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MEASURING SENSE OF PLACE: A SCALE FOR MICHIGAN

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ABSTRACT

This article details the development and testing of a scale used to measure the existence and strength of sense of place among Michigan's residents. Sense of place is a concept that refers to the manner in which individuals relate or feel about the places in which they live. By definition place includes the home, neighborhoods, communities, or even an area as large as the state of Michigan. Subscales addressing sense of place constructs (place attachment, place identity, place dependence) were incorporated into the final instrument. Data, provided by registered voters, were collected on a statewide basis. Results show that 80.1% of the respondents possessed a sense of place regarding the state and 87.7% included Michigan in their self identity. Testing of the scale employing Cronbach's alpha ($\alpha = .87$) revealed the instrument to be a reliable tool useful for measuring the attitude.

The effective use of policy to address community concerns should always, it may be argued, include the consideration of the attitudes and opinions that may be held by individuals affected by potential rulings. How are these viewpoints impacted by legislation and, in turn, how is legislation influenced by citizen beliefs? The consideration of attitudes and opinion lead to questions of legitimacy, defined as the belief in and willingness among the population to accept legislation as authoritative (Peters, 2004). The policy process also includes the fundamental concept of representation, the notion that legislation should represent the attitudes of the region and the individuals living there. Those who construct policy, including elected officials, represent the interests of the public. Effective representation requires these officials to keep in mind constituent beliefs and values while developing the legislation that will impact the public. Without legitimacy and effective representation most policy has little chance of success.

One attitude that should be addressed is sense of place. The concept of "sense of place" refers to the manner in which humans relate to, or

feel about, the environments in which they live (Hummon, 1992; Shumaker & Hankin, 1984). An understanding of this concept would aide policy makers as they consider issues creating burdens or benefits within or between communities or regions. Places are much more than points on a map, they “exist in many sizes, shapes, and levels, and they can be tangible as well as symbolic” (Kaltenberg, 1997, p. 176; Low & Altman, 1992). Place can refer to the home, neighborhood, city or community, state, region, or nation.

As individuals we tend to relate to our physical environment. Certain aspects of the places in which we live begin to take on meanings beyond a shared space. For example, individuals become part of their neighborhood rather than merely residing there. Values and beliefs shared by the residents of a community or region begin to represent the characteristics that make that place unique in the eyes of outsiders, and representative of the personal values and beliefs of those who live there. When a person has resided in the same place for a long period of time, “he or she often develops a ‘sense of place,’ feeling at home and secure there, with feelings of belonging for the place being one anchor for his or her identity” (Hay, 1998, p. 6).

The concept of place in this study referred to the state of Michigan and the Great Lakes that surround it. Place is not limited by geographical size but rather by the perceptions and personal values that play a role in the development of sense of place. Michigan may be large but it can still be defined as a community whose residents share beliefs and values connecting one another and the region. The state is a community by and through which identity can develop.

The focus of the symposium was the identification of linkages between community, identity, and public administration. When considering courses of action with the potential to impact the roots of identity and community, it is suggested that policy makers should endeavor to understand the magnitude of the attachments individuals have formed with the regions in which they live. The concept of sense of place addresses attachments to and identification with community, even a community as large as Michigan. The research sought to determine the role the state and the Great Lakes play in the development of self-identity among the residents of the region. To accomplish these ends a scale was developed and found to be useful for measuring the strength of sense of place among the state’s residents.

SENSE OF PLACE

Research on sense of place has focused on three constructs: place attachment, place dependence, and place identity (Jorgensen & Stedman, 2001). Place attachment refers to the bond that develops between an individual or group and a particular spatial setting such as a neighborhood or a geographic region. Place dependence refers to the suitability of a setting for seeking satisfaction in the pursuit of some personalized interest or goal. Place identity is described as the “dimensions of self that define the individual’s personal identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideas, beliefs, preferences, feelings, values, goals and behavioral tendencies and skills relevant to this environment” (Jorgensen & Stedman, 2001, p. 234; Proshansky, 1978, p. 155).

Attachment to Place

The activities of daily life create the conditions through which individuals develop relationships with other individuals or groups and with elements in the environment through which emotional attachments to a location or place happen. Place refers to a location or space that has gained special meaning through personal, group, or cultural processes (Low & Altman, 1992). Place is the context in which this formation occurs and it often gives relationships meaning. Accordingly, “place attachment is defined as an affective bond or link between people and specific places” (Hidalgo & Hernandez, 2001, p. 274).

