



THE MEASUREMENT OF 'ROOTEDNESS' AND THE PREDICTION OF ATTACHMENT TO HOME-TOWNS IN COLLEGE STUDENTS

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Abstract

A 10-item questionnaire measuring 'rootedness' was developed using a sample of 134 undergraduates at a large state university. In a second study, the questionnaire was cross-validated with a sample of 126 undergraduates drawn from two other institutions. The questionnaire consists of two subscales based on factors called 'Desire for Change' and 'Home/Family Satisfaction'. In both samples, the scales successfully predicted place-relevant behavior and feelings such as the frequency of homesickness, the intention to return to one's home town following graduation, the frequency of visits from friends back home, and subscriptions to home-town newspapers. The results suggest that place attachment can be thought of as a quantifiable individual difference which might be used to predict the difficulty individuals will experience following relocation.

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Introduction

Our physical surroundings play an important role in creating a sense of meaning, order and stability in our lives. A sense of the place in which we live is often closely related to our sense of personal identity since so much of what we are depends upon where we live and the experiences that we have had there (Relph, 1976; Proshansky *et al.*, 1983; Dovey, 1985; Little, 1987; Feldman, 1990; Belk, 1992; McAndrew, 1993). Consequently, individuals usually develop very strong sentimental and emotional attachments to the places in which they live. This 'attachment to place' has been defined as a positive affective association between individuals and their residential environments, an association that creates feelings of comfort and security (Rivlin, 1982; Shumaker & Taylor, 1983). This affective bond between people and places has been referred to as 'centerdness' (Buttimer, 1980), 'topophilia' (Tuan, 1974), and 'place identity' (Proshansky *et al.*, 1983; Lalli, 1992). The latter term is usually a more inclusive description of the relationship between people and places in that it emphasizes the role of place in molding the individual's sense of self-identity, enabling that person to achieve a sense of belonging and purpose in his or her life.

Lalli (1992) has noted the difficulty that is inherent when working with multidimensional global constructs such as place identity; such concepts simply carry too many different meanings. Regardless of the specific label that may be used, however, it is important to take the strong emotional attachments between people and places into account when attempting to understand a variety of human experiences.

Shumaker and Taylor (1983) noted the evolutionary advantage inherent in strong attachments to place. In early human groups this attachment facilitated defense of familiar areas, reduced unnecessary and dangerous exploration, and bestowed a resident advantage on individuals operating in their own territories. Place attachments may be generic in nature, as when individuals become dependent upon regions or on certain kinds of environments such as cities, mountains or deserts. An individual with a generic place attachment can be satisfied in a number of different locations as long as those places have the right characteristics. 'Geographic place dependence', on the other hand, refers to an extremely powerful attachment to a very specific town or house (Stokols & Shumaker, 1981).

The disruption of one's sense of place through relocation, especially involuntary relocation, can threaten self-identity and be rather overwhelming

to those with strong place attachments (Brown & Perkins, 1992). The word 'homesickness' is commonly used to describe the feelings of loss that accompany this experience. Fisher (1989) describes homesickness as a dominant attentional focus on home-related thinking and activity and a strong desire to restore the daily experience of being at home. She reports that a fairly stable percentage (60–70%) of populations that have been studied are susceptible to strong place attachment (Saegert, 1985), and several studies indicate that people from lower socio-economic classes develop stronger attachments to their neighborhoods than do people from higher socio-economic classes (Gans, 1962; Fried, 1963; Suttles, 1968). It has even been suggested that ethnic groups show differences in the strength of bonding to the land and the ease with which they bond to new places (Roark, 1993).

