

A FACTOR ANALYSIS OF COMMUNITY SATISFACTION VARIABLES IN A MIDWESTERN CITY¹

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ABSTRACT

Community satisfaction in a midwestern city was examined through factor analysis; an oblique solution with nine factors resulted. Unlike previous research employing the same instruments and analytic techniques, distinctions between physical and social dimensions of community were unclear. However, certain conceptually similar physical and social dimensions of community were obtained in these studies. These data suggest that some dimensions of community satisfaction may be generalizable, while others are more situationally specific. Some implications of these findings, especially for the fields of urban planning and environmental social psychology are also discussed.

INTRODUCTION

In recent years, sociologists, psychologists, and town planners have become increasingly aware of the difficulties involved in creating community environments that satisfy their residents. In the past, planners have relied upon "rules of thumb" and educated guesses to create what they felt would be satisfying environments. In the last 15 years, however, a vast literature has been created in the social and behavioral sciences that deal with human/environmental relationships and environmental satisfaction (see for instance, Barker, 1968; Proshansky et. al., 1970; Mercer, 1975; Michelson, 1976).

One of the issues raised in the literature concerns the nature of relationships between physical and social components of the community. Physical-ecological determinists such as Howard (1898), Wirth (1938), and Mumford (1938, 1964) stress the importance of physical variables such as population size, density, and heterogeneity and such physical amenities as open green space, location, and architectural design. Socio-culturalists, conversely, such as Gans (1962, 1967) and Broady (1968), do not discount physical proxemics, but instead, they stress the importance of social milieu. The physical environment gains importance largely through its social psychological and cultural implications.

In a recent factor analytic study of community satisfaction in a British new town (Bardo, 1976), it was found that residents recognized both social and physical environmental dimensions, but, for the most part, social and physical dimensions were not highly correlated. These primary factors were then subjected to second-order factor analysis (Bardo and Newton, 1977); but even at

this more abstract and general level, social and physical components tended to remain distinct.

The purpose of this present study is to further inquire into the concept "community satisfaction" in a different socio-physical milieu than is represented by the British new town. In this case, dimensions of community satisfaction in a middle-sized midwestern city will be explored.

METHOD

A Community Satisfaction Scale (CSS) was administered to a randomly selected sample of 138 residents of a middle-size midwestern city. The CSS consists of 36 items with a standard five-position Likert response format. The scale includes items that relate to both social and physical environmental variables. Although the CSS was originally designed for use on another population (British new town residents), it proved highly reliable for this sample of Americans as well (Cronbach's alpha = .91). Responses to the CSS were then subjected to factor analysis using the same algorithm as employed in the previous studies.

RESULTS

Eigen values were calculated for the correlation matrix. The Scree Test (Cattell, 1966) indicated nine factors (Figure 1). An iterative principle axis solution was applied to the correlation matrix until communalities stabilized in the third decimal place. A Kaiser Varimax Orthogonal Rotation (Harmon,

