

Sense of Community Through Brunswik's Lens: A First Look

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Although sense of community was heralded by Sarason (1974) as the "over-arching value" of community psychology, no theory or definition of the phenomenon has been operationalized or empirically tested. The difficulty in the scientific exploration of sense of community is in the value-laden and phenomenological nature of the experience. Following McMillan and Chavis (this issue), it is theorized that sense of community is represented by four elements: membership, influence, integration and fulfillment of needs, and shared emotional connection. Brunswik's lens model offers an appropriate method for determining the shared domain of the experience within a diverse population. The goal of this study was to develop a Sense of Community Index (SCI) that would allow the determination of the relative influence of various factors on the judgment of sense of community. Twenty-one judges, representing four professional groupings selected from three urban centers, where employed in the rating of 100 sense of community profiles of randomly selected individuals. There was a high degree of consensus among the diverse groups of judges, and a regression equation with 23 predictors derived from the sense of community profile accounted for 96% of the variance of mean judges' ratings of overall sense of community. The results were interpreted as supporting the theory of McMillan and Chavis, which appears suitable both for scientific investigation and as a framework for intervention. The relationships of specific profile items (e.g., neighboring behavior, length of residence, home ownership, involvement in voluntary associations) are related to the four elements and to the prediction of overall sense of community.

In recent years, psychology has discovered sense of community as a factor that is elusive but integral to the community psychology movement. Despite the concern expressed by community psychologists over the erosion of sense of community, there has been no common definition that could be operationalized, and it has escaped systematic attention (Glynn, 1981; McMillan, 1976). Sarason (1974) offered an explanation of the difficulties in studying the concept of sense of community:

[It] is not . . . familiar . . . in psychology. . . . It does not sound precise, it obviously reflects a value judgment and does not sound compatible with "hard" science. It is a phrase which is associated in the minds of many psychologists with a kind of maudlin togetherness, a tear-soaked emotional drappiness that misguided do-gooders seek to experience. (pp. 156-157)

He stated, however, that "you know when you have it and when you don't" (p. 157).

This research was partially supported by National Science Foundation Grant BNS-78-08827 and DHEW-PHS Biomedical Research Support Grant S07-RR-07087. The authors would like to thank Bertha Holliday and J. R. Newbrough for their review of earlier drafts.

This article is based on the first author's thesis for the Master of Science degree from George Peabody College.

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Several recent investigations of sense of community (Ahlbrant & Cunningham, 1979; Bachrach & Zautra, 1985; Doolittle & MacDonald, 1978; Glynn, 1981; Riger & Lavrakas, 1981) are reviewed by McMillan and Chavis (this issue). While these studies do afford important insights into sense of community, they provide only a limited explanation of the construct. First, none of the studies are based on a definition or theory of sense of community. Second, four are based on a post-hoc derivation through factor analytic techniques, and the other was reported to be face valid (Bachrach & Zautra, 1985). Finally, these studies focus primarily on demographic factors rather than communality in the experience of a sense of community. A notable exception is the work of Bachrach and Zautra (1985), which showed that a sense of community indirectly increased community involvement. Clearly, a testable theory of sense of community is needed.

In the present study, formal and operational definitions of sense of community, considered to be a perception with an affective component, were based on the work of McMillan (1976) and were used to develop a Sense of Community Index (SCI), the primary objectives being to validate sense of community as an empirically sound construct and to demonstrate its application. McMillan's literature review in the areas of group cohesiveness and community led to the following formal definition:

Sense of community is a feeling that members have of belonging and being important to each other, and a shared faith that members' needs will be met by their commitment to be together. (p. 11)

McMillan proposed that four elements are necessary to the construct: (a) membership, (b) influence, (c) sharing of values with an integration and fulfillment of needs, and (d) shared emotional connection. *Membership* has four attributes: boundaries, emotional safety, sense of belonging, and personal investment. These aspects work together to determine who is a part of the group and who is not.

Influence has four important characteristics relative to sense of community: (a) that members are most attracted to a community in which they feel they have power; (b) that a community's influence on its members to conform is significantly related to the members' sense of community; (c) that the pressure toward conformity and uniformity comes from the need of individuals and the community for consensual validation, by which members achieve closeness; and (d) that a member's influence on the community and the community's influence on the member operate concurrently.

Integration and fulfillment of needs in a sense of community are an outcome of the concept of person-environment fit (Rappaport, 1977; Stokols, 1979). To the extent that individual values—one's sense of one's own needs and the needs of others—are shared, a community will be able to organize its need-meeting activities and set priorities. A strong community is able to fit people together so that people meet the needs of others while meeting their own.