Studies of place attachment have usually relied on qualitative measures. While these are useful for many purposes, they have limited the ability of researchers to study the relationship between place attachment and other variables in a systematic, quantitative fashion. If in fact the tendency to become attached to place is a stable individual difference, it should be amenable to quantifiable psychometric measurement in the same manner as other personality traits. To date, few researchers have used a quantitative approach in the study of place attachment. Fuhrer *et al.* (1993) measured three forms of attachment (dwelling, near-home, social) by having people respond to statements along a three-point scale ranging from total agreement to total disagreement. The goal of their study was to relate the respondent's feelings of attachment to the social networks are an important part of place attachment (Fried, 1982; Shumaker & Conti, 1985); these feelings transcend attachment to other people and represent a genuine affection for the physical location itself. Places associated with an individual's childhood are particularly likely to evoke strong feelings, perhaps because they are the settings for emotional experiences critical to the process of growing up (Marcus, 1992). Marcus refers to these places as 'psychic anchors'.

It has been observed that individuals differ in the tendency to become attached to the places they live (Hummon, 1992). Giuliani (1991) conducted a phenomenological study of individual differences in attachment to the home by interviewing 56 residents of Rome, Italy, varying in age and socio-cultural background. She found that individuals with strong home attachments were more likely to be oriented toward the past than the future, were less interested in a 'nomadic' lifestyle, and were strongly attached to a greater number of people, objects, and places. A large body of research also

shows that older people tend to be the most strongly attached to their home places (Kasarda & Janowitz, 1974; Rowles, 1980; Goudy, 1982; Howell, 1983; Belk, 1987; Sampson, 1988; Taylor, 1988; Baker & Scheidt, 1990; Rubinstein & Parmelee, 1992). Children and those with restricted mobility may be susceptible to strong place attachment (Saegert, 1985), and several studies indicate that people from lower socio-economic classes develop stronger attachments to their neighborhoods than do people from higher socio-economic classes (Gans, 1962; Fried, 1963; Suttles, 1968). It has even been suggested that ethnic groups show differences in the strength of bonding to the land and the ease with which they bond to new places (Roark, 1993).

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Results

Construction of the scale. Research has demonstrated that people who exhibit strong place attachments are different from individuals with weak attachments in a number of different ways. A strong attachment to place leads to expectations of future stability. It is also accompanied by a more detailed knowledge of the history and geography of a locale and a greater investment of time and resources in that place. People with strong place attachment are more firmly rooted, less motivated to seek change, have greater feelings of privacy and control in their homes, and are more satisfied with their place of residence (Shumaker & Taylor, 1983; Tognoli, 1987; Harris *et al.*, 1996).

Based upon these and other findings about place attachment, 16 statements that appeared to reflect the degree of an individual's attachment to place were generated to be piloted in this study. Half of these items were statements that should be positively related to place attachment (e.g. 'I am extremely satisfied with my present home') and half were statements that should reflect relatively little attachment to place (e.g. 'I quickly feel at home wherever I am'). These 16 statements comprised the first 16 items of a 30-item questionnaire that was filled out by the participants in the study. The 16 statements can be found in Table 1. The remaining 14 items were 'dependent variables' to be predicted by the rootedness scale. (See Table 2.) All 16 scale items and 10 of the 14 dependent variables were statements which participants responded to on a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. The other four items on the questionnaire were questions on which participants reported their age, sex, distance between college and home, and whether or not they subscribed to their home-town newspaper.

Selection of final scale items. The first step in selecting the final scale items was to factor analyse the *a priori* scale in search of a coherent subscale structure. A scree test indicated that the extraction of two factors would provide optimal organization of the data. Thus, a principal components factor analysis using varimax rotation was conducted on the 16-item scale with two factors being extracted. Only items with a factor loading whose absolute value exceeded 0.50 would be kept for further testing. The analysis revealed that six items loaded positively (factor loading=0.50) on Factor 1 and five items loaded positively on Factor 2. A second factor analysis was run on the shortened list of these 11

potential application in predicting such things as homesickness in college students and adjustment problems in employees being relocated. The scale that was developed in the studies that follow was designed for use with college/university students. There are reasons other than convenience for studying place attachment in college students, since students as a group are often in a transitional period of life when relocation and the breaking of old attachments are especially salient issues. Indeed, Proshansky *et al.* (1983) have even suggested that a distancing of one's self from a place is a necessary prerequisite for the reflection and thought needed to develop an awareness of one's place attachments.

