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PUBLIC RECREATION AND NEIGHBORHOOD SENSE OF COMMUNITY: AN EXPLORATION OF A HYPOTHESIZED RELATIONSHIP

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Abstract.—This study explores the relationship between park attributes (perceived safety and perceived benefits) and their relationship to sense of community in urban neighborhoods. The study finds that the perception of benefits derived from park use has a direct relationship with sense of community, and that park safety is indirectly related to sense of community, with the perception of park benefits mediating the relationship between park safety and sense of community. Theoretical and practical considerations are discussed.

1.0 LITERATURE REVIEW

The review of literature introduces the concept of neighborhood sense of community (SOC), and then reviews its subcomponents and its relationship to parks, followed by discussion concerning the relationship between park benefits and park safety as attributes of parks.

1.1 Psychological Sense of Community

Our study is concerned with psychological sense of community. Although the concept of "sense of community" was originally introduced by Sarason in 1974, it was not until McMillan and Chavis' 1986 seminal work that community psychologists began researching SOC in earnest. McMillan and Chavis (1986) defined sense of community as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (p. 9).

Despite the extensive attention devoted to the sense of community construct (Sarason, 1974; Doolittle & MacDonald, 1978; Pooley et al., 2005), Hill (1996) concluded that researchers have not succeeded in reaching an operational definition of psychological SOC and that there is no universal agreement on the different dimensions that comprise this construct, thereby alluding to the notion that the construct is multidimensional.

1.2 Sense of Community and Benefits of Urban Parks

In urban environments, a natural substitute for serene suburban settings can be access to a park. The use of parks facilitates the establishment of closer social bonds within a neighborhood and the increase of personal satisfaction from participation in leisure activities, and in particular park use (Baldassare, 1992). Parks are widely understood to be places where most people desire to interact with other community members (Rivlin, 1982). Consequently, parks could have significant influence on the development of communities and more supportive neighboring (Cochrun, 1994).

The National Recreation and Park Association adopted the standard of park neighborhood "service areas," which are defined as areas within a one-half mile radius around the park (Mutter & Westphal, 1986). The service area standards take into account the area of gravitation to a park unit based on park

usage patterns (Buttimer, 1972). Therefore, service-area radius represents a standard method of defining neighborhoods within the area of influence of a park and is the most suitable approach for exploring the impact that parks have on SOC in nearby neighborhoods. Recreation and public areas that facilitate recreation, along with trail systems that connect parks to neighborhoods have been shown by neighborhood developers to increase neighborliness and sense of community in neighborhoods (Palmer, 1995). The purpose of this research is to explore the perception of parks as contributors to safety.

2.0 METHODS

This study adapted the SOC instrument developed by John H. Schweitzer's Sense of Community in Lansing Neighborhoods Project at Michigan State University (see http://www.msu.edu/user/socomm/). Begun in 1995, the SOC Project developed and tested an instrument to measure SOC in neighborhoods. Neighborhoods were defined as "face blocks," that is, streets facing each other that are geographically determined by cross streets or dead ends. The advantage of using face blocks as the unit of analysis was articulated by Perkins et al. (1990) as: (a) clear boundaries; (b) cultural homogeneity; (c) high participation; and (d) effectiveness in community action. Through focus groups conducted in 1994 and 1995, the SOC team found that residents identified their face block as their neighborhood community.

This study was conducted in Norfolk, VA, in the fall 2004 and the fall of 2006 in neighborhoods surrounding five parks. The parks all had amenities that are conducive to social interaction (e.g., recreation areas, picnic/grilling areas, playground equipment, and in some cases public pools and community recreation centers). In addition, distance to the park was taken into account in the selection of the study blocks. Using Lund's (2003) suggestion, all selected blocks were within a one-quarter to one-half mile radius of a park because this distance is accepted in the planning literature as a comfortable walking distance for local residents.