Finally, a *shared emotional connection* in time and space is an affective component of sense of community that develops because communities offer their members positive ways to interact, important events to share, positive means of resolving events, opportunities to honor members, opportunities for personal investment in the community, and opportunities to experience a strong spiritual bond among members. Focusing on the value of events, McMillan's (1976) shared valent event hypothesis states that the greater the importance of a shared event to those involved, the greater the group's cohesiveness. A shared event may be one's life in a neighborhood or a neighborhood's

common experience of crisis for which the neighborhood's importance to its members affects the level of community experienced.

It should be noted that a sense of community may arise out of experiences or conditions that are not tied to a physical locality. Fischer (1977, 1982) and Wellman (1979), among others (Hunter & Suttles, 1972; Janowitz, 1952), have reported that there are a growing number of communities which are not tied to a locality (e.g., based in interest, profession, workplace, race, sexual preference).

The subjective nature of sense of community requires that validation of its theoretical construction tap the phenomenology of its perception. The lens model, originally developed by Egon Brunswik (1947; also see Anderson, Deane, Hammond, McClelland, & Shanteau, 1981; Hammond, 1966; Petrinovich, 1979) is presented as an appropriate methodological framework for this type of investigation.

Theory and Methodology

The Lens Model

Based on Brunswik's theory of probabilistic functionalism (Brunswik, 1947), the lens model has been used successfully in experimentation in such diverse fields as social ethology, evolutionary biology, psychometric construct validity, social judgment, the psychology of prediction, bird migration, habituation, and human development (Petrinovich, 1979). The technique chosen for the present study draws on social judgment theory (Anderson et al., 1981; Hammond & Adelman, 1976; Hammond & Brehmer, 1973; Hammond, Stewart, Brehmer, & Steinmann, 1975; Hammond & Wascoe, 1980) and follows an adaptation of Brunswik's model, as outlined by Hogge, Fellendorf, Moore, and Wuescher (1979). According to this model (see Figure 1), the true level of any phenomenon such as sense of community (Y_t) is not directly observable and can only be inferred by judges given access to a set of variables ($X_1, X_2, X_3, \dots, X_k$). These variables can be represented by a written profile that contains values of the variables

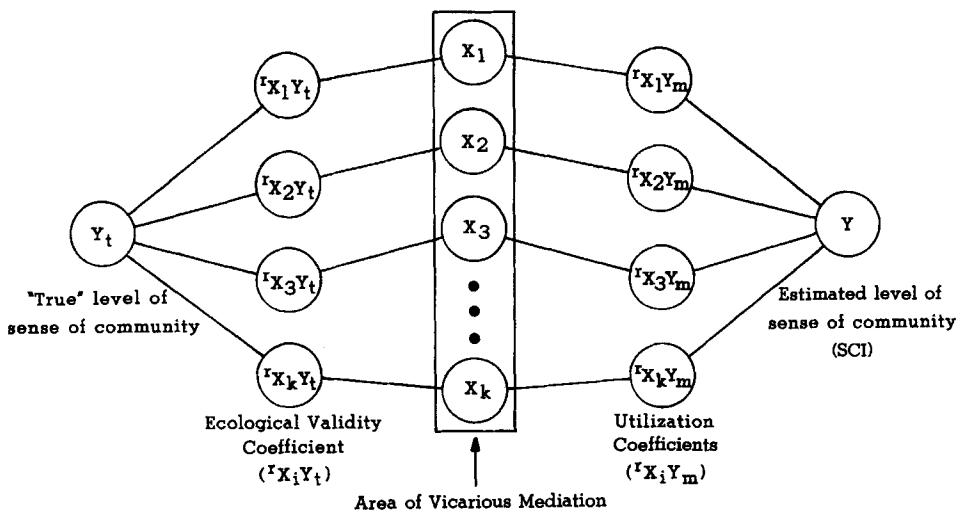


Figure 1. Judgment of sense of community in terms of Brunswik's lens model.

for real people. The selection of variables for the profile is made on the basis of the relevance of the information according to its source or because of theoretical implications.

One strength of the lens model is its ability to examine the components of a phenomenon within a holistic context. Numerous authors have criticized psychological research for being too microscopic in its level of inquiry and for failing to develop and examine constructs on a functional level; this has led to scientific crisis in many areas (Brunswik, 1952; Gergen, 1978; Gibbs, 1979; Newbrough, 1974; Samaroff, 1979; Wallston, 1979). The lens model offers a theoretical basis for mathematically untangling individual and/or group perceptions by identifying the degree to which certain cues are relied on in the perception of a phenomenon or judgment about it.