Coming up with a name for a scale that predicts place attachment is a tricky proposition, given the wide variety of terms (e.g. place identity, urban identity, topophilia) that are available and the fine shades of difference in meaning that are inherent in their use. It was determined that the term 'rootedness' as it has been used by several researchers (e.g. Relph, 1976; Tuan, 1980) comes closest to the personal quality being assessed in the current studies. Tuan described rootedness as a psychological state of being, a mood, or a feeling. It results from long habitation at one locality and may in its extreme lead to an unreflective state of incuriosity toward the world at large. To the extent that individuals differ in overall rootedness, it should be possible to make predictions about more specific feelings and behaviors that reflect attachment to particular places.

Experiment 1

Method

Participants and procedure. One hundred and thirty-four (39 males, 95 females) undergraduate students at a midwestern state university participated in this study. The participants in the study were primarily from the midwestern United States, although students from all parts of the country were represented and there were also a number of international students. Although some students were actually going to college in their 'home-town', most were at least 100 miles from home and many were quite further away. All participants received course credit in psychology classes for their participation. Participants filled out a 30-item questionnaire that was described as a study on 'perceptions of home'. The questionnaires were filled out in groups in a large classroom.

A valid, reliable predictor of place attachment would be a valuable research tool and could have

items, again using the criterion that only items with a factor loading exceeding an absolute value of 0.50 would be kept. Ten of the eleven items met the criterion for inclusion from the second analysis, with six items loading on Factor 1 and all of the four items loading on Factor 2 were good, in that none of them loaded on Factor 1 and four loading on Factor 2. None of the items cross-loaded on both factors.

Internal consistency/reliability among the items was calculated using Cronbach's alpha, and this was done separately for each of the two factors in the scale. Cronbach's alpha for the six items loading on Factor 1 was 0.79, and the alpha coefficient for the four items loading on Factor 2 was 0.70. Next, Cronbach's alphas were calculated for the total score on each factor minus each individual item. If the alpha coefficient increases when the item is removed, the item is 'bad' because it hurts the internal consistency of the scale. Conversely, a decrease in the

alpha coefficient indicates that the item is 'good' because its inclusion boosts the internal reliability of the scale. The results indicated that all of the six items loading on Factor 1 and all of the four items loading on Factor 2 were good, in that none of them loaded on Factor 1 and four loading on Factor 2. Students who subscribed to their home-town newspapers also scored significantly lower on the Desire for Change scale, $t(130)=2.78$, $p<0.01$ (means: 11.31 vs 14.09). There was no relationship between the Desire for Change score and any of the following variables: participant's sex, distance between college and home, involvement in extracurricular activities, frequency of homesickness, frequency of visits from friends in the home town, parental influence on the choice of college, frequency of visits home, presence of a girl or boyfriend back home, and preferences for living in an urban area.

The Desire for Change subscale score was significantly and positively related to a desire to eventually live in one's home town, $r(131)=0.36$, $p<0.001$, frequent homesickness, $r(131)=0.21$, and positively correlated with a lack of desire to live in one's home town after graduation, $r(131)=0.51$, $p<0.001$, frequent visits from friends back home, $r(131)=0.32$, $p<0.001$, strong parental influence in

TABLE 1
Original scale items from questionnaire

1. I quickly feel at home wherever I am.
2. I am extremely satisfied with my present home.
3. I don't know very much about the history of my home town.
4. I could draw a very accurate map of my home town.
5. Moving from place to place is exciting and fun.
6. I have lived in the same town or city my whole life.
7. I could not be happy living in one place for the rest of my life.
8. Living close to certain natural features such as the ocean or mountains is very important to me.
9. The size of the town or city that I live in is unimportant to me.
10. My family is very close-knit and I would be unhappy if I could not see them on a regular basis.
11. I like going to places where no-one knows me.
12. I have several close, life-long friends that I never want to lose.
13. There is not much of a future for me in my home town.
14. My parents still live in the same house or apartment that they lived in when I was born.
15. Most of the people that I knew when I was growing up have moved away.
16. I love to reminisce about the places I played when I was a child.