Places to which individuals become most attached are those with which they have the highest levels of experience, often resulting from long-time habitation in a particular locality (Hay, 1998; McAndrew, 1998; Moore & Graefe, 1994). Riley (1992) suggests “attachment to place arises from what was experienced there” (p. 20). It is the result of long-term emersion in and acceptance of an area’s values, beliefs, and cultural systems that help convert individual un-rooted thinking to acceptance of group norms and attachment to the geographic location in which the group resides. Gustafson (2001, p. 13) refers to this phenomenon as “continuity” and argues the meanings of place and resulting place attachment involve a time dimension “where places become connected to the life path of the individual through origin, length of residence, important events or life stages, or frequent visits.”

Kaltenberg (1997, p. 176) states: “in most—but not all—cases, place includes a physical location.” Low and Altman (1992) suggest attachment can also result from “affective feelings toward the symbols of

places” (p. 6) rather than actual places. The Great Lakes are symbolic of the state of Michigan. Surrounded by water, Michigan is often referred to as the Great Lakes State. The Great Lakes not only geographically define the territorial limits of the state they also symbolize what makes Michigan unique to its residents and to those living outside of the region.

Riley (1992) and Hufford (1992) suggest that attachment to place is environmentally based. Residents of the state of Michigan, individuals are limited by environmental conditions yet have opportunities for activities and occupations that would be difficult or impossible to indulge elsewhere. The Great Lakes environment helps to shape how residents experience life in the region producing unique values and beliefs including strong emotional bonds of attachment.

Place Dependence

Within the realm of sense of place research Stokols & Shumaker (1981) were among the first to introduce the concept of place dependence which they described as a particular place or region’s potential for satisfying an individual’s goals or needs when compared with some other potential area. Place dependence “refers to the degree to which occupants perceive themselves to be strongly associated with and dependent on a particular place” (Moore & Graefe, 1994, p. 19). The suitability for satisfying these needs develops a level of dependence on the area or setting and occurs “when the occupants of a setting perceive that it supports their behavioral goals better than a known alternative” (Williams, Patterson, Roggenbuck & Watson, 1992, p. 31).

The study did not hypothesize that the sense of place of Michigan’s residents arose solely from dependence on occupational or recreational characteristics of the region. The research argued that the unique geographical relationship between Michigan and the Great Lakes provides a scenario in which the formation of sense of place and attitudes regarding the region can be impacted by place dependence.

Place Identity

Individuals develop identity through a complex interaction with the environment and the socio-cultural processes of life. Self-identity is in part a result of these interactions; “these processes enable individuals to distinguish between themselves, others and the physical environment, and thus develop a self-concept” (Lalli, 1992, p. 287).

For many individuals the most powerful and lasting memories evolve around places, events, and the people populating them: the home, school, family, vacation experiences, and so on. It is the personally unique nature of experiences and memories that magnify their importance in the development of an individual's self-identity. The places in which these events occur acquire importance and our continued relationship with these people and environments throughout life create a sense of self-identity (Marcus, 1992).

Research has emphasized the role of place in the definition of self. The field of environmental psychology studied the relationship between people and the environment in which they exist producing the theoretical concept of place identity (Moore & Graefe, 1994). Lalli (1992) states, "place identity can be viewed as part of self-identity. Self-identity comprises specific and conscious convictions, interpretations and evaluations of oneself. Therefore, place identity is an aspect of an individual's identity" (p. 287), not the location of a particular setting (Uzzell, Pol & Badenas, 2002). Proshansky (1978) argued place identity comprised "those dimensions of self that define the individual's personal identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideas, beliefs, preferences, feelings, values, goals, and behavioral tendencies and skills relevant to this environment" (p. 155).

Place identity: life experiences "shaped by specific circumstances and personal interpretations, is the single most proximate contributor to sense of place" (Rubinstein & Parmalee, 1992, p. 148). Attachments to place develop as a result of our personal experiences, which in turn form a part of our personal identity, thus the association between identity and place.