This model assumes that perception requires unconscious inference and that unconscious inferences can be statistically represented in the utilization coefficient (see Figure 1). It calls for representative individuals to act as judges of a number of profiles containing information on the phenomenon. The phenomenon studied must be at a functional level (functionally complete within itself), the profile ($X_1, X_2, X_3, \dots, X_k$) containing the elements (cues) from the domain of observables that hypothetically correspond to the construct (distal variable). The utilization coefficients ($r_{X_i;Y_m}$) are described as the "cue utilization" (Hammond et al., 1975) and represent the relationship between the variables presented on the profile and the "estimation" (judgment or perception) of the level of relative strength of the distal variable (Y). According to Brunswik (1952), total perception yields a certain portion of unconscious inference; therefore, this method compensates for what might happen unconsciously in perception and has greater accuracy, as Hoffman (1960) found, than if judges were to estimate the influence of each cue themselves.

Each individual judgmental system can be translated into a linear model through multiple regression (Cohen & Cohen, 1975; Draper & Smith, 1966). The linear model, as adapted from Hogge et al. (1979), in its general form is as follows:

$$Y = w_1X_1 + w_2X_2 + w_3X_3 + \dots w_kX_k + C + E$$

where

Y = judge's estimate of the level of the distal variable

$X_1, X_2, X_3, \dots, X_k$ = elements (cues) of the distal variable

$w_1, w_2, w_3, \dots, w_k$ = least square regression weights

C = regression constant

E = residual error

This regression model corresponds to what Dawes (1979) has called an improper linear model and is taken as a paramorphic (Hoffman, 1960) representation of the judge's cognitive system. Multiple regression techniques are used to identify the utilization coefficients ($r_{X_i;Y_m}$ in Figure 1) that contribute to the perception.

A proper sampling of judges can yield an estimate of the distal variable—the true level of a sense of community—representative of the consensus among major points of view. The lens model accommodates the perceptions of persons with divergent perspectives by determining where there exists a consensus or shared reality. This process defines a common core of perception that can make the intangible tangible. It has the capacity to incorporate the cognitive systems of a wide range of observers representing different cultural systems in our society. Cultural differences and similarities can be examined

through this process. Elaboration of the theory and procedure specific to our method can be found in Davis and Plas (1983) and in Hogge et al. (1979).

Hypotheses

The following hypotheses were tested in this exploratory study.

*H*₁: There will be a high degree of consensus in the judges' perceptions of sense of community.

*H*₂: Judges' common estimates of sense of community can be predicted by items representing the four elements of sense of community (membership, influence, sharing of values with an integration and fulfillment of needs, and shared emotional connection).

Procedure

The data used for the development of the Sense of Community Index (SCI) were collected by the Neighborhood Participation Project (NPP) of the Center for Community Studies, George Peabody College for Teachers, and consisted of 1,213 personal interviews conducted during the summer of 1979. The respondents were adult residents (at least 18 years old) of the Waverly-Belmont neighborhood in Nashville, Tennessee. Trained interviewers called on all houses on 39 blocks selected for the study and recorded responses to a 105-item survey.

Sense of Community Profile (SCP) Development

The SCP consisted of 44 items extracted from the NPP survey. These items may be grouped according to McMillan's (1976) scheme, as follows.

Membership. Involvement in local organizations (e.g., neighborhood organizations, PTA, church group, community center) and neighboring patterns (e.g., number of people one can recognize on one's own block).

Influence. Involvement in political and issue-oriented organizations, personal sense of political efficacy, sense of civic duty, and perceptions of individual's and block member's ability to improve block.

Integration and fulfillment of needs. Satisfaction with block, degree to which block meets needs, importance of block, and perception of block attributes.

Shared emotional connection. Type and extent of close relationships with people on the block, home ownership, involvement in social groups, and actual and anticipated length of residency.

Unrelated items. Age, marital status, sex, and following news in newspaper or on television. These items were included because they were deemed not to be related strongly to the other items and could act as distractors.

Table 1 presents the distribution of items according to category and lists the final predictors. The operationalization of variables (described below) resulted in 23 related predictors and 8 unrelated predictors.

Selection of Representative Cases

One hundred cases were randomly selected from the 1,213 interviews. A profile was developed for each of the 100 cases.

Selection of Panel of Judges

There were 21 judges selected from 3 urban cities: Nashville, Tennessee (*n* = 11); Buffalo, New York (*n* = 9); and Columbia, South Carolina (*n* = 1). These judges