TABLE 2
Questionnaire items reflecting behavior and feelings to be predicted from the Rootedness scale

1. I have no desire to live in my home town right after I graduate from college.
2. I would very much like to end up living in my home town eventually, even if I live somewhere else for a while.
3. I am involved in many college activities such as clubs, sports, student government, theater, etc.
4. I frequently feel homesick.
5. Friends from my home town frequently visit me at college.
6. My parents were very influential in my choice of a college.
7. I try to visit home as many times during the school year as I can.
8. I have a spouse, girlfriend, or boyfriend back home.
9. I would prefer to live in an urban area.
10. I would prefer to live in a rural area.
11. Do you subscribe to a home town newspaper? (Please answer yes or no in the space provided.)
12. Approximately how far is it (in miles) from your home to college? (Please give your best estimate and write the number in the space provided.)
13. What is your sex? (Answer by placing 'M' or 'F' in the blank space.)
14. Are you over 35 years old? (Answer by writing yes or no in the blank space.)

these two subscales are presented in Table 3. The titles of the subscales are consistent with the overall concept of rootedness, in that high satisfaction with the current state of one's home and family and a strong desire for change would seem to represent the positive and negative ends of the rootedness dimension.

Results. Subscale scores were computed for each participant by summing the responses for each of the items included in the subscale. A Pearson r was then computed between each subscale score and the 10 dependent variables that were scored on a five-point scale and the participants' estimates of the distance between their homes and college (see Table 4). Scores on the Desire for Change and Home/Family Satisfaction subscales were independent of each other, as there was essentially no correlation whatsoever between the two, $r(131)=0.02$, N.S.

The Desire for Change subscale was significantly and positively correlated with a lack of desire to live in one's home town after graduation, $r(131)=0.51$, $p<0.001$, frequent homesickness, $r(131)=0.21$, and positively correlated with a desire to live in one's home town after graduation, $r(131)=0.51$, $p<0.001$, strong parental influence in

TABLE 3
The Rootedness scale

Items on the 'Desire for Change' subscale:

Moving from place to place is exciting and fun.
I could not be happy living in one place for the rest of my life.
Living close to certain natural features such as the ocean or mountains is very important to me.
I like going places where no-one knows me.
There is not much of a future for me in my home town.
Most of the people that I knew when I was growing up have moved away.

Items on the 'Home/Family' subscale:

I am extremely satisfied with my present home.
My family is very close-knit and I would be unhappy if I could not see them on a regular basis.
I have several close, life-long friends that I never want to lose.
I love to reminisce about the places I played when I was a child.

TABLE 4
Correlation coefficients between Rootedness subscales and behavioral/affective variables: study 1.

	Desire for Change	Home/Family Satisfaction
No desire to live in home town immediately	-0.51*	-0.13
Desire to live in home town eventually	-0.23*	0.36*
Involvement in college activities	0.02	0.10
Frequent homesickness	-0.06	0.21*
Frequent visits from friends	-0.0009	0.32*
Parents influential in college choice	0.13	0.24*
Frequent visits home	-0.07	0.23*
Boyfriend/girlfriend back home	0.05	-0.08
Preference for living in urban area	-0.01	0.08
Preference for living in rural area	0.20*	0.11
Distance between home and college	0.14	0.21*

Note: * $p<0.05$.

the choice of a college, $r(131)=0.24, p<0.01$, frequent visits home, $r(131)=0.21, p<0.01$, and curiously, a greater distance between college and one's home town, $r(131)=0.21, p<0.05$. There was no relationship between Home/Family Satisfaction and the participant's sex, likelihood of subscribing to the home-town newspaper, the desire to live in one's home town immediately after graduation, involvement in extracurricular activities, having a girl or boyfriend back home, or a preference for living in an urban or rural area.

