This study investigates how people feel about and behave toward different types of music, based on a major U.S. national survey (N = 17,254). Attendance at musical events is quite common, and there is widespread enjoyment of music in that the average person reports listening to several different types of music. A measure of distance between preferences and behaviors toward types of music and multidimensional scaling indicates that music is evaluated socially in terms of its formality and ecological appeal. Behavioral data and attitudinal data yield essentially the same dimensional structure of the types of music for the aggregate audience.

THE STRUCTURE OF MUSIC PREFERENCE AND ATTENDANCE

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Our communication environment has undergone a great transformation, and for a change we are not discussing computers. In most developed countries, people voluntarily "bathe" themselves with music for very large portions of their waking hours. As Konecni (1982; 498-499) points out,

> gone are the days when only the elite could hear high-quality music, while the rest had to await weddings and harvest festivities to hear any music at all. . . . The most frequent, prototypical situations in which people listen to music have shifted from specialized locations, such as opera houses and concert halls, into informal settings like the home and the automobile.

Music is not only more available, different *styles* of music are available to those who wish to hear it. One need only turn

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the radio dial to have access to music from different periods, ethnic groups, age groups, regions, and social classes.

Although there is evidence that audiences are somewhat specialized in their tastes (e.g., rock 'n' roll is particularly attractive to teenagers), little is known about how preferences for different kinds of music are structured (Robinson and Hirsch, 1969). In other words, how and to what extent are preferences for the various musical forms clustered or grouped by the aggregate audience? This article reports on data collected from an American national survey that will allow some answers to this question, as well as directions for future research in this area.

In addition to assessing the pattern of audience preferences, we will also examine reported attendance at various musical events. We thus will be able to evaluate the extent to which these expressed music preferences are related to behavior. This aspect of the research provides an example of the relation of attitudes (here, preferences) and behavior (here, attendance at live performances of that music). The debate as to whether attitudes predict behavior has been flourishing (see e.g., Schuman and Johnson, 1976; Fazzio and Zanna, 1980), with various attempts to specify the conditions under which attitudes predict behavior. One could argue that, at least in the domain of music, preference and a behavior such as attendance at a live musical performance of the preferred type of music should be related. Music is in the expressive domain, and is, to a large extent, not under the same normative pressure of activities that are considered more task oriented. On the other hand, the distinction between high culture and popular culture (see e.g., Gans, 1974), and the existence of some peer pressure with regard to musical taste could mean that what people like may not be what they always choose to hear or attend. Indeed, George Bernard Shaw (1904) has one of his characters comment:

> At every one of those concerts in England you will find rows of weary people who are there, not because they really like classical music, but because they think they ought to like it.

Shaw may never have envisioned that his proposition would be tested with survey data, but that is what we will be attempting in this report: evaluating the extent to which preferences in the musical domain are related to reported behavior.

ASSESSING DIMENSIONAL STRUCTURE

To assess the structure of both preferences and behavior, we require a method of analysis that allows the types of music that are sampled to reflect whatever dimensions are utilized by the audience members. If we have "distance" information regarding the relations among the types of music to be investigated, we can create a map; the number of dimensions of this map reflect the degree of complexity of the musical domain.

Multidimensional scaling offers such an approach. An abundance of examples exists in the social sciences of utilizing multidimensional scaling to map various domains: belief structures and attitudes (Jones and Young, 1972; Osgood, Suci, and Tannenbaum, 1957), perceptions of nations (Robinson, 1968; Robinson and Hefner, 1967), person perception (Rosenberg, Nelson, and Vivekananthan, 1968), color and other perceptual stimuli (Shepard, 1980; Wish, 1967), and racial and national stereotypes (Bell and Robinson, 1980; Wish, Deutsch, and Biener, 1972). In addition, multidimensional scaling has been used to represent the stimulus properties of music, to create better concert halls (Pierce, 1984), and to represent musical pitch (Shepard, 1982). Multidimensional scaling provides a display of concepts, with concepts that are close being similar, and concepts that are far apart being dissimilar. From examining this display, we are often able to infer the attributes that the respondents employed in their original responses (see Robinson and Hefner, 1968; Kruskal and Wish, 1978; Woelfel & Fink, 1980). In the typical study, respondents either provide a direct measure of distance between concepts, or a formula needs to be used to translate the actual responses into a derived measure of distance. This study requires the latter.

