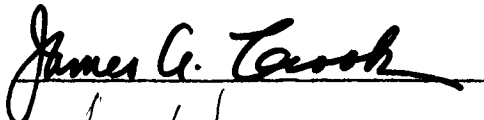
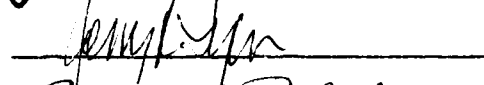


To the Graduate Council:

I am submitting herewith a dissertation written by Ellen Marion Bennett entitled "A Methodology for the Empirical Classification of Newspaper Content Based on Reader Interests." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Communications.


Jack B. Haskins, Major Professor

We have read this dissertation
and recommend its acceptance:


Accepted for the Council:


Vice Chancellor
Graduate Studies and Research

A METHODOLOGY FOR THE EMPIRICAL CLASSIFICATION OF NEWSPAPER
CONTENT BASED ON READER INTERESTS

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Ellen Marion Bennett

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ABSTRACT

The primary purpose of this research was to test the feasibility of producing empirical categories of newspaper content that represent different kinds of news likely to be read by a wide, diverse audience.

In particular, complete linkage cluster analysis and several factor analysis procedures were applied to reader-interest data to determine whether the cluster analysis or a selected factor procedure could achieve the desired classification of newspaper content.

It was also hypothesized that demographic and life-style variables could be related to interest in empirically determined categories of news.

The reader-interest and background data were gathered in personal interviews with an available, nonrandom sample of 280 adults. Each respondent rated 93 newspaper headlines using Haskins' (1960) 0 to 100 title-rating technique, a validated predictor of actual readership, and provided demographic and leisure-activity information.

Although a random sample of respondents was not necessary for the methodological purposes of the study, a controlled effort was made to interview persons with a variety of background characteristics so that the relationship between background variables and reading interests could be adequately analyzed.

The results of the classification analyses revealed that the complete linkage cluster analysis and a selected factor analysis procedure (minimum residuals, orthogonal) each identified a set of

reader-interest categories representing content likely to be read by a high proportion of the audience tested. Furthermore, the categories produced by each method were found to be highly interpretable.

Incremental analyses determined that the predicted audience coverage provided by representative content from the 16 factors produced and the predicted coverage achieved by representative content from the 16 clusters identified are 85.6 percent and 85.0 percent, respectively. It was therefore concluded that the two empirical classification techniques are equally useful in terms of specifying categories of content which, as a group, are likely to reach a wide audience.

Although the cluster analysis and the factor analysis each produced 16 reader-interest categories which cover the interests of about 85 percent of the audience, the composition of the clusters and that of the factors are not the same. Future research will have to determine whether the clusters or the factors are closer to actual, replicable categories of reader interest.

In the factor analysis of the data, the re-factoring of long, initial factors was employed. The usefulness of this novel process was tested by calculating the incremental predicted audience coverage provided by the new factors, and it was found that the new analyses revealed concise and interpretable factors of reader interest which substantially enhance predicted audience coverage.

The demographic and life-style characteristics of the respondents were found to be related to levels of interest in the various categories of news developed by the factor analysis. Overall, the demographics proved to be the dominant discriminators. Discriminant

analyses determined the relative strength of the background variables in distinguishing among levels of interest in the various categories of news, and crosstabulation tables revealed specific differences suggested by the discriminant analyses.

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CHAPTER I

INTRODUCTION

I. PURPOSE AND SIGNIFICANCE OF THE STUDY

An essential function of the newspaper, industry professionals agree, is to provide useful information to all elements of the reading audience (Edwards, 1976). Concurrently, a critical problem confronting editors and publishers in today's changing society is the lack of effective methods of achieving this goal.

In the past, traditional journalistic formulas and editorial judgment were successfully applied in the production of one newspaper for one mass audience. Recent readership studies indicate, however, that the newspaper audience is no longer made up of a mass of "typical" readers, but rather has fragmented into diverse segments of readers ("Marbut," 1977).

Furthermore, readership and circulation data suggest, modern newspapers are not satisfying the information needs of all groups of readers (Consoli, 1977).

Circulation figures reported by Clarke and McGann (1979) indicate there has been no general increase in weekday circulations between 1972 and 1979, and Miller, of the Minneapolis Star and Tribune, warns that newspapers with steady or even slightly increasing circulations are likely experiencing decreases in market penetration ("Circulation execs," 1978).

Supporting Miller's argument are data from NORC national sample

surveys which reveal a 12 percent decline in reported readership in the years between 1972 and 1978, with 9 percent of the loss occurring in the most recent three-year period (Robinson & Jeffres, 1979).