Table 1
Distribution of Sense of Community Profile and Resulting Predictors

Name of final predictor	Number of items	Percentage of profile
Membership		
Mean level of neighbor interaction	7	15.9
Involvement in church group	1	2.3
Involvement in business or civic group	1	2.3
Involvement in PTA	1	2.3
Involvement in youth groups	1	2.3
Involvement in community centers	1	2.3
Involvement in charity or welfare organizations	1	2.3
Involvement in neighborhood organizations	4	9.1
Subtotal	17	38.8
Influence		
Perception of block's ability to solve problems	1	2.3
Influence person feels he or she has on improving block	1	2.3
Involvement in political clubs or organizations	1	2.3
Involvement in issue- or action-oriented groups	1	2.3
Level of political efficacy (based on score from a 5-item scale developed by Campbell, Gurin, & Miller, 1954)	1	2.3
Level of sense of civic duty (based on score from a 4-item scale developed by Campbell et al., 1954)	1	2.3
Subtotal	6	13.8
Sharing of values with an integration and fulfillment of needs		
Mean perception of block attributes	6	13.6
Degree of satisfaction with block	1	2.3
Importance of what block is like	1	2.3
Degree to which block meets needs and values	1	2.3
Subtotal	9	20.5
Shared emotional connection		
Whether own or rent home	1	2.3
Length of residency	1	2.3
Involvement in social or card-playing groups	1	2.3
Mean of close neighborly contacts	3	6.8
Planned length of residency	1	2.3
Subtotal	7	16.0
Unrelated items		
Age	1	2.3
Sex	1	2.3
Follows political news	1	2.3
Marital status (single, married, divorced, widowed, separated)	1	2.3
Subtotal	4	9.2
Final number of predictors: 31	Total	43
		100.0 ^a

^aTotal percentage is actually slightly lower due to rounding error.

represented social scientists ($n = 6$), community service and community organization professionals ($n = 4$), local political and neighborhood organization leaders ($n = 5$), and members of the general public ($n = 6$). Choice of judges was based on a number of criteria including social class, occupation, race, sex, and exposure to situations where judgments concerning sense of community may be required.

Three judges initially recruited for the task were later replaced. Two of the three did not complete the task for personal reasons, and regression analysis of each judge's individual judgment revealed that the third had an R^2 of .318. The exceptionally low R^2 was used as a basis for exclusion, because it showed that little could be learned about the judge's conception of sense of community on the basis of profile items.

The final 21 judges consisted of 12 men and 9 women. Sixteen were white, three were black, and two were Puerto Rican. The mean age was 37.7 years (range = 22 to 75 years). The judges averaged 15.9 years of formal education, including doctorates ($n = 5$), master's degrees ($n = 3$), bachelor's degrees ($n = 5$), high school diplomas plus some college ($n = 5$), and high school diplomas ($n = 3$). Occupational status was varied, with the judges including university professors, a waitress, a city council member, clerical workers, an x-ray technician, a real estate agent, a community organizer, a vocational counselor, social service administrators, and retired persons.

Profile Rating

Each judge was asked to rate each profile on a 1-to-5 scale (5 being the highest level of a sense of community) on the basis of his or her own conception of sense of community. To avoid heavily skewed ratings, they assigned ratings in accordance with a normal distribution using the Q-sort technique (Nunnally, 1978). Ratings were distributed as follows:

Scale point:	1	2	3	4	5
Number of cases in each rating category:	6	24	40	24	6

Each judge was mailed a package containing an introductory letter with instructions, a questionnaire to be filled out after completing the judgment task, and copies of the 100 SCPs. The judges were told they had 1 week after receipt of the package to complete the judgment task and that if questions arose, they could contact the first author by telephone. No such calls were received.

Judges reported that it took them an average of $2\frac{3}{4}$ hours to complete the task (range = 1 to $4\frac{1}{2}$ hours). Judges were paid \$25 for participating.

Assessment of Agreement

Each judge was treated as an individual item, and a correlation matrix of all possible pairings of judges was developed. Coefficient alpha (Cronbach, 1951) was employed to estimate the homogeneity (agreement) among judges. If a high degree of agreement had not been found, development of individual equations and identification of potential clusters of agreement could have been pursued, as described by Hogge et al. (1979).

Operationalization of Variables

Various strategies were employed to reduce the final number of predictors to 31 and to concentrate the relevant meaning of a number of items. The means of the three shared emotional connection items related to neighboring and the mean of seven of the membership items related to neighboring were computed. A score representing the mean

of six items concerning the individuals' perception of their blocks was used as a single variable.

The condensation of the information concerning participation in various organizations posed a unique problem. The profile included information denoting whether or not the respondent was a member of any of 10 types of organizations (church- or synagogue-related, social and card-playing, issue- or action-oriented, youth, PTA, business or civic, political, charity and welfare, community center, and neighborhood). If the individual was a member, it was noted whether or not he or she considered himself or herself a leader and the number of meetings attended. We wanted to represent a person's involvement in any organization through a single measure. A scaling procedure similar to the one previously outlined for the Sense of Community Index (SCI) was employed to develop an involvement score. An involvement score based on each of the 10 types of organizations was derived for all 100 cases.

The above-mentioned operationalizations and consolidations of certain items in the profile were used in the development of an overall equation. Table 1 expresses the effect this had on the final distribution of items before they were subjected to statistical analysis.