Creating distance measures. For the types of music to be assessed, we need to have a distance metric available for both the preference data and the attendance data. In the data set examined in this study, the respondents to the survey were not asked for their relative preferences among the types of music, but only for their dichotomous judgments of whether or not they "liked to listen" to each type of music. The behavioral measure asked whether the respondents attended each type of musical performance in the last twelve months. Given that both variables are dichotomies, how can we create the requisite "distance" information needed to construct the multidimensional space?

There are several possible answers. Consider our unit of analysis to be the type of music rather than the individual respondent. Each type of music has a proportion of respondents who report enjoying listening to it (in the case of preference data), and who report attending its musical events (in the case of the attendance data). Looking at these data in the aggregate, we hypothesize that those types of music that are enjoyed by the same people (or disliked by the same group of people) are at least in this respect similar.

Our logic is that such similarity may be translated into "closeness," and dissimilarity into "farness." (A related treatment may be found in Shepard, 1963; Ramsay, 1978, also discusses various types of dissimilarity data that may be used to create multidimensional spaces.) Thus, our distance metric is to be based on cross-tabulations of the music types. Of course, many functions that meet the above stipulation (i.e., that positive correlation in a cross-tabulation implies closeness) may be created. We have taken advantage of the properties of Goodman's (1972) log-linear analysis to translate such data into a simple metric. Although we do not claim that the measure we have chosen is optimal, it does provide a useful metric for distance, and the multidimensional spaces that resulted from different metrics that were also tried resulted in spaces that were quite similar.

MULTIDIMENSIONAL SCALING ANALYSES

Using a modified version of the odds-ratio, cross-tabulations are used to create distances for input into a multidimensional scaling routine. Three different multidimensional scaling results will be reported: first, we will examine the spatial configuration for the preference data for the thirteen types of music; second, we will put the attendance data and the related preference data together in one multidimensional map; third, we will analyze the music attendance space simultaneously with the separate space created from the related music preferences. The first analysis shows the clustering of music preferences, and may suggest the attributes used in differentiating musical types. The second analysis indicates the extent to which there is a conceptual distinction between the behavioral data and the attitudinal data, in the construction of the spaces. The third analysis also looks at the behavioral versus attitudinal spaces, by examining the extent to which these two spaces are congruent.

METHOD

The data used in this article are taken from a data set collected for the National Endowment for the Arts under a grant to the University of Maryland Survey Research Center. Field collection of data was conducted by the U.S. Bureau of the Census from January, 1982 to December, 1982. This "Arts Related Trend Study" (ARTS '82) consisted of personal interviews with 17,254 persons, aged 18 and over, and living in nongroup quarters in the United States. Response rate was about 90%. The survey asked about participation in the arts, arts experiences, and music preferences (see Robinson, 1983, for further details).

THE QUESTIONNAIRE

The ARTS '82 questionnaire was divided into two types of questions: a set of core items on annual arts participation, and a set of rotating monthly items that surveyed expected correlates and predictors of that participation. The two issues examined in this report deal with attendance at cultural events and preference for types of music. Table 1 lists the questions. Attendance at jazz performances, classical music performances, opera, and musical shows was assessed by questions asked in each month of the survey. Preference for different types of music was assessed by questions asked in only four months of the survey, however, so data for preferences (and cross-tabulations of preferences with the attendance data) are based on a one-third sample of 5,617 respondents.