The strength of place identity is based on two factors: the emotional investment made by individuals into a particular place or setting and their length of association with the location. Any "place" can hold meaning to a particular person: children and adults often identify with home (Chawla, 1992; Moore & Graefe, 1994). Place identity may also be based "on more abstract and symbolic meanings, as in the way our national parks symbolize our heritage"; shrines often become symbolic places in religious beliefs, or the Great Lakes symbolize Michigan (Low, 1992; Williams et al., 1992, p. 32).

While it is possible to become attached to a place and subsequently incorporate it into our "self" after a single experience, place identity is more likely to occur after repeated visits or after long-term habitation within an environment. The study suggested that Michigan's residents

incorporated the region into their self identity as a result of being assimilated into and experiencing the region's culture first hand. It is assumed that those individuals with the longest term of immersion into the region's culture are more likely to include Michigan in their place identity.

METHODOLOGY

A focus of the study was to measure the intensity of attachment Michigan's residents have for the state. How strong was their sense of place? To measure the sense of place attitude data were collected through a scale that included the following questionnaire statements:

1. I am happy living in Michigan.
2. I would like to live in Michigan for a long time.
3. I feel connected to the Great Lakes and Michigan.
4. Michigan provides many opportunities to engage in my favorite activities.
5. As far as I am concerned there are better places than Michigan.
6. Living in Michigan has helped make me what I am.
7. Michigan is a good place for doing the things I enjoy most.
8. I like living close to the Great Lakes.
9. Michigan and the Great Lakes mean very little to me.
10. For water related activities no other place can compare to the Great Lake state.
11. The Great Lakes are important to me.
12. I believe some other state would provide more opportunities to do the things I like to do.

In order to further refine the study's results, data were also collected on the demographic characteristics of the respondents. This data included gender, age, racial background, education, and household income. All data were collected by way of a questionnaire mailed to a random sample of Michigan's registered voters during November and December of 2002.

Within the scale were three sub-scales designed to determine the existence and strength of place attachment, place identity, and place dependence. All scale data were collected through five-point Likert scales ranging from strongly agree to strongly disagree. The sub-scale for place attachment included the following statements:

1. I am happy living in Michigan. (Statement 1)
2. I would like to live in Michigan for a long time. (Statement 2)
3. As far as I am concerned there are better places than Michigan. (Statement 5)

4. I like living close to the Great Lakes. (Statement 8)

Statements 1, 2, and 8 were designed as positive statements. An answer of agreement or strong agreement was interpreted as indicative of place attachment. Conversely, statement 5 was negative and answers of disagreement or strong disagreement were considered to be indicative of place attachment regarding Michigan and the Great Lakes.

The design of the subscales for place identity and place dependence followed a similar approach. The sub-scale for place identity was comprised of the following statements:

5. I feel connected to the Great Lakes and Michigan. (Statement 3)

6. Living in Michigan has helped make me what I am. (Statement 6)

7. Michigan and the Great Lakes mean very little to me. (Statement 9)

8. The Great Lakes are important to me. (Statement 11)

Statements 3, 6, and 11 were considered positive for the concept of place identity and statement 9 was considered negative.

The scale for place dependence included the following statements:

9. Michigan provides many opportunities to engage in my favorite activities. (Statement 4)

10. Michigan is a good place for doing the things I enjoy most. (Statement 7)

11. For water related activities no other place can compare to the Great Lake state. (Statement 10)

12. I believe some other state would provide more opportunities to do the things I like to do. (Statement 12)

The positive statements for place dependence were 4, 7, and 10 and statement 12 was negative. When combined, the sub-scales for place attachment, place identity, and place dependence became the sense of place scale.

Scale data were collected at the ordinal level and coded as 1 through 5 with strongly disagree coded as 1 and strongly agree coded as 5. The question data were coded as 1 or 2 for gender and 1 through 4 or 5 for the remaining demographic items.

FINDINGS

Respondents reported a very strong sense of place regarding Michigan and the Great Lakes. Statement 9 generated the strongest response (96.1%). The lowest response, 47.5%, was to statement 5. Table 1 contains the percentage of responses to each of the sense of place scale items that indicated a positive sense of place. Statement 5, the only item that did not generate a majority of responses indicating sense of place, was not considered indicative of a lack of sense of place, as

33.5% of the respondents to that statement indicated a neutral response. Furthermore, assumptions should not be made that Michigan's residents, though attached to the state, would not view other places as desirable.