Development of an Overall Equation

Once a high degree of agreement had been identified among all judges, a single regression equation was used to model \bar{Y} , the mean of the judges' ratings, with the items on the profiles as predictors. $\hat{\bar{Y}}$ constituted the SCI.

Application of the Equation

The SCI ($\hat{\bar{Y}}$, the predicted mean rating) for Sense of Community profiles never seen by the judges can be determined by using the regression weights ($w_1, w_2, w_3 \dots w_k$) from the developed equation. The equation and resulting SCI score can then be used for validation of the sense of community construct as proposed later in this article.

Results

Assessment of Agreement

The assessment of agreement among the judges resulted in a coefficient alpha of .97, which was interpreted as indicating a very high degree of consensus. To examine possible profession-linked differentiation in judgment, Fisher's (1915) z transformation was employed to compute average correlations of two types as recommended by Hogge et al. (1979):

(1) Intracategory: the average correlation of the ratings of each judge within the category with the sum of the ratings of the other judges within the same category.

(2) Intercategory: the average correlation of the ratings of each judge within the category with the sum of the ratings of the judges in each of the other three categories. (pp. 652-653)

Table 2 presents the results of this analysis.

The italic values are average intracategory correlations. Each of the rows contains the average intercategory correlations for the judges in the professional grouping corresponding to that row. A two-tailed test of the significance of differences (Cohen & Cohen, 1975) between average intracategory correlations and the same group's average correlation with the other three judgment groups revealed nonsignificant differences for

Table 2
Average Intracategory and Intercategory Correlations

	Social scientists	Community service professionals	Neighborhood leaders and politicians	General citizens
Social scientists	<i>.84</i>	.80	.66	.68
Community service professionals	.76	<i>.72</i>	.66	.72
Neighborhood leaders and politicians	.50	.64	<i>.65</i>	.71
General citizens	.66	.73	.73	<i>.76</i>

Note. Italic values indicate intracategory correlations.

all professional groups except the social scientists. The social scientists, on average, correlated significantly higher ($p < .01$) within their group than they did with the neighborhood leaders/politicians and the general citizens. The difference between the average intracategory correlation for the social scientists and the group's average correlation with the community service professionals was not significant. These results were interpreted as indicating that there is sufficiently limited division between the professional groups and a sufficiently high level of consensus among all judges to justify using the mean of the judges' ratings as the criterion in developing the SCI.

Development of an Overall Equation

Twenty-three related items and eight unrelated items were used as predictors in a simultaneous multiple regression equation using the mean judges' rating as the criterion. This equation was compared with a similarly derived one that included the 23 related items only. The unrelated items did not contribute significantly ($F [8, 69] = .49$) and were excluded from the remaining analysis.

Table 3 summarizes the final regression equation with 23 predictors. The multiple correlation for the equation was .98 ($p < .001$). Taking shrinkage into account (Cohen & Cohen, 1975), the squared multiple correlation in the population is estimated to be .95; in the equation for this sample, 96% of criterion variance was explained.

In order to determine the degree of contribution of each of the profile items, a stepwise regression procedure (Cohen & Cohen, 1975) was used. The results of this analysis are also included in Table 3. Twelve items contributed significantly ($p < .01$), and three additional items contributed at the $p < .05$ level. The predictors are listed in Table 3 in order of correlation with the SCI. This correlation is called the regression factor structure coefficient (Cooley & Lohnes, 1971). The mean of the squares of these coefficients was .16; that is, on the average, only 16% of the variance of the typical predictor was relevant to the SCI. Given that 95% of the variance in the mean rating was explained by the entire regression equation, the low average squared regression factor structure coefficient implies that typically the judges relied on small portions of the information in each of the predictors when making their overall judgments of sense of community. The average small degree of information offered by each of the predictors in the judgment of sense of community can be explained by (a) the redundancy of predictors and (b) the presence of information in the predictors besides that which is relevant to sense of community. The regression factor structure coefficients are more appropriate than the raw score or standardized weights for interpretive purposes (Cooley & Lohnes, 1971).

According to Cooley and Lohnes, these weights are subject to much fluctuation from sample to sample, while the regression factor structure coefficients are more stable. The factor structure coefficients are represented as utilization coefficients in Figure 1.

In summary, the predicted mean of the judges' ratings was more than adequate in accuracy of prediction to warrant its use as the SCI. While 15 of the 23 predictors contributed at the $p < .01$ or $p < .05$ level of significance, all but one of the predictors (involvement in community centers) correlated significantly with the SCI at the $p \leq .05$ level. This is reinforced by the average squared regression factor structure coefficient described above and is attributable to overlapping variance among the predictors (cues).