THE MULTIDIMENSIONAL SCALING MODEL

Analysis of the computed distances between the various types of music proceeded as follows. Let n be the number of concepts to be analyzed. Because the distance metric is symmetric (i.e., it results in the distance from concept i to concept being the same as the distance from concept to concept i), we can construct a distance matrix of order n by n. Using the procedure found in, for example, Torgerson (1958), we then orthogonally decompose the double-centered scalar products matrix derived from the original distance matrix. This yields a set of (at most) $n - 1$ axes that define the location of each concept in the multidimensional space. The analysis program (Woelfel and Fink, 1980) reports every dimension needed to fully reproduce the original distance matrix (see Barnett and Woelfel, 1979, on the significance of this feature).

TABLE 1
Attendance and Preference Proportions by Musical Types

Attendance	% Yes
During the LAST 12 MONTHS, did YOU go to a live	
A1. jazz performance?	9.6
A2. classical music performance?	12.4
A3. opera?	2.4
A4. musical stage play or an operetta (excluding grade school or high school productions)?	18.4
Preference	
Which of these types of music do you like to listen to?	
L1. classical/chamber music?	27.7
L2. opera?	9.8
L3. operetta/Broadway musicals/show tunes?	23.2
L4. jazz?	26.0
L5. soul/blues/rhythm and blues?	26.4
L6. big band?	32.5
L7. country-western?	58.3
L8. bluegrass?	24.5
L9. rock?	35.0
L10. mood/easy listeneng?	48.1
L11. folk?	24.9
L12. barbershop?	14.7
L13. hymns/gospel?	36.1
L14. other?	1.6
L15. every type?	1.8

NOTE: Based on one-third sample (N = 5617).

RESULTS

MARGINAL PROPORTIONS, CROSS-TABULATIONS, AND DISTANCES

Table 1 shows the proportion of respondents answering yes to the attendance and preference items. The incidence of attendance in the past year ranges from 2.4% (opera) to 18.4% (musical show). For the preference data, the range is from the 9.8% who report liking to listen to opera, to 58.3% for country-western music. The thirteen types of music seem fairly comprehensive, as only 1.6% of the sample reported liking a type of music not explicitly included (other type).

Below the diagonal in Table 2 is the proportion of respondents who answered yes to each set of paired items. The table also reports (above the diagonal) the distances computed between the items based on these co-occurrences. As an example, the 3.3 in the A1 column and the A2 row of Table 2 means that 3.3% of the respondents report attending both a jazz performance and a classical music performance in the last twelve months. Cross-tabulation of these two items results in a computed distance of 43, shown in the A2 column and the A1 row of the table.

The triangle of distances in the A1-A4 block of the table shows that attendance at any one of the four kinds of musical events (jazz, classical, opera, musical shows) is positively correlated with attendance at any other musical event; the distances range from 26 to 46. Apparently, people who attend one event are also likely to attend any other, regardless of type. The triangle of distances in the L1-L13 block, shows values ranging from 25 to 82. The 25 distance between preference for classical music and for opera indicates that these two categories are close; the 82 indicates that hymns and rock music are relatively far apart, liked by different people.

The first multidimensional scaling analysis is presented in Table 3 and Figure 1. Table 3 shows the dimensional structure of the preference data. Seven dimensions account for

TABLE 2
Probability of Co-Occurrence (below diagonal) and Computed Distances (above diagonal) Between Music Types