Analysis of the data for the sub-scales revealed that Michigan's voters most strongly indicate attitudes of place identity among the three sense of place constructs. An average of responses indicating possession of the attitudes of place attachment, place identity, or place dependence as well as an overall sense of place are detailed in Table 2. Place identity, reported by 87.7% of the respondents, was clearly the strongest attitude followed by place attachment (79.3%) and place dependence (73.4%). An average of the responses to the scale items reveals that 80.1% of Michigan's voters possess a sense of place regarding the state and the Great Lakes.

The Cronbach's alpha coefficient obtained for the twelve-item scale was $\alpha = .87$ indicating a strong, internally consistent scale considered a reliable instrument to measure the level of sense of place. Cronbach's alpha measures the degree to which a multi-item scale can differentiate case responses more clearly than the individual elements could if considered separately. An alpha score of $\alpha = 1$ would indicate the combined items constitute a perfect measure of the concept being tested. The strength of the alpha score for the sense of place scale indicated that overall, the elements of sense of place regarding Michigan and the Great Lakes among Michigan's voters are well represented.

Demographic Data

A survey item seeking information on the gender of the respondents generated 635 responses, of which 345 were male (54.3%) and 290 female (45.7%). The stronger response from males was surprising because females represent 51.3% of Michigan's voter population compared to 48.7% for males (Voter News Service, 2000). Demographic data were collected on the racial background of the respondents. The survey provided five categories: Caucasian, African-American, Hispanic, Native-American, and other. Six hundred thirty-nine individuals provided data for this variable. Caucasians represent 85.8% of Michigan's voter population and were over-represented at 89% of those responding. Native-Americans were also over-represented at 3.3% of responses compared to 1.3% of the general population. African-Americans and Hispanics were both under-represented when compared to the voter population, 5.6% of the former versus 10.9% in the voting population and .8% of the latter versus 1.8%.

Overall Caucasians represented 89% of the responses (n= 569) compared to a combined minority response rate of 11% (n = 70; 36 African-Americans, 5 Hispanics, 20 Native-Americans, 9 indicating other). Percentages used to tally the members of racial groups in the general population add to more than 100%. Information used for this purpose was obtained from the 2000 US Census, which allowed individuals to report multiple racial backgrounds.

Data collected on age were scaled 18-30 years, 31-40 years, 41-50 years, 51-60 years, and greater than 60 years of age. Because the survey consisted of registered Michigan voters, the scaling began at 18, the age an individual can legally register to vote. The two youngest groups represented less than one quarter of all respondents (n = 649); 8.8% were 18-30 years old and 13.4% were 31-40 years old. Members of the 41-50 age group represented 25% of the respondents followed by 23.9% in the 51-60 year classification, the median age group. Respondents in the over-sixty-year age group were the largest, representing 29% of survey respondents and the mode age classification. This over-sixty age group was over-represented in the survey data as Michigan's voter population over the age of sixty represents 15.3% of the state's voters and approximately 22.7% of residents of voting age (2000 U.S. Census; Voter News Service, 2000). The response rate for the 41-50 and 51-60 age groups also appears to be over-represented. Data obtained from the Inter-University Consortium for Political and Social Research (ICPSR) indicate that Michigan's residents between the ages of 40 and 59 represent 43.6% of the state's population of registered voters and 49.1% of the voting age population while the survey's 41-60 year age group represents 48.9% of those responding. While the oldest age groups in the survey over-represented the voting population, the younger groups surveyed were under-represented; 8.8% of the survey respondents in the 18-30 year age group compared to 19.9% in the state's voting population and 13.4% in the 18-40 year age group compared to 21.1%.

The annual household income demographic was scaled in the following ranges: less than \$25,000; \$25,001-50,000; \$50,001-75,000; \$75,001-100,000, and greater than \$100,000 per year. Five hundred ninety-one individuals responded to the income question, 15.2% reported earning \$25,000 or less per year; 33.8% earned between \$25,001 and \$50,000; 24% reported earning between \$50,001 and \$75,000; 14.4% indicated \$75,001 to \$100,000; and 12.5% earned more than \$100,000. The median reported household income was in the \$50,001 to \$75,000 range, which is somewhat higher than Michigan's median household income of \$44,667 reported in the 2000 US Census. The annual household income

mode value was \$25,001 to \$50,000 corresponding with the census report's median value.