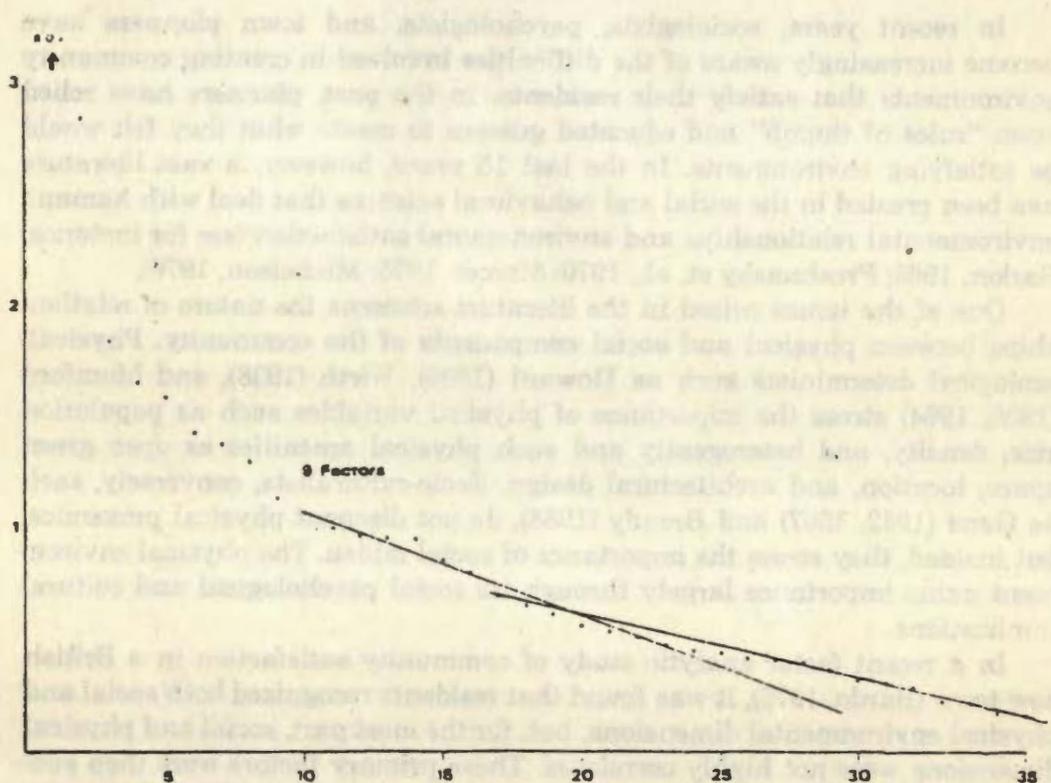


FIGURE 1. Scores for first order factors.

1967) was applied to the factor matrix, followed by a Maxplane oblique rotation (Cattell and Muerle, 1960), twelve geographical rotations (Cattell and Foster, 1963), and finally a Maxplane clean-up rotation, resulting in a 68.8 percent, .10 hyperplane. The resulting factor pattern can be found in Table 1.

TABLE 1
FACTOR PATTERN

Variable*	FACTOR								
	I	II	III	IV	V	VI	VII	VIII	IX
1	.10	-.06	.35	.00	.60	.01	-.06	.00	.00
2	.36	.45	-.45	.05	-.01	.02	-.09	.09	-.06
3	.04	-.31	-.18	.05	-.58	.08	.04	.02	-.02
4	.07	.53	-.08	.28	-.04	.07	.04	.51	-.15
5	.04	.34	-.07	-.10	.42	.17	-.00	.10	.07
6	.18	.38	.04	-.21	-.11	.01	.11	-.11	.19
7	.38	.11	-.11	-.01	.27	.03	-.06	-.06	-.17
8	.27	.00	.11	.09	-.03	.79	.06	-.06	.09
9	.65	-.01	.12	-.28	.20	.09	.08	-.19	.01
10	.38	.10	-.18	.08	.04	.15	.33	-.00	-.02
11	.52	-.01	-.03	.31	.05	.07	.01	.10	-.34
12	.40	-.25	-.34	.05	.14	-.17	.12	.02	-.10
13	.61	.11	-.03	-.12	-.12	-.20	.00	.38	-.03
14	.07	.53	.01	.08	.09	-.03	-.04	.14	.45
15	.20	-.01	.10	.07	.11	-.10	.02	.41	.06
16	.07	.06	.09	.04	.16	.02	.53	.03	.06
17	-.08	.60	-.07	-.10	-.07	.03	.09	.23	-.05
18	.21	-.06	-.01	-.07	-.04	.27	.41	-.12	-.06
19	.10	.03	.05	.16	.25	.02	.12	.27	.10
20	.13	-.02	.01	.64	-.02	.05	.02	.59	-.25
21	.09	.05	.06	.06	-.09	-.07	.71	.08	.01
22	.65	-.01	-.06	.08	-.11	.02	.07	.10	-.07
23	.33	-.19	-.08	.10	.15	.04	.21	.20	-.09
24	.80	-.01	.04	-.22	-.10	-.13	-.14	.11	.08
25	.05	-.04	.03	.24	.07	-.01	.03	-.04	.57
26	.07	.06	.76	.04	.02	.05	-.07	-.09	.00
27	-.05	.11	-.01	.54	-.09	.02	-.11	.07	.10
28	-.33	.02	.02	.60	-.09	-.07	.11	-.12	.08
29	.04	-.06	.46	.10	-.05	-.03	.08	.16	.06
30	-.09	.02	.10	.35	.07	-.10	.25	.08	.05
31	.10	.42	.62	.07	.11	-.11	.00	.01	-.10
32	.07	.31	.11	.28	.38	.06	-.20	.04	.26
33	.53	.37	.09	-.08	-.04	-.27	-.03	-.11	-.02
34	.43	.54	-.05	.09	-.00	-.26	-.05	.14	.16
35	.33	.03	-.10	.10	-.07	-.29	.09	-.03	-.09
36	.11	-.40	.11	-.01	.26	.05	.34	-.82	-.07