		A1	A2	A3	A4	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
Attend jazz	(A1)	-	43	45	46	54	57	53	31									
Attend classical	(A2)	3.3	-	26	34	33	41	40	52									
Attend opera	(A3)	0.9	2.0	-	33	38	24	38	48									
Attend musical	(A4)	3.9	7.1	2.0	-	50	52	41	58									
Like classical	(L1)	4.4	8.6	1.7	8.7	-	25	35	48	57	47	75	59	70	48	42	47	59
Like opera	(L2)	1.6	3.5	1.5	3.4	7.7	-	29	50	58	43	75	59	78	53	45	44	57
Like musical	(L3)	4.0	6.8	1.6	9.2	13.8	6.8	-	48	52	37	69	56	69	40	40	39	59
Like jazz	(L4)	6.8	5.5	1.3	7.0	12.0	4.6	10.5	-	31	46	73	55	51	56	52	54	67
Like soul	(L5)					10.4	3.8	9.9	15.9	-	53	70	53	50	57	51	56	61
Like big band	(L6)					14.5	6.1	14.9	14.1	12.9	-	60	53	74	43	44	34	60
Like country	(L7)					14.7	5.0	13.7	14.5	15.6	21.7	-	36	67	64	50	51	61
Like bluegrass	(L8)					9.1	3.5	8.5	9.5	10.2	11.7	21.2	-	59	57	35	43	55
Like rock	(L9)					9.9	2.5	8.6	14.0	14.6	10.4	21.8	11.4	-	65	64	78	82
Like mood	(L10)					18.8	6.5	17.8	16.2	16.3	23.1	30.1	15.0	18.6	-	47	45	65
Like folk	(L11)					13.0	5.0	11.8	10.3	10.8	14.2	18.9	13.5	10.4	17.5	-	33	52
Like barbershop	(L12)					7.5	3.5	7.8	6.1	5.9	10.4	11.2	7.4	4.0	10.9	9.3	-	39
Like hymns	(L13)					12.9	4.9	10.9	10.4	12.0	14.7	23.9	12.4	8.9	18.9	13.4	10.2	-

NOTE: Weighted sample results in hypothetical N of 165,076. Actual total sample equal to 17,254. Preference data based on one third sample.

TABLE 3
Galileo Coordinates of First 7 Dimensions for 13 Variables in a Metric Multidimensional Space for Music Preference

DATA

	1	2	3	4	5	6	7
L1 CLASSICAL	-21.392	-14.405	-1.068	-18.588	-.163	-3.440	-10.068
L2 OPERA	-28.321	-9.781	2.464	-11.837	-7.840	-6.359	4.463
L3 MUSICAL	-18.900	-10.011	-8.687	-1.759	1.717	1.366	16.767
L4 JAZZ	7.740	-27.073	10.008	10.446	-10.131	-3.990	-7.466
L5 SOUL	15.499	-20.352	18.308	13.275	.808	9.832	4.773
L6 BIG BAND	-13.571	.464	-10.754	20.828	-8.782	-8.702	-1.156
L7 COUNTRY	26.257	37.075	-10.592	-.302	-3.869	-9.783	2.733
L8 BLUEGRASS	18.405	18.814	-.059	-6.192	-12.824	7.237	-2.725
L9 ROCK	45.123	-23.604	-3.776	-11.140	8.246	-6.415	2.241
L10 MOOD	-5.582	-4.682	-24.340	7.212	22.345	5.564	-5.865
L11 FOLK	-1.280	9.623	-3.897	-9.430	-6.921	16.157	-.921
L12 BARBERSHOP	-14.510	18.949	1.788	9.214	.017	3.262	-2.593
L13 HYMNS	-9.468	24.982	30.606	-1.728	17.398	-4.727	-.184
PERCENTAGE OF VARIANCE ACCOUNTED FOR BY EACH INDIVIDUAL FACTOR-	30.516	27.384	12.807	8.876	7.449	4.200	3.020

94.3% of the variance in the distances; the first two dimensions account for 57.9%.