Table 3
Regression Equation for Predicting Mean of Judges' Ratings

Predictor	Raw-score weight	Standardized weight	Regression factor structure coefficient ^a
**Mean level of neighbor interaction	.33	.37	.75
Mean level of close neighbor relations	.04	.04	.62
**Sense of civic duty	.19	.09	.59
**Involvement in neighborhood organizations	.26	.03	.55
**Planned residency	.12	.08	.50
**Involvement in churches	.17	.02	.45
Whether own or rent home	.00	.00	.41
**Involvement in PTA	.09	.02	.39
**Satisfaction with block	.11	.08	.39
Influence on improving block	.04	.03	.38
**Involvement in business or civic group	.08	.02	.37
*Length of residency	.08	.05	.33
Involvement in youth groups	.03	.01	.33
*Importance of block	.04	.03	.32
*Level of political efficacy	.05	.03	.31
Degree to which block meets needs and values	.03	.03	.30
Perception of block	.04	.04	.28
**Involvement in issue- or action-oriented groups	.13	.04	.26
**Involvement in charity or welfare organizations	.08	.02	.24
**Involvement in social or card groups	.09	.02	.24
Involvement in political clubs or organizations	.06	.02	.22
**Perception of block's ability to solve problems	.07	.05	.21
Involvement in community centers	.02	.01	.06

Note. $R^2 = .96$; Multiple $R = .98$; Regression constant = -1.04 .

^aThe regression factor structure coefficients are the correlations between the items and the predicted criterion score (SCI).

*Stepwise regression analysis determined that this item contributed significantly to the equation at $p < .05$.

**Stepwise regression analysis determined that this item contributed significantly to the equation at $p < .01$.

Relationship Between the Four Elements of Sense of Community and the Profile Items

The relationship between the four elements of sense of community and the profile items can be found in Table 4. The authors grouped the items on the basis of their association with the four elements. Each group was then treated as a scale by summing the items for the group. Correlations for each of the items with the four element groups (or scales) were derived. As shown in Table 4, 16 of the 23 predictors correlated highest with the element group to which they were assigned. Items from all four elements contributed to the judges' perception. In Table 5, the low correlations among the "scales" portray some divergence among the four element-based groupings of the profile items.

Table 4
Correlation of Profile Items With Sense of Community Element Groupings

Item	I	II	III	IV
Membership				
Mean level of neighbor interaction	.23	.27	.32	.62
Involvement in church group	.34	.11	.18	.23
Involvement in business or civic group	.42	.42	.01	-.07
Involvement in PTA	.36	.16	.08	.26
Involvement in youth groups	.36	.19	.05	.07
Involvement in community centers	.07	.18	-.00	-.16
Involvement in charity or welfare organizations	.26	.17	-.00	-.04
Involvement in neighborhood organizations	.22	.27	.11	.32
Influence				
Perception of block's ability to solve problems	.11	.14	.28	.07
Influence person feels he or she has on improving block	.20	.18	.32	.28
Involvement in political clubs or organizations	.28	.25	.04	-.14
Involvement in issue- or action-oriented groups	.20	.24	.02	-.04
Level of political efficacy	.16	.31	.12	.17
Sense of civic duty	.44	.35	.24	.09
A sharing of values with an integration and fulfillment of needs				
Perception of block attributes	.05	.19	.48	.18
Satisfaction with block	.14	.16	.37	.22
Importance of what block is like	.22	.24	.22	.01
Degree to which block meets needs and values	.08	.25	.29	.28
Shared emotional connection				
Whether own or rent home	.21	.14	.15	.56
Length of residency	.10	.14	.08	.56
Involvement in social or card-playing groups	.12	.10	.02	.14
Mean of close neighborly contacts	.37	.19	.29	.47
Planned length of residency	.24	.16	.45	.45

Note. $N = 100$; I = membership; II = influence; III = sharing of values with an integration and fulfillment of needs; IV = shared emotional connection. Italic values indicate item's correlation with its own primarily affiliated element group, corrected for overlap.

Table 5
Correlations Among Four Element Groupings of Profile Items

	I	II	III	IV
1. Membership	—	.19	.44	.31
2. Influence		—	.32	.30
3. Sharing of values with an integration and fulfillment of needs			—	.13
4. Shared emotional connection				—

Relationship Between SCI and Self-Reported Level of Sense of Community

Respondents to the Neighborhood Participation Project (NPP) questionnaire were asked to report on a 5-point scale how much sense of community they felt with residents of their own blocks (5 being the greatest sense of community). Among the 100 respondents whose profiles were used for development of the SCI, the correlation between responses to this question and the SCI was .52.

Discussion

The two hypotheses guiding this study were strongly supported by the results. First, a high degree of consensus among judges estimating the sense of community was obtained, as indicated by a coefficient alpha of .97, and signifies the tapping of a common core of perception of sense of community from a seemingly diverse population. Further, the high R^2 of .96 (Table 3) shows the strength of this common conception and a consistent reliance on the information provided for making the judgments. The theoretical basis for determining the cues used in this study is partially validated, since it apparently supplied sufficient information for consensus to be reached.

