation of community, the preservation of places that people are proud to call their homes" (p. 141).

This study's focus on the positive qualities of place attachment is not to suggest that negative psychological person–place processes, or place aversions, do not also exist. In deteriorating neighborhoods, remaining in a home because of place attachment may even have a role in eroding a household's financial well-being, as declining neighborhoods lose financial value (South & Crowder, 1997). Place attachments may also be one reason people stay in environments despite declining health or crime threats that render the place unsafe (Lawton, 1990). For ethnic communities, attachment to place might close off wider opportunities in the social and physical environment (Fried, 2000). Although this research focuses on the benefits of place attachment, the same place may be experienced as positive, negative, or ambivalent over time. Nevertheless, given the reality that many residents of declining neighborhoods will not accept or cannot afford a move, it may be sensible from the standpoint of both psychological health and policy efficiency to focus on programs that can translate residents' positive bonds of place attachment into place improvements.

Perhaps because place attachment is strongly rooted in a phenomenological tradition (Altman & Low, 1992), researchers interested in policy and housing improvement have been slow to incorporate place attachment into neighborhood improvement and activism. In part, researchers may presume we know more about the correlates of place attachment than we do. Indeed, a review of the 65 articles on place attachment in the database PsychInfo shows that the bulk of place attachment scholarship is concentrated in a few areas. At this point, the field is strong in conceptual analyses of place attachment and qualitative research that emphasizes the depth and richness of place attachment. Fewer

extensive empirical tests of our beliefs about place attachment exist. Substantial amounts of quantitative studies cluster around the topics of attachments during or remembered from childhood, attachments to natural environments, and the positive benefits of attachment for well being or community bonds. Yet in areas where place attachment processes might help improve environments, research involves just a few small-scale studies. The model tested in the present study provided a substantial sample size to confirm some well known correlates of place attachment (such as tenure, home ownership, and fear of crime) while exploring some less well tested correlates as well. The results suggest researchers can incorporate collective efficacy, perceived incivilities, and observed incivilities into residential attachment models. The finding that physical incivilities relate to lower attachment even counters past research that may have limited scholarly interest in place attachments for neighborhoods in decline (Taylor et al., 1985b; Taylor, 1996). Finally, the discovery of strong place attachments among Hispanics provides an encouraging direction for research. Given the present strong empirical confirmations of a model that combines old and new predictors, those interested in the applied possibilities of place attachments can be encouraged to develop a new area of strength for place attachment scholarship.

The present study has shown how place attachments reflect both physical and social investments in homes and blocks. Place attachments should be considered by policy makers who have emphasized social and economic tools to reverse neighborhood decline. Place attachment may also be a resource for neighborhoods struggling with issues of physical decline, loss of social cohesion, and threats of crime. The next step is to understand how place attachments can be mobilized to enhance neighborhood quality of life.

Acknowledgements

This research was supported by grant number 98-IJ-CX-0022 from the National Institute of Justice. Points of view are those of the authors and do not necessarily represent the position of the US Department of Justice. We thank two anonymous reviewers for comments on an earlier draft.

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