The two-dimensional configuration is presented in Figure 1. Dimension 1 seems to be defined by *formality and complexity:* music requiring greater social organization and formality, such as opera and big band, is to the left, while music that is less formal and requires fewer performers is to the right. Dimension 2 may reflect the *ecological or geographic base* of the musical style, or the extent to which the music is viewed as rural or urban. This contrasts rural music (country-

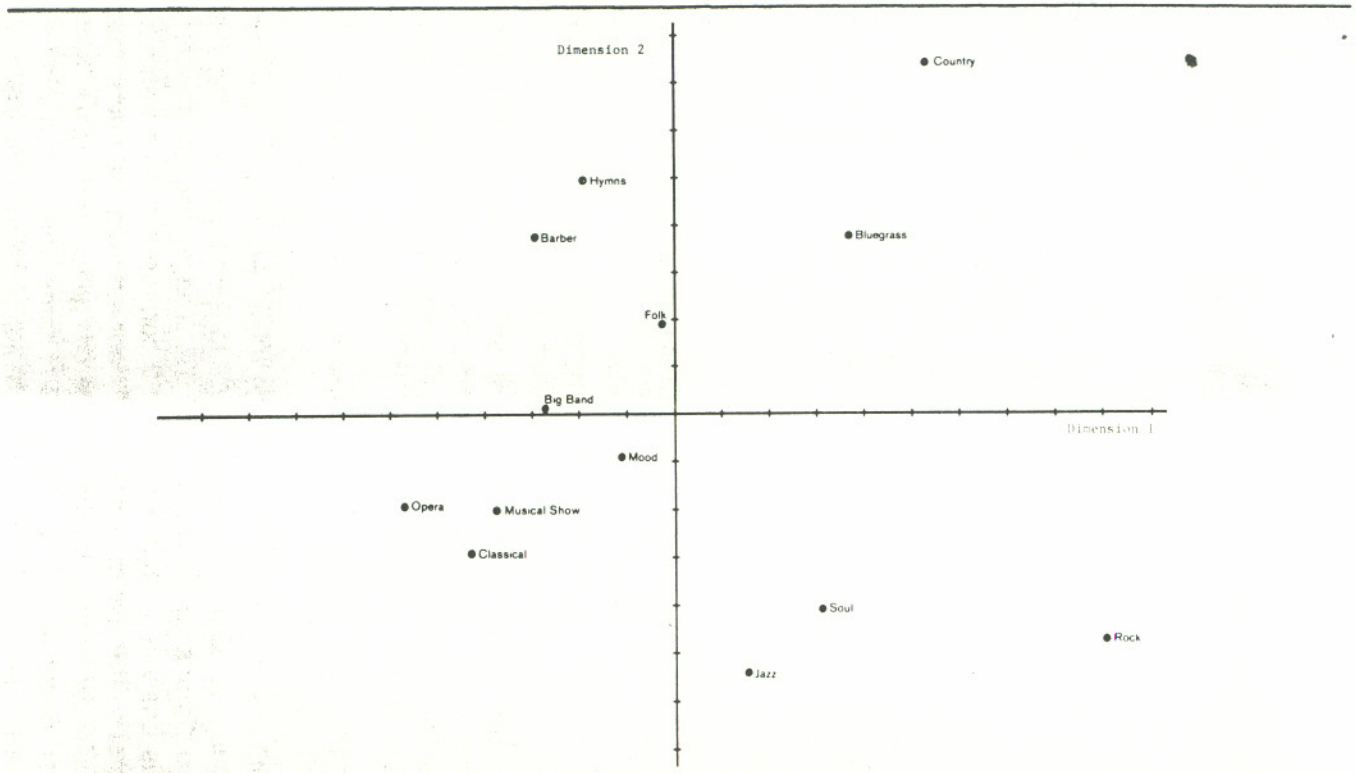

Figure 1: First Principal Plane for Space Created from the Thirteen Music Preference Items

TABLE 4
Galileo Coordinates of First 7 Dimensions in a Metric Multidimensional Space for Attendance and Preference Data