The judges as a group were fairly heterogeneous in their characteristics (e.g., race, sex, profession, education, region), but their ratings were quite homogeneous. The high degree of consensus among the judges demonstrates a commonly held image of community. The common image provided by the theoretical framework guiding this study can provide a starting point for experimentation and intervention in different communities and with different populations.

We cannot yet conclude, however, that all perceptions of sense of community are alike. The meaning of community for different groups needs further investigation. The different aspects of a sense of community may vary among individuals, depending on various cultural and situational factors. The nature of these potential variations needs to be explored. The significantly higher average correlation of the social scientists among themselves than with the two "nonprofessional" groups (i.e., neighborhood leaders/politicians and general citizens) makes an important point: Because of specialized training, the perception of social scientists may not be broad enough to describe and explain fully a phenomenon as it is experienced by the broader population. A limitation of earlier sense of community studies (e.g., Glynn, 1981) is the failure to include more representative perspectives in the evaluation of theories and instruments. By including a larger, more culturally diverse group in the interpretation of behaviors and attitudes, the lens model can allow citizens to participate in the empirical exploration of perception and

experience. More structured methods of citizen participation in research should continue to be considered (cf. Chavis, Stucky, & Wandersman, 1983; Wandersman, Chavis, & Stucky, 1983).

The second hypothesis was supported in that predictors representing all four elements of sense of community contributed significantly to the final equation and were highly correlated with the SCI (see Table 3). Analysis of the profile items demonstrated the appropriateness of their assignment to the various element groupings, although items may be related to more than one element (Table 4).

Items representing the element of membership appeared to be most related to one's perception of a sense of community. The mean ratings on neighbor interaction items represent an individual's neighboring pattern and suggest that knowledge of one's neighbors and simple sharing with them contribute to a person's sense of belonging and security—a relationship that has been identified in earlier studies (Glynn, 1981; Unger & Wandersman, 1982). The sense of belonging is also reflected in one's involvement in neighborhood organizations, community centers, PTAs, and other local service organizations. The results in Table 4 show that the membership items also correlated with the influence factor, and vice versa. This finding is consistent with the findings of other authors—that a sense of membership, particularly that of boundaries (i.e., who belongs and who does not), contributes to a perception of environmental control (cf. Sherrod & Cohen, 1979).

A person's perception of influencing the community provided an important set of cues. Sense of civic duty—the degree of responsibility one takes for influencing one's community—was highly correlated with the perceived sense of community; this, along with the other items related to influence (personal influence, block-level influence and political efficacy, and involvement in various political or social-change organizations), suggests that feeling in control of one's environment is important to sense of community. Communities that allow participation and influence increase members' sense of efficacy, facilitate involvement, and thereby enable members to influence the responsiveness of the community. The feeling of being able to influence the improvement of the block was related in this study to the set of variables that represent an integration and reinforcement of needs.

Little attention has been given to a sense of influence when discussing sense of community. Most authors (e.g., Riger & Lavrakas, 1981; Sarason, 1974) have viewed sense of community almost exclusively as an emotional state, although Rappaport (1977) has suggested that there might be a relationship between a sense of community and one's locus of control. Chavis (1983) examined this relationship within a study of empowerment and found that a perception of influence over one's community was causally related to a sense of community. The results of the present study suggest that it is important to develop the appropriate participatory structures in a community to foster influence, empowerment, and, ultimately, a greater sense of community. The organization of block clubs has been found to increase participants' neighboring on the block over time (Unger & Wandersman, 1983).

Of the items representing a community's ability to integrate and reinforce the needs of its members, the degree of one's satisfaction with the block has been found in prior studies to be strongly related to sense of community (Ahlbrant & Cunningham, 1979; Glynn, 1981). We view community satisfaction as being within the domain of sense of community, because, in order to have a sense of community, membership must be rewarding. The degree to which the block met the individuals' needs was also related to

SCI, although it was not a unique contributor to the prediction of one's sense of community. Marans and Rodgers (1975) have offered a model of community satisfaction that demonstrates the complex interaction of social and physical features contributing to satisfaction. Baum and Valins (1977) are among the researchers who have found that satisfaction with physical features is heavily influenced by social factors (e.g., cohesiveness). The findings of this study support the need for communities to share, integrate, and fulfill the needs and values of their members.