The sample was well educated. Data were collected at the nominal level on the amount of education the participants had completed in five categories: less than high school, high school, some college, college graduate, and college beyond a 4-year degree. Six hundred thirty individuals provided data for this variable. Fifteen (2.4%) indicated they did not finish high school, 151 (24%) were high school graduates, and 225 (35.7%) had attended some college. This group also represented the median and mode values for the level of education completed. One hundred twenty-seven (20.2%) were college graduates and 112 (17.8%) reported some college beyond earning a 4-year degree. Data available on Michigan's voting population indicate that 4.8% of the State's voters have not finished high school, 24.1% are high school graduates, 34.7% attended some college, 21.6% have a 4-year college degree, and 14.7% attended college beyond a 4-year degree (Voter News Service, 2000). The survey data indicate that non-high school graduates were under-represented and the respondents with post 4-year college experience were over-represented.

Demographic Impact on Sense of Place

Crosstabulation of the sense of place data with gender revealed females possess marginally higher levels of place attachment and place dependence than do males while males record the highest levels of place identity. Table 3 shows that place identity continues to be the strongest of the sense of place constructs and is only marginally impacted when controlling for gender. Computation of chi-square revealed there was no significance in the relationship between gender and sense of place. It appears that gender did not play an important role in the formation of a sense of place among the survey respondents.

Analyzing the sense of place data while controlling for racial background revealed that Caucasians consistently indicated higher levels of the attitude than the minority groups combined. Table 4 lists the percentage of each racial classification that indicated possession of a sense of place regarding Michigan. It also lists the percentages for the sense of place constructs relative to each classification.

Hispanics indicated the highest levels of place identity and place dependence. This group also reported the highest levels of sense of place of any group (86.7%). It should be noted only five out of the 655 respondents indicated a Hispanic racial background. Caucasians (n = 635) followed at 80.1%, Native-Americans (n = 19) at 75.5%, and other

racial groups ($n = 9$) at 73.9%. African-Americans, the largest minority group ($n = 65$), reported the lowest levels of sense of place (69.9%) and all three constructs. Computing chi-square revealed that the relationship between racial background and sense of place was only significant when considering place identity ($p = .050$) and place dependence ($p = .008$).

These results indicate that Caucasians have, in general, a much stronger sense of place regarding Michigan and the Great Lakes than that reported by the minority groups, at least 10% higher than African-Americans, the second largest minority group. Regardless, all groups indicated that a strong majority of respondents possessed not only a sense of place but also strong attitudes regarding place attachment, place identity, and place dependence.

Analysis of the sense of place data and education revealed that individuals who indicated having attended some college reported the highest levels of sense of place (see Table 5). There was no indication that sense of place regarding Michigan and the Great Lakes increased with education as those respondents who reported having more than a bachelor degree recorded a lower rate (78%) while 80.6% of individuals who had not >finished high school indicated possession of the attitude.

Survey respondents above the age of fifty years reported the highest levels of sense of place. The data reveal that overall 80.1% of the survey respondents possessed the attitude. When controlling for age, the two oldest groups, 51-60 years and individuals over 60 years of age recorded levels higher than the survey average while the ages groups under fifty years reported levels less than the average (see Table 6). The 51-60 year age group recorded the strongest levels of all as to the sense of place elements.

Table 6 compiles, by age group, the percentage of responses to the sense of place scale and the sense of place constructs that indicated possession of the attitudes. The data suggest that age and the development of sense of place are related, a finding in line with arguments of past sense of place research suggesting that the length of time spent residing in an area correlates with feelings of attachment and impacts the formation of self-identity. The survey data recorded a very large majority of the respondents having resided in Michigan for more than ten years (94.6%), suggesting the over 50 year age groups represented long-term residents of the state who had a well developed sense of place.

Table 7 details, by income group, the average percentage of responses to the sense of place scale and the sense of place construct elements that positively indicated the attitudes. The table shows that the

results of crosstabulating the sense of place data with income are mixed. Analysis reveals that individuals with incomes within \$75,001-\$100,000 reported the highest levels of sense of place and the three sense of place construct elements. Of this group, 83.3% indicated possession of the attitude regarding Michigan, 81.2% indicated place attachment, 91.4% place identity, and 77.4% place dependence. By comparison, the wealthiest group, those earning more than \$100,000 per year, reported the lowest levels of sense of place (77.1%), place attachment (78%), and place dependence (66.8%), negating any suggestion that sense of place was positively related to income.