Discussion

Study 1 confirmed the viability of using a quantitative measure of rootedness to predict differences in the behavior and feelings of college students differing along this dimension. The Rootedness scale constructed for this study consisted of two independent subscales that appear to measure a desire for change and overall satisfaction with one's home and family. Collectively, these two subscales were significantly related to such place-relevant variables as frequency of homesickness and visits from friends back home, and visits by the student to his or her home town. From the rootedness scores, it would also be possible to predict the amount of parental influence in the choice of a college, the likelihood of subscribing to the home-town newspaper, the distance between home and college, and the desire to move back to one's home-town eventually or right after graduation. As encouraging as these findings may be, it is crucial to determine if the Rootedness scale would have similar validity and internal consistency with different samples of students at other institutions. This would be the goal of Experiment 2.

Experiment 2

Method

Participants and procedure. One hundred and twenty-six (40 males, 86 females) undergraduate students from a midwestern liberal arts college and a midwestern state university (a different university than was used in Experiment 1) participated in this study. The participants in the study were primarily from the midwestern United States, although students from all parts of the country were represented and there were also a number of international students. Although some students were actually going to college in their home-town, most were at least 100 miles from home and many were quite further away.

Most participants received course credit in psychology classes for their participation. Participants filled out the same 30-item questionnaire described in Experiment 1 under similar conditions and were given the same instructions.

Results

Verification of scale reliability. In an effort to check the reliability of the 10-item Rootedness scale developed in Experiment 1, the responses to the 10 items were subjected to the same statistical analyses used in the first study.

First, a principal components factor analysis using varimax rotation with two factors being extracted was performed. Factor loadings for the 10 items showed the same pattern found in Experiment 1 in that the same six items loaded positively on the Desire for Change factor and the same four items loaded positively on the Home/Family Satisfaction factor. None of the items cross-loaded on both factors. Thus, the factor structure that was discovered in Experiment 1 was replicated in Experiment 2. As might be expected due to the shrinkage that occurs when a scale developed on one sample is administered to a second sample, the factor loadings were somewhat lower. Three of the six items loading on the Desire for Change factor had coefficients that exceeded the 0.50 criterion used in Experiment 1. The other three items, while lower, still exhibited strong positive factor loadings of 0.47, 0.47, and 0.36, respectively. On the Home/Family Satisfaction factor, three of the four-item coefficients met the 0.50 criterion, and the fourth item had a coefficient of 0.41. The internal consistency/reliability among the scale items was assessed separately for each factor using Cronbach's alpha. Cronbach's alpha for the six items loading on the Desire for Change factor was 0.56, and the internal consistency of the factor was not significantly improved by removing any of the items (alpha difference <0.01). Cronbach's alpha for the four items loading on the Life Satisfaction factor was 0.51, and the removal of any of the items did not greatly improve the level of internal consistency (alpha difference <0.07). While these alpha values are well above chance, they fall just short of the coefficient of 0.60 usually recommended for reliability coefficients on measures of this kind (Gulliford, 1955).

The relationship between the scores for each subscale and each of the other variables was assessed via a Pearson r (see Table 5). High scores on the Desire for Change subscale were significantly and positively correlated with a lack of desire to return

to one's home town after graduation, $r(116)=0.56, p<0.0001$, and a preference for rural areas, $r(116)=0.20, p<0.05$. A strong Desire for Change was significantly and negatively related to a desire to eventually settle in one's home town, $r(116)=-0.45, p<0.0001$, the frequency of homesickness, $r(116)=-0.26, p<0.01$, the frequency with which friends from home visited the student at college, $r(116)=-0.27, p<0.01$, and a strong parental influence in the choice of a college, $r(116)=-0.25, p<0.01$. There were no significant sex differences in scores on the desire for change subscale, $t(124)=0.55, N.S.$,

and there were no significant differences between those who did and did not subscribe to the home-town newspaper, $t(110)=1.5, N.S.$ Scores on the Desire for Change subscale showed no relationship to involvement in extracurricular activities, frequency of visits home, the presence of a girlfriend or boyfriend at home, or the distance from college to home.