The items representing a shared emotional connection were found to be very important to perceived sense of community. The mean of close (intimate) neighbor relations was highly correlated with the SCI. This item represents relationships that go beyond the typical instrumental one (e.g., borrowing tools). When neighbors socialize, talk about problems, and share advice, they develop an emotional connection that contributes to a sense of community among them. The length of one's residence in the neighborhood (shared history) also strongly contributes to the perception of a sense of community. Interestingly, it was found that planned length of residence was more influential than actual length of residence. This finding emphasizes the importance of neighborhood confidence (Ahlbrant & Cunningham, 1979), investment in one's home, and personal priorities. The importance of both planned and actual length of residence found here confirms the findings of other researchers (i.e., Ahlbrant & Cunningham, 1979; Glynn, 1981; Kasarda & Janowitz, 1974; Riger & Lavrakas, 1981). Together these findings imply that urban community life-styles must be supported to enable more stable neighborhood residence. While this may appear to be a task beyond local control, urban instability is fostered by zoning policies, land-use policies, taxes, code enforcement, public housing strategies, and real estate practices that cause dislocation (Goetze, 1979). We can help preserve our communities by understanding how such policies affect community formation and by developing alternative policies.

Home ownership, identified as another contributor to shared emotional connection, generally leads to greater financial and emotional investment than does renting. As investment increases, so does the degree to which one tends to be involved in a community. The implication of this finding is greater than the desirability of increasing home ownership, which may be impractical for many reasons including high interest rates, inflation, housing shortages, and poverty. Other mechanisms, such as housing cooperatives and tenant management of public housing projects, have been able to increase the degree of residents' investment in the community without actual ownership (Diaz, 1979) and should be pursued.

In summary, we found a commonly held perception of sense of community and that the four elements of sense of community offered by McMillan (1976) adequately explain that perception. The conceptualization of sense of community as a perception with an affective component was also confirmed by the multiple dimensions that a sense of community was found to have.

As reported earlier, the correlation between the SCI and the self-reported sense of community for respondents described in the profiles was .52. This result provides limited validation of the SCI.

Limitations

A limitation of the present study is that the items used were originally devised for a study of citizen participation. This accounts for some of the redundancy of items and uneven distribution of items within the element groupings. It was not possible to represent fully all facets of an element. At this point, there is no way of knowing what vital

cues may have been missing and how the inclusion of the missing cues might have affected the derived SCI. This should not diminish significantly the utility of the study for a number of reasons. First, there was an apparent adequacy of sampling of the content suggested by the theory. Results in Table 4 tend to support the dimensions suggested by the theory. Second, judges reported minimal difficulty in making the required judgments. Their mean rating of the difficulty of the task on a 5-point scale (5 being very difficult) was 2.4, implying a relative satisfaction with respect to comprehensiveness and adequacy of available cues. Finally, the high degree of consensus in ratings reinforces the apparent adequacy of the information provided to the judges. Nonetheless, there is a need to validate the SCI further before full confidence can be placed in it.

While Brunswik (1952) urged the sampling of situations for the sake of ecological generalization, this ideal was not realized in the present study, for which profiles were generated from only one community. While the 21 judges were diverse in background, a sampling truly representative of our society was not obtained. Replication of this study should include a broader range of judges rating a variety of community settings so that greater generalizability can be obtained.

Another limitation of this study was that although the profile items related to several levels of community (i.e., block, neighborhood, and city), the judges were asked to rate the level of sense of community only on the block. This can be rectified in future studies by generating profile items specifically for the investigation of sense of community.

The use of the SCI as an instrument for measuring sense of community is cautioned. The major value of developing the SCI has been its ability to unpack and understand the components of a sense of community.

Concluding Comment

An important implication of this study is its demonstration of the adequacy of McMillan's (1976) theory for understanding the common perception of sense of community. We not only have provided a single numerical representation of sense of community that can be used with caution in future investigations but have also investigated the major factors that make up a sense of community and the relationships among them. The theory presented here is consistent with much of the work done on community outside of psychology (sociology, political science, anthropology) and has empirical support within psychology from past studies of group cohesiveness. Our work suggests that McMillan's theory is suitable both for scientific investigation and as a framework for intervention. In understanding the components of sense of community, we become able to design interventions that include them so that community can be developed. Chavis and Wandersman (in press) described one effort to train directors of neighborhood revitalization programs to use McMillan's theory in the design and evaluation of their programs. Community psychology has lacked theoretical stepping stones for the growth of community-based research and practice (McClure et al., 1980), a gap that we hope this study can fill.

We have demonstrated that Brunswik's lens model is a suitable paradigm for the empirical exploration of sense of community. Brunswik's conceptual framework and the method developed through social judgment theory are excellent vehicles for determining the shared or objective reality for which psychologists often search. Other combinations of quantitative and qualitative knowing (such as ethnography) can provide useful methods for the scientific study of the community. If recognizing and respecting

cultural diversity is a central value of community psychology (Rappaport, 1977), then we must incorporate this value in our research methodologies. The lens model has enabled us to accomplish that.

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