CONCLUSIONS

The development of an individual's sense of place forms a psychological connection between a person and places like home, church or school. Kaltenberg (1997) and Low and Altman (1992) suggested that the attachment to a place in the sense of place theory is not restricted to size since attachments could be formed to places of any size. The research argued that individuals could also become attached to a larger spatial entity like a state or region, in this case the state of Michigan.

The data analysis revealed that Michigan's voters have developed a strong sense of place regarding the state. Overall, 80.1% of the survey's respondents indicated possession of the attitude. In addition, none of the demographic variables intervened in these results in a remarkable manner; all classifications of the variables studied recorded a majority of responses indicating possession of a sense of place.

The research analyzed the respondents' sense of place through three constructs commonly employed to study the attitude: place attachment, place identity, and place dependence as discussed in the literature review. The results of this analysis strongly confirmed past research. Kaltenberg (1997) and Low and Altman (1992) found individuals could develop attachment to places of all sizes. The data show that a large majority of Michigan's voters possess strong feelings about the state and regard it with special feelings (79.3%). Hay (1998), McAndrew (1998), and Gustafson (2001) found attachment is related to high levels of experience with a place. The research confirms these arguments; those in the oldest age groups and those with the longest term of residence in the state recorded the highest levels of place attachment.

The respondents reported high levels of place dependence regarding Michigan and the Great Lakes (73.4%). The data show that Michigan's voters are heavily involved in water-related activities. With more coastline than any other state except Alaska, Michigan provides many op-

portunities for water-related activities. Bricker and Kerstetter (2000) and Moore and Graefe (1994) found individuals become dependent on certain areas for satisfying desired outcomes. Michigan boasts of more than a million boat registrations among its nine million residents. The dependence of the state's population on water for recreation is obvious.

Of the three sense of place constructs, place identity was indicated by the largest percentage of respondents (87.7%). As discussed, Marcus (1992), Williams et al. (1992), and Moore and Graefe (1994) found that continued relationships between people and places contribute to self-identity and provide opportunities for developing sense of place and place identity. A large majority of the survey's respondents resided in the state for more than ten years, more than enough time to develop an attachment to Michigan and to begin to identify oneself with the state. Moore and Graefe (1994) also found that place attachment and place dependence naturally follow the development of place identity. They argue that an emotional attachment was necessary before one of dependence could be established. This helps to explain the higher levels of place identity when compared to the other sense of place constructs.

High speed communication, efficient transportation, and growing economic interdependence between nations suggests the relevance of regional and national borders is being replaced by global perspectives. While there is little doubt the world in many ways has become smaller, this research argues such assumptions are faulty. Attachment to places, small and large, continues to be a vital and integral element in the formation and continued strength of community. The relevance of this phenomenon to administration cannot be ignored. In a study of the cross border stewardship of natural resources, Brunson (1998) argues that any cooperation in solving problems is unlikely without first addressing the individual needs of the surrounding areas. The management of boundaries "lies in accommodating motivations for both territorial self-interest and common cooperation" (Brunson, 1998, p. 66). Along a similar vein, in an accompanying symposium article, Austin (2004) states that shared place identity provides a mechanism through which bonding develops and creates a common ground in which discourse on a variety of issues can take place. An example can be found in research showing Michigan's residents are strongly opposed to any attempts to divert Great Lakes water to other areas (Nanzer, 2003). A similar attitude is likely to be found in other regions of the Great Lakes basin. The shared identification with and interest in the lakes creates a common denominator through which cooperation on regional and cross border issues can begin. Potential legislation or admin-

istrative action regarding the Great Lakes would need to accommodate these interests before cooperation from the region's residents can be expected.

Michigan is a large place. Individuals residing within its borders represent a diversity of racial, religious, and cultural differences as well as a plurality of attitudes and interests. Despite the apparent disparity the study demonstrates that attachment to Michigan as a place characterizes most of the state's residents and, presumably, those who represent them in government.

When considering legislation or other solutions to public problems it is unusual to find common ground within a large population. The strong sense of place regarding Michigan is such a phenomenon, a shared connection among the state's nine million residents. Knowledge of this characteristic can be useful when formulating and implementing policy. Strategies appealing to sense of place can be employed to develop popular support for policy, even if the connection is only symbolic. Conversely, failing to consider initiatives without an underlying concern for the source of these attachments, or promoting courses of action that run counter to them, may result in policy that fails to gain popular support and legitimacy, and ultimately falls short of stated objectives.