	1	2	3	4	5	6
A1 JAZZB	32.790	3.711	-3.309	-.163	-4.298	8.035
L4 JAZZP	27.280	-20.639	3.419	1.294	4.064	-6.983
A2 CLASSB	-4.670	13.531	-13.883	-8.040	-7.314	-5.442
L1 CLASSP	-14.955	-13.002	-9.187	-13.599	6.827	2.956
A3 OPERAB	-7.613	7.439	-6.464	16.520	.369	-2.183
L2 OPERAP	-20.195	-15.054	-1.132	10.541	-.662	3.830
A4 MUSICALB	-.128	29.329	9.949	-1.148	8.090	.315
L3 MUSICALP	-12.508	-5.314	20.607	-5.404	-7.075	-.526
PERCENTAGE OF VARIANCE ACCOUNTED FOR BY EACH INDIVIDUAL FACTOR-						
	41.551	30.342	13.398	10.295	3.884	2.652

western, bluegrass, and hymns), at the upper extreme, with more urban music (jazz, soul, rock, and classical), at the lower extreme. The types of music that load positively on this dimension are also more likely to be performed as well as listened to by the audience member; this is less likely for the types that load negatively.

Table 4 presents the analysis of the four attendance items with the four related preference items. Four dimensions account for 95.6% of the variance in the space, and the first two dimensions account for 71.9%. The primary finding from this analysis is that dimension 2 corresponds to a behavior versus attitude dimension: all four attendance items load positively on this dimension, whereas all four preference items load negatively. These two sets of items were then subjected to a somewhat different kind of multidimensional analysis. Two spaces were created from the distance data for the two data

sets (the four preference distances, L1-L4, and the four attendance distances, A1-A4). Next, these two spaces were rotated to least squares best fit upon each other. (The orientation of each space is arbitrary; rotation in this case leaves the original distances unchanged.) Table 5 reports the rotated coordinates obtained from this procedure; Figure 2 presents the two-dimensional display in which we have placed the maps for the two data sets upon each other. The two data sets clearly tell the same story about the structure of these musical types. In Table 5, the computed distance between each attendance item and its corresponding preference item is extremely small in relation to the size of the space and the within-set distances.

This result makes a strong case for the idea that, at least for music, the attitudinal structure is quite similar to the behavioral structure. Of course, this does not indicate causal direction; audience membership may not come about because of positive regard for the music to be performed, and liking a kind of music may not result in choosing to be a member of an audience to hear that kind of music. Yet, for the general American public studied here, the behavioral data and the attitudinal data exhibit congruent structures.

DISCUSSION

We began this study with an interest in how people relate to different types of music. This article reports on a major national survey concerning what the American people like, and the extent to which they participate as audience members for various kinds of music. Multidimensional scaling has given us insight into how the types of music are clustered, and how behavior and attitudes are related in this domain.

Attendance at musical events is quite common: almost 20% of the nationwide sample, for example, report attending a Broadway-type musical within the last year. We also find widespread enjoyment of music, in that the average person reports liking to listen to several different types of music. Our analysis indicates that music seems to be socially evaluated

TABLE 5
Rotated Coordinates for the Music Attendance Space and the Music Preference Space

		1	2	3
A1	JAZZ	30.647	.505	1.026
A2	CLASSICAL	-8.277	-11.517	-12.734
A3	OPERA	-11.600	-9.378	12.964
A4	MUSICAL	-10.770	20.390	-1.256
		1	2	3
L4	JAZZ	33.892	3.255	2.301
L1	CLASSICAL	-8.328	-13.603	-13.102
L2	OPERA	-14.037	-8.284	10.650
L3	MUSICAL	-11.527	18.632	.151