This study utilized a mixed method approach. Two weeks prior to researching a block, fliers were left on the front doors of houses to notify prospective participants of our arrival in their neighborhood. Although the initial intention was to conduct face-to-face interviews in a random selection of weekend/weekday days and morning, afternoon, and evening times, the initial methodology was altered due to safety concerns on some of the blocks, and due to extremely uncooperative weather conditions. Additionally, most respondents preferred to self-administer the questionnaire. As such, the approach of the research team involved the following:

- Step 1: Upon initial contact, attempt to initiate a face-to-face interview;
- Step 2: If respondent is unwilling to sit for a face-to-face interview, or pressed for time, offer to (a) leave the survey and establish a time for "pick up"; or (b) leave the survey with a self-addressed stamped envelope.

Using, this two-step approach expedited the data collection process. However, responses from lower-income and mostly African American neighborhoods were difficult to obtain, even with the offer of face-to-face follow-ups. The number of houses on the included blocks was 450. Four residents refused to participate in the survey and 16 households were empty. Surveys were distributed to 430 households in 27 face blocks. A total of 119 usable surveys were collected. As of this writing, the response rate is 27.1 percent (this study will continue in the fall of 2007).

2.1 Measures of Sense of Community

The SOC scale developed by Schweitzer and his team of researchers (Crew et al., 1999; Mackin, 1997; Schweitzer et al., 1999) incorporated six dimensions that were found in the literature: (a) belonging (BEL); (b) connection (CONN); (c) empowerment (EMP); (d) participation (PART); (e) safety (SAFE); and (f) support (SUPP). The theoretical basis for the sense of community scale developed by Schweitzer's team most closely parallels contributions from McMillan and Chavis (1986) and Perkins et al. (1990). All items were measured on a Likert-type scale where

1 = strongly disagree, 2 = disagree, 3 = neutral/not sure/don't know, 4 = agree, and 5 = strongly agree (see http://www.msu.edu/user/socomm/ for a sample of items, and click on "Data"). Two additional measures of safety ("compared to other neighborhoods, I feel this neighborhood is safe" and "criminal activity in this neighborhood is minimal") were added to the original SOC scale to increase the number of items to four for that dimension.

2.2 Measures of Park Attributes (PKAT)

Because there is no prior literature on a park attributes scale, we consulted the leisure and urban planning literature for guidance in developing one. We identified two subdimensions of PKAT: (a) perceived benefits derived from park use (PKBN); and (b) safety benefits derived from the parks (PKSF). The items reflecting the perceived benefits dimension have been used in previous research (Gómez, 2007) with a reported alpha of .81 for the perceived benefits subscale. The questions for perceived benefits involved items related to interaction, family, children, escape, relaxation, exercising, and open space with respect to parks. The questions for the safety dimension involved items related to feelings that parks make the neighborhood safer, decrease criminal activity, and decrease juvenile delinquency. All items had the same Likert-scale responses identified above. The hypothesis of the research is that safe parks help to create safe neighborhoods.

Thus our initial conceptual model (see Figure 1) was PKAT → SOC. PKAT is a construct consisting of two subscales – PKSF and PKBN. SOC is a construct consisting of six subscales – BEL, CONN, EMP, PART, SAFE, and SUPP.
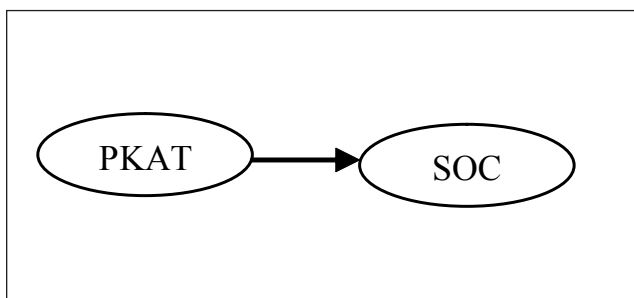

Figure 1.—Initial conceptual model.

3.0 RESULTS
3.1 General Descriptive Statistics

More than 66 percent of the 119 survey respondents were female. Respondents' ages ranged from 16 to 89 years old, and the average age was 51.8 years. The racial and ethnic background of the respondents was: White (Caucasian) 74 percent, Black (African American) 19.3 percent, Hispanic (Latino) 0.9 percent, and Native Americans 1.8 percent. The majority had either a baccalaureate degree (25 percent) or had completed some college (26.5 percent). Most (89 percent) owned their homes, and 52 percent were employed, while 33 percent were retired. Two-thirds of the participants (66 percent) were married.