*A variable list may be obtained from the authors.

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TABLE II
FACTOR CORRELATION MATRIX

	I	II	III	IV	V	VI	VII	VIII	IX
I		.24	.47	.39	.33	.20	.41	.19	.25
II			.08	.40	.12	-.11	.23	-.37	.12
III				.14	.09	.05	.36	.25	.09
IV					.15	-.12	.08	-.29	.26
V						.08	.38	.35	.12
VII							.04	.23	-.04
VIII								.34	.03
IX									-.01

INTERPRETATION OF FACTORS

All variables loading at .40 or greater are included in the following interpretations.

FACTOR I: *Satisfaction/Dissatisfaction with Social Institutions and the Physical Environment.*

Factor I is a general factor encompassing several variables. Items loading on Factor I include: "This community lacks real leaders" (item 9); "Few people here make enough money" (item 11); "Too many young people get into sex difficulties" (item 12); "The mayor and councilmen run this town to suit themselves" (item 13); "No one cares much how this community looks" (item 22); "The town (city) council gets very little done" (item 24); "I think the layout of this house is very nice" (item 33); and, "This is a very good place to live" (item 34). Factor I seems to be a general satisfaction factor encompassing several social and physical environmental variables, especially community leadership, economics, and general livability.

An interesting anomaly also appears in Factor I. Because of the wording of most social variables loading on this factor (items 9, 11, 12, 13, and 24) respondent agreement would denote a negative affect toward the community (and vice versa). However, negative affect on these social variables is coupled with positive affect toward housing layout (item 33), and overall livability (item 34). This factor suggests a very complex relationship among the constituent variables.

FACTOR II: *Closeness, Neighborliness, and Quietness.*

Items loading on Factor II include: "This community is very peaceful and orderly" (item 2); "Families in this town keep their children from bothering you" (item 4); "I feel very much that I belong here" (item 14); "People as a whole mind their own business" (item 17); "Life in this community is dull" (item 31); "This is a very good place to live" (item 34); "I wish more people lived close by. My neighbors are too far away" (item 36) (negative loading). Factor II seems to

tap feelings of closeness, neighborliness, and quietness. Like Factor I, Factor II is a complex, fairly general factor that intertwines feelings of belonging or not belonging with a sense of hominess, and an awareness of outside activities.

FACTOR III: *Excitement/Dullness.*

"This community is very peaceful and orderly" (item 2); "There is not enough going on in this town to keep me busy" (item 26); "I think the buildings in this town are not as nice looking as most other towns I've been in" (item 29); and, "Life in this community is dull" (item 31) all seem to tap a general excitement/dullness dimension of community satisfaction.

FACTOR IV: *Adequacy of Housing and Income.*

Variables loading on this factor include "Local concerns expect their help to live on low wages (item 20); "This house is adequate for my needs" (item 27) and, "This house is better than ones I have lived in before" (item 28).

FACTOR V: *Social Distance.*

Three items load highly on Factor V: "Real friends are hard to find" (item 1); "A lot of people here think that they are too nice for you" (item 3); and, "Almost everyone is polite and courteous to you" (item 5). All three items seem to relate to feelings of social distance.