DISTANCES BETWEEN THE CONCEPTS IN THE TWO SPACES

A1 and L4	4.440
A2 and L1	2.119
A3 and L2	3.534
A4 and L3	2.375

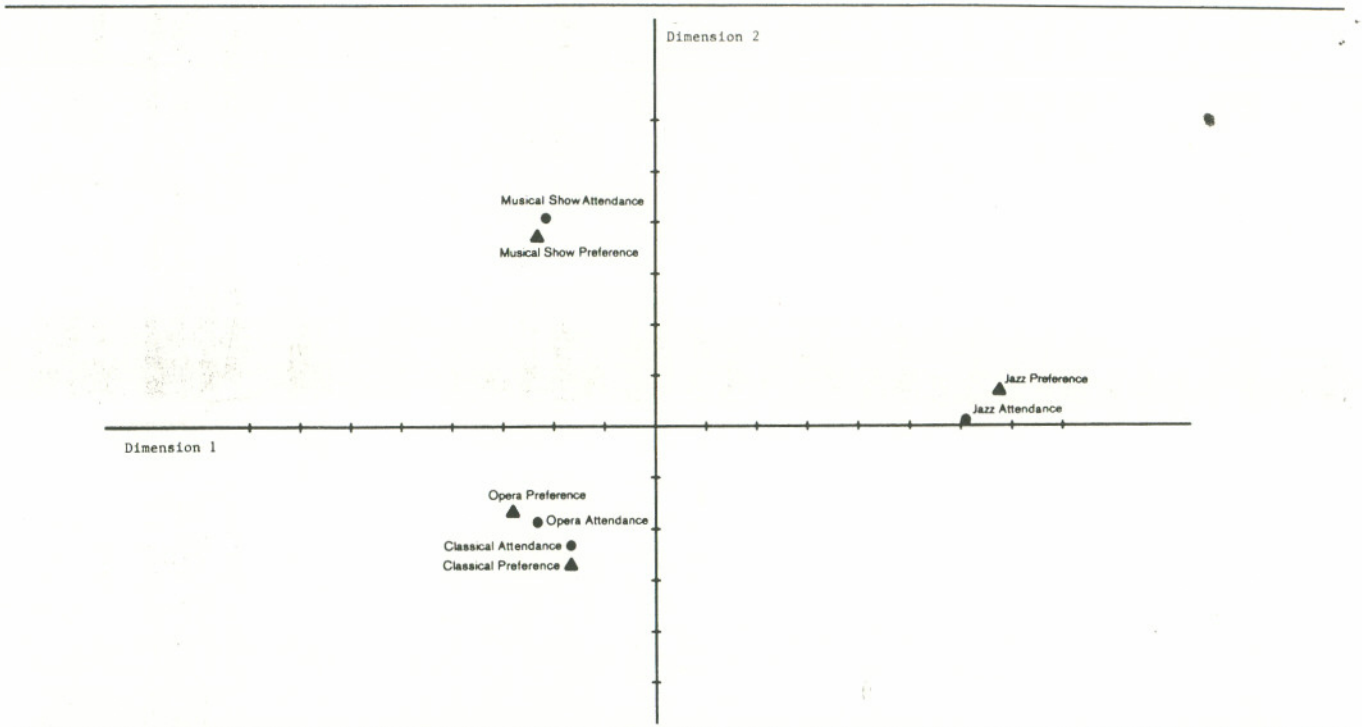

Figure 2: Simultaneous View of the First Principal Planes Created from the Music Preference Items (L1-L4) and the Music Attendance Items (A1-A4), Rotated to Congruence

in terms of its formality and geographic appeal. Finally, we find that, whether we use behavioral or attitudinal data, the structure that emerges to represent music for the aggregate audience is essentially the same.

The techniques employed here may be used to answer additional questions. To what extent are there differences in the way music is structured by different age, ethnic, educational, regional, or class groups? To what extent do mere exposure (Zajonc, 1968), cognitive processing of music as a stimulus, influence of significant other(s), and participatory behavior with regard to music affect the way music is conceived and appreciated? Is there a homogenization taking place nationally or internationally with regard to music appreciation, and if so, is this reflective of or independent of other diffusing sensibilities? The data available from the ARTS '82 survey will allow us to investigate some of these questions.

Music, and the arts generally, are often considered less amenable to careful scientific scrutiny because they seem "softer," or harder to define. Yet, using the information latent in the aggregate responses of the mass audience, we have shown that a highly structured pattern of relatively precise information may be extracted to examine questions of culture, social structure, and communication. This study indicates how multidimensional scaling and related methods may be employed for this purpose.