3.2 Descriptive Statistics for Sense of Community

Almost one-third (31.4 percent) of the respondents, reported perceived overall neighborhood SOC as very good, 25 percent as excellent, 24 percent as good, 15 percent as fair, and only 4 percent as poor. These results indicated an overall positive SOC. A majority of respondents, 61 percent, reported the level of crime as lower in their neighborhood as compared to other neighborhoods. Nearly 70 percent of respondents held meetings within their neighborhood regularly and 58 percent reported that they socialized with neighbors. When respondents were asked "How many families/ households in this neighborhood do you consider to be your friends?" only 10 percent declared that they are friends with most of their neighbors and 61 percent were friends with a few of their neighbors (this item was measured on a Likert-type scale where 1 = None/0 percent, 2 = Few/25 percent, 3 = Some/50 percent, 4 = Most/75 percent, and 5 = All/100 percent).

3.3 Descriptive Statistics for Park Use

The frequency of park use of respondents varied from almost never to daily, with an average value of 0.93, which equates to one visit to the park per month. Over half (55.8 percent) of the respondents reported that they never or almost never used their neighborhood parks, whereas 6 percent used the park daily. The walking time to the nearest neighborhood park ranged from 1 to 45 minutes, with an average of

7.5 minutes. About 45 percent of respondents said that their neighborhood parks were within a comfortable walking distance. Almost 43 percent of respondents described park access as excellent, 40 percent described it as very good or good, and only 7 percent described it as poor. A total of 27 percent of the respondents said that they would support the building of more parks in their neighborhood.

3.4 Inferential statistics

All analyses were performed using an alpha of .05 as our criterion. An exploratory factor analysis using Varimax Rotation was conducted to determine if the variables within the PKAT and SOC constructs were valid measures of the underlying constructs. According to Tabacknick and Fidell (1996), values of 0.60 for the Kaiser-Meyer-Olkin (KMO) and p<0.05 for Bartlett's Test of Sphericity (BTS) is required for factor analysis. Prior to statistical analysis, the KMO measure of sampling adequacy was employed to evaluate the data. Guadagnoli and Velicer (1988) concluded that factors/constructs are well defined when they have factor loadings of 0.60 or higher.

An abridged version of the subscales is presented here. Sampling adequacy was confirmed using a KMO (>0.60) and Bartlett's Test of Sphericity (BTS) (p<0.05) on both the SOC subscales and the PKAT subscales. All scales met both the KMO and BTS criteria. Additionally, all subscales passed internal validity (factor analysis) and reliability (Cronbach's alpha) tests. The next step was to see if the subscales of PKSF and PKBN held together to form PKAT, and whether the subscales of BEL, CONN, EMP, PART, SAFE, and SUPP held together to form SOC.

The PKAT construct did not hold well together and as a result PKSF and PKBN had to be looked at separately as independent variables predicting SOC. The SOC subscales (Table 1) passed all validity (factor analysis) and reliability (Cronbach's alpha) tests. Table 1 illustrates that all factor loadings for the SOC subscales were above the 0.60 criterion and that Cronbach's alpha was 0.86 (p<.05). Figure 2 shows the revised conceptual model based on the validity and reliability analyses.