FACTOR VI: *Religious Brotherhood.*

Only one item loaded heavily on Factor VI: "Most of our church people forget the meaning of the word brotherhood when they get out of church" (item 8).

FACTOR VII: *Status Affect.*

Typical of items loading on Factor VII are: "You must spend lots of money to be accepted here" (item 16); "Every church wants to be the biggest and most impressive" (item 18); and, "You are out of luck if you happen to be from the wrong part of the country" (item 21). Thus, items loading highly on Factor VII seem to tap a dimension of affective orientation toward status.

FACTOR VIII: *Alienation.*

Three items load highly on Factor VIII. "People here are all 'penny pinchers'" (item 15); "Local concerns expect their help to live on low wages" (item 20); and "I wish more people lived close by. My neighbors are too far away" (item 36). These items seem to be tapping a dimension of alienation from others in the community.

FACTOR IX: *Belongingness/Isolation.*

The two items loading substantially on Factor IX are: "I feel very much that I belong here (item 14); and "This town is now my home" (item 25).

DISCUSSION

Factor analyzing responses to the CSS resulted in a solution with nine oblique factors. Included among these were a general factor, several social factors, and a physical/economic factor. While these results are interesting, they gain particular theoretical significance when compared to the previous application of the CSS (Bardo, 1976).

In the British new town a solution with nine oblique factors was also obtained. Factors in that solution include: Quality of Generalized Interaction, Belongingness vs. Isolation, Politeness and Courtesy, Physical Attraction, Institutional Responsibility, Excitement/Dullness, Comparative Quality of Housing, Adequacy of Housing and Income, and Status Affect. Generally, it was found that the social and physical variables loaded on separate factors, and that the correlation between physical and social factors was low.

Aside from the number of factors in the two solutions, there were other significant similarities. Although specific item loadings varied in the two studies, several factors appear to be conceptually similar. Included in this group are: Excitement/Dullness, Status Affect, Adequacy of Housing and Income, and Belongingness/Isolation. The further generalizability of these constructs need to be explored in other settings.

There were also major divergences in the results obtained in the two studies. First, in the midwestern city, the separation of physical and social dimensions of community satisfaction were not as conceptually distinct as in the British new town. This is particularly apparent in Factor I but it can be seen in the inter-factor correlations (see Table 2). Factors with both social and physical overtones are significantly inter-correlated. A second divergence between the two studies is the loadings of social interaction variables. In the new town study, social interaction variables comprised a distinct factor; while in the midwestern city, they were bound up with other community dimensions.

Finally, a third significant difference is the presence of a nearly orthogonal "Religious Brotherhood" dimension in the midwestern city, and the absence of a truly religious dimension in the new town data. A probable explanation for this lies in the differences in the relative importance of religion in the two cultures. In Great Britain, religion has tended to have relatively little significance in recent years. Conversely, the midwestern city studied lies in the northern portion of the American "Bible Belt;" thus religion may have a more central place in the lives of many respondents.

IMPLICATIONS

This study of community satisfaction, especially when coupled with previous research, has implications for both environmental social psychology and urban planning. The presence of several conceptually similar factors in two diverse research sites suggests that certain aspects of community satisfaction may be generalizable beyond that permitted statistically. If so, further research is required into the variables and conditions that affect first, generalizability, and second, the manner in which those dimensions are expressed.

Divergences in factors in the two solutions, however, highlight the complexity of creating or maintaining physical and social community environments that will be satisfying to their residents. Community satisfaction is a complex phenomena; its specific patterns vary with location and, to some extent, sub-culture. Thus, planning elements that are associated with "satisfied" residents in one situation may not be in any other. As highlighted by

these data, the particular difficulty, especially for urban planners, is to understand how the various elements of satisfaction with the community environment are manifested in the individual planning case. A specific set of design tactics may or may not be applicable to any one case. Applicability will, in part, depend on the social-psychological organization of environmental components within the individual community system.

NOTE

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