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APPENDIX ONE TABLES

Table #1	
Percentage of responses by scale item indicating sense of place.	
Sense of Place	Survey Response
(1) I am happy living in Michigan.	93.4% n = 653
(5) I would like to live in Michigan for a long time.	87.4% n = 652
(12) As far as I am concerned there are better places than Michigan. (R)	47.5% n = 654
(17) I like living close to the Great Lakes.	88.7% n = 655
(9) I feel connected to the Great Lakes and Michigan.	91.4% n = 651
(14) Living in Michigan has helped make me what I am.	71.8% n = 650
(19) Michigan and the Great Lakes mean very little to me. (R)	96.1% n = 652
(27) The Great Lakes are important to me.	91.3% n = 653
(10) Michigan provides many opportunities to engage in my favorite activities.	92.2% n = 652
(16) Michigan is a good place for doing the things I enjoy most.	84% n = 653
(26) For water related activities no other place can compare to the Great Lake state.	63.6% n = 650
(37) I believe some other state would provide more opportunities to do the things I like to do. (R)	53.9% n = 642

Table #2	
Overall survey response rates for sense of place constructs.	
Place Attachment	79.3%
Place Identity	87.7%
Place Dependence	73.4%
Overall Sense of Place	80.1%

Table #3			
Percentage of responses to sense of place constructs by gender.			
Sense of Place	Gender		Survey Average n = 651
	Male n = 345	Female n = 290	
Place Attachment	Male 79.1%	80.9%	79.3%
Place Identity	87.8%	87.4%	87.7%
Place Dependence	73.3%	73.9%	73.4%
Overall Sense of Place	80.1%	80.7%	80.1%

Table #4							
Percentage of responses to sense of place constructs by racial background.							
Sense of Place	Racial Background						Survey Avg. n = 635
	Cauc. n = 567	Combined Minorities n = 68	African- Amer. n = 35	Hisp. n = 5	Native Amer. n = 19	Other n = 9	
Place Attachment	80.8%	71.1%	70.1%	75%	72.5%	66.6%	79.3%
Place Identity	93.6%	81.5%	77.5%	100%	83.2%	86.2%	87.7%
Place Dependence	74.4%	67.2%	62%	85%	71.8%	69.1%	73.4%
Sense of Place	81.2%	76.6%	69.9%	86.7%	75.8%	73.9%	80.1%

Table #5						
Percentage of responses to sense of place constructs by educational achievement.						
Sense of Place	Level of Education Completed					
	< High School n = 15	High School n = 150	Some College n = 224	College Grad n = 125	> Coll Grad n = 112	Survey Average n = 651
Place Attachment	85%	75.5%	83.3%	79.5%	75.7%	79.3%
Place Identity	84.3%	85.1%	89%	89%	88.6%	87.7%
Place Dependence	72.5%	73.2%	74.4%	76.6%	69.7%	73.4%
Sense of Place	80.6%	77.9%	82.2%	81.7%	78%	80.1%

Table #6						
Percentage of responses to sense of place constructs by age.						
Sense of Place	Age					
	18-30 Years n = 57	31-40 Years n = 87	41-50 Years n = 161	51-60 Years n = 154	> 60 Years n = 186	Survey Average n = 651
Place Attachment	73.7%	79.9%	76%	82.9%	82.4%	79.3%
Place Identity	88.2%	86.2%	85.6%	87.7%	90%	87.7%
Place Dependence	69.6%	73%	70%	77.4%	74.4%	73.4%
Sense of Place	77.1%	79.7%	77.2%	82.7%	82.3%	80.1%

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Table #7						
Percentage of responses to sense of place constructs by annual household income.						
Sense of Place	Annual Household Income					Overall Survey n = 651
	<\$25,000 n = 90	\$25,001-\$50,000 n = 199	\$50,001-\$75,000 n = 142	\$75,001-\$100,000 n = 85	>\$100,000 n = 73	
Place Attachment	78.3%	80.2%	79.1%	81.2%	78%	79.3%
Place Identity	86.1%	86.9%	87.5%	91.4%	86.5%	87.7%
Place Dependence	75.4%	74%	69.8%	77.4%	66.8%	73.4%
Sense of Place	79.3%	80.3%	78.8%	83.3%	77.1%	80.1%

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