REFERENCES

BARNETT, G. A. and J. WOELFEL (1979) "On the dimensionality of Psychological processes." Quality and Quantity 13: 215-232.

BELL, W. and R. V. ROBINSON (1980) "Cognitive maps of class and racial inequalities in England and the United States." Amer. J. of Sociology 86: 320-349.

FAZZIO, R. H. and M. P. ZANNA (1980) "Direct experience and attitude-behavior consistency." Advances in Experimental Social Psychology 14: 162-203.

GANS, H. (1974) Popular Culture and High Culture. New York: Basic Books.

GOODMAN, L. A. (1972) "A general model for the analysis of surveys." Amer. J. of Sociology 77: 1035-1086.

JONES, L. E. and F. W. YOUNG (1972) "Structure of a social environment: longitudinal individual differences scaling of an intact group." J. of Personality and Social Psychology 24: 108-121.

KONECNI, V. J. (1982) "Social interaction and musical preference," pp. 497-516 in D. Deutsch (ed.) The Psychology of Music. New York: Academic Press.

KRUSKAL, J. B. and M. WISH (1978) Multidimensional Scaling. Beverly Hills, CA: Sage.

OSGOOD, C. E., G. J. SUCI, and TANNENBAUM, P. H. (1957) The Measurement of Meaning. Urbana: University of Illinois Press.

PIERCE, J. R. (1984) The Science of Musical Sound. New York: Scientific American Library.

RAMSAY, J. O. (1978) MULTISCALE: Four Programs for Multidimensional Scaling by the Method of Maximum Likelihood. Chicago, IL: National Educational Resources.

ROBINSON, J. P. (1983) "Cultural indicators from the leisure activity survey." Amer. Behavioral Scientist 26: 543-552.

ROBINSON, J. P. and E. L. FINK (1985) "Deriving measures of distance from cross-tabulations." University of Maryland, Survey Research Center, College Park. (unpublished)

ROBINSON, J. P. and R. HEFNER (1968) "Perceptual maps of the world." Public Opinion Q. 32: 273-280.

———(1967) "Multidimensional differences in public and academic perceptions of nations." J. of Personality and Social Psychology 7: 251-259.

ROBINSON, J. P. and P. HIRSCH (1969) "It's the sound that does it." Psychology Today 3: 42-45.

ROSENBERG, S., C. NELSON, and P. S. VIVEKANANTHAN, (1968). "A multidimensional approach to the structure of personality impressions." J. of Personality and Social Psychology 9: 283-294.

SCHUMAN, H. and M. P. JOHNSON (1976) "Attitudes and behavior." Annual Rev. of Sociology 2: 161-207.

SHAW, G. B. (1904) Man and Superman: A Comedy and a Philosophy. New York: Brentano's.

SHEPARD, R. N. (1982) "Structural representations of musical pitch," pp. 343-390 in D. Deutsch (ed.) The Psychology of Music New York: Academic Press.

———(1980) "Multidimensional scaling, tree-fitting and clustering." Science 210: 390-398.

———(1963) "Analysis of proximities as a technique for the study of information processing in man." Human Factors 5: 33-48.

TORGERSON, W. S. (1958) Theory and Methods of Scaling. New York: John Wiley.

WISH, M. (1967) "A model for the perception of Morse code-like signals." Human Factors 9: 529-539.

———M. DEUTSCH, and L. BIENER (1972) "Differences in perceived similarity of nations," pp. 289-313 in A. K. Romney et al. (eds.) Multidimensional Scaling: Theory and Applications in the Behavioral Sciences, Vol. 2. New York: Seminar Press.

WOELFEL, J. and E. L. FINK (1980) The Measurement of Communication Processes: Galileo Theory and Method. New York: Academic Press.

ZAJONC, R. B. (1968) "Attitudinal effects of mere exposure." J. of Personality and Social Psychology Monograph Supplement 9: 1-27.

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