Table 1.—Subscales of SOC construct (N = 119)

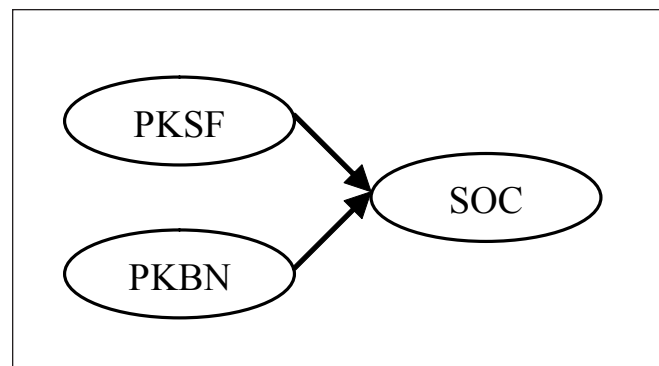| Sense of Community Construct (α= 0.861)			
Items	M	SD	h[a]
Support component	3.78	0.76	0.85
Belonging component	3.77	0.80	0.88
Connection component	3.42	0.70	0.73
Participation component	3.46	1.00	0.85
Safety component	3.66	0.73	0.69

[a]Factor Loading

Figure 2.—Revised conceptual model.

A correlation analysis was conducted to investigate the association between the independent variables (PKSF, PKBN) and the dependent variable (SOC). The only variable significantly correlated with SOC was PKBN ($\beta = 0.26$, $r^2 = 0.07$, p < .05). Similarly, the only variable correlated with PKBN was PKSF ($\beta = 0.48$, $r^2 = 0.23$, p < .0001). As a result of the correlation/regression analysis, a new conceptual model emerged: PKSF → PKBN → SOC (Fig. 3).
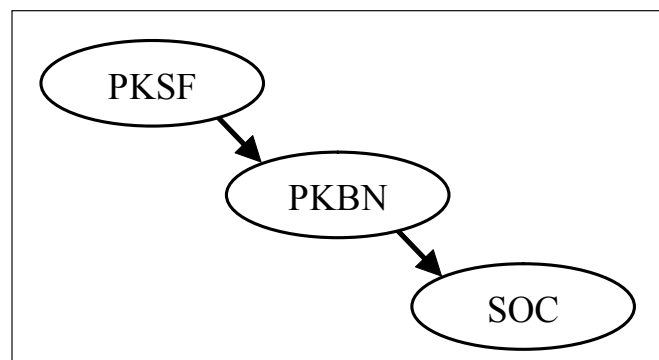

Figure 3.—Final conceptual model.

4.0 DISCUSSION AND CONCLUSIONS

The results indicate that PKAT, as a construct, was not a valid composite of PKSF and PKBN, but that these two subscales should be analyzed separately. PKBN had a direct correlation with SOC, whereas PKSF's association with SOC was indirect. The subscales related to SOC all held. From a theoretical perspective, we have provided support for a multidimensional measure of SOC, as was alluded to by Hill (1996). As Unger and Wandersman (1985) suggested, and McMillan and Chavis (1986) affirmed, SOC was incorporated the dimensions of support, safety, connection (including emotional connection and shared values), participation and belonging. Thus, the present study can be regarded as a confirmation of this structure from cross-sectional research in a specific municipal community.

More importantly, we found support for a direct relationship between the perception of park benefits and increased sense of community. However, park benefits are affected by the perception of safety at the parks. Thus, park safety was found to be a precursor to benefits derived from the use of the parks. From a practical perspective, this makes sense. Municipal recreation departments need to ensure that parks are safe in order for residents to receive benefits from them. Our study found that nearly 25 percent of the perceived benefits that respondents derived from park use can be explained by knowing their perceptions of safety. Partnerships between civic leagues or neighborhood organizations, community police officers, and municipal park leaders need to extend from the neighborhood to the park and vice versa in order to establish sense of community at the park as an extension of or as a precursor to sense of community in the neighborhoods. Additionally, extolling the benefits of parks and recreation outside of parks and recreation centers and into neighborhoods may increase use of the parks and sense of community.

Future studies should consider additional analyses. For example, is there a difference between those residing near a park and having easy access, versus those who do not reside near a park or have a barrier to the park (e.g., a major road or not within walking distance)? To what extent do the perceived benefits of a park extend beyond the service area? Additionally, given that 56 percent of respondents in this study rarely use their neighborhood parks, the potential benefits of park use are not being maximized. Therefore, additional attention can be devoted to exploring how the recreational use of parks can be encouraged and how the barriers to park use can be minimized.

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