High scores on the second subscale, Home/Family Satisfaction, were positively and significantly correlated with a desire to eventually settle in one's home town, $r(116)=0.35, p<0.001$, frequent homesickness, $r(116)=0.49, p<0.0001$, strong parental influence in the choice of a college, $r(116)=0.24, p<0.01$, and frequent visits to the home town, $r(116)=0.40, p<0.001$. High Home/Family Satisfaction scores were significantly and negatively related to a lack of desire to return home after graduation, $r(116)=-0.38, p<0.001$. Students who subscribed to a home-town newspaper scored significantly lower on the Home/Family Subscale than those who did not subscribe to a home-town newspaper, $t(110)=2.63, p<0.01$ (means: 14.57 vs 16.03). Scores on the Home/Family Satisfaction subscale were unrelated to involvement

in extracurricular activities, the frequency of visits by friends, the presence of a boyfriend or girlfriend at home, the distance from college to the home town, and preferences for urban or rural areas.

In the second study, there was a small but significant negative correlation, $r(116)=-0.21, p<0.05$, between Desire for Change and Home/Family Satisfaction scores. Although this was not found in Study 1, it is consistent with the conceptualization of Home/Family Satisfaction and Desire for Change as opposite ends of the same dimension.

General discussion

The two studies described in this paper demonstrate that the quantitative measurement of rootedness can in fact be a useful enterprise. The internal structure of the 10-item scale developed with one sample of college students generalized to a different sample as the factor loadings for the 10 items were replicated in the second study. Although the factor loadings and internal consistency coefficients were a bit lower in the second sample, the predictive validity of the scale was confirmed when the same variables were successfully predicted by the subscales in each study. For example, the Desire for Change subscale predicted a lack of desire to return to one's home town and a preference for rural areas in both studies, and the Home/Family Satisfaction subscale predicted a desire to return home after graduation, frequent homesickness, parental influence in choosing a college, and visits by either friends at college or by the student to the home town in both groups of students. Overall, the Rootedness Scale also was able to predict the likelihood of

TABLE 5

	Desire for Change	Home / Family Satisfaction
No desire to live in home town immediately	0.56*	-0.38*
Desire to live in home town eventually	-0.45*	0.35*
Involvement in college activities	0.16	-0.13
Frequent homesickness	-0.26*	0.49*
Frequent visits from friends	-0.27*	0.12
Parents influential in college choice	-0.25*	0.25*
Frequent visits home	-0.17	0.40*
Boyfriend/girlfriend back home	-0.14	0.13
Preference for living in an urban area	-0.13	0.01
Preference for living in a rural area	0.20*	0.03
Distance between home and college	0.07	0.09

Note: * $p<0.05$.

subscribing to the home-town newspaper in both samples and the distance between college and home in the first sample.

The Rootedness scale described in this paper is admittedly just the first step in developing an instrument that can have the flexibility to be useful for assessing individual differences in place attachment in a variety of populations. The current version of the scale is appropriate only for college students, and future research will undoubtedly improve its predictive value even within this limited population. Nevertheless, it is hoped that quantitative study of place attachment as an individual difference will ultimately supply important pieces to the puzzle in our understanding of the relationship between people and the places that they live.

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Notes

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- (1) One of the items, 'Living close to certain natural features such as the oceans or mountains is very important to me', does not at first glance appear to measure a desire for change in spite of its strong loading on the factor that comprises this subscale. However, when one considers the predominantly midwestern nature of the samples used in these studies, a strong attraction to such scenic natural features would in fact constitute a desire for change.

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