The trend of decline in the audience coverage provided by newspapers has not gone unnoticed by advertisers. Sachar, of Paine Webber, points out that the retail advertiser has been disappointed by "significant losses" in newspaper market coverage, and notes that many retailers have been turning to preprints and shoppers for supplementary exposure ("A security analyst," 1978, p. 11).

Similarly, Marcus of Neiman-Marcus reports that retailers have realized "a declining return from newspaper advertising and an increasing return from other forms of advertising . . . especially direct mail" ("Marcus," 1978, p. 37).

Faced with the mounting problems of circulation, readership and advertising losses, a growing number of editors and publishers agree with Marbut of Harte-Hanks that newspapers must become more systematic in determining the information needs of readers (Brown, 1975).

The purpose of this research is to explore the feasibility of developing an empirical classification of newspaper content, based on reader-interest data, that reflects the predicted readership patterns of the population being measured. Specifically, this study tests the relative merits of factor analysis procedures and complete linkage cluster analysis in yielding representative categories of reader interest.

The reader-interest measure used is the title-rating technique,

which has been shown to provide valid readership predictions (Haskins, 1960). Demographic and life-style characteristics of readers interested in different categories of news are also reported.

A means for developing categories of reader interest that reflect predicted readership patterns would be valuable to editors who wish to identify the mix of information that will reach the various segments in their respective audiences.

Post hoc "editorial mix" research by Haskins (1965a) demonstrated that maximum audience coverage of a general magazine's heterogeneous audience can be achieved with efficient combinations of a fraction of an issue's total content.

In the discussion of his findings, Haskins suggests using valid editorial pretest data to develop principles of editing based on reader-interest categories that represent useful editorial mixes of content.

With valid editorial mix information, Haskins adds, the goal of audience coverage can be efficiently satisfied, and the remaining news hole can be filled with articles selected according to the editor's personal judgment.

Jinks, of the Associated Press Managing Editors, similarly emphasizes that empirical guidelines for the selection of news do not negate the newspaper's role as a servant of the general welfare. Rather, he says, both a systematic response to audience needs and responsible editorial judgment are necessary ("Editors urged," 1976).

Specific knowledge of audience interests will become increasingly

important in the years ahead if predictions of the future specialization of the newspaper are accurate.

Edwards (1976) advocates specialization of the medium, and predicts that the newspaper of the 80's will be one of different editions, each containing a common core of information plus additional news tailored to the special needs and interests of different kinds of readers.

Beyond the tailored newspaper, according to Edwards (1977), is the American adoption of the electronic newspaper, which is steadily gaining in popularity in England. Currently, there are three British systems of teletext--the generic term for putting information in print format on TV screens.

Anable (1978) also points to the tailor-made newspaper and the electronic newspaper as "two main lines of advance" in the future of the newspaper industry (p. 15). The tailor-made newspaper, says Anable, will cater to the concerns of the individual reader, while the electronic newspaper will also provide information of particular interest to the individual, but will deliver it on a screen rather than on paper.

Although teletext received high ratings in an opinion poll in England, Edwards adds, fewer than 6 percent of those surveyed believe it will replace the daily newspaper. Anable suggests that perhaps some parts of the package of daily news will move onto the screen, while others remain in print.

Many newspapers are now experimenting with special sections designed to address specific interests within their communities. A

separate daily Spanish-language section is published by the Miami Herald, for example, while the Denver Post offers a weekly section on outdoor Western living (Davies & Miller, 1977).

The New York Times has added a number of weekly sections, including "Weekend," "Home," and "SportsMonday." Similarly, newspapers in most other major U.S. cities have introduced one or several special sections, covering interests such as fashion, food, the arts, recreation, current happenings, consumer information, sports, real estate, and more ("Newspapers' new life-style," 1978).

Advertisers, however, are not convinced of the effectiveness of these special sections. Pierce, a representative of J. Walter Thompson, observes that research is "needed badly" to determine readership of these sections, and Reddy of the William Esty agency agrees: "I don't see any research that these sections are reaching the target audience" (p. 132).

In order to identify and address the reading interests of the segmented audience, as well as meet the demands of advertisers, newspapers need a tested research program that will provide valid editorial guidelines and background profiles of readers of different kinds of news.

The present study incorporates the following features in a valid and comprehensive approach to the identification of the reading patterns of the segmented audience:

1. Rather than relying on one method for classifying audience data, this study compares empirical classification techniques to

determine which yields reader-interest categories that best encompass the reading interests of the total group.

2. This study is able to give attention to a broad range of newspaper content, without conducting an after-the-fact survey, because the reader-interest measure used has been validated as a predictor of actual readership.

3. Data gathered in the reader-interest survey will provide life-style as well as demographic profiles of audience segments.

The use of reader-interest ratings to identify patterns of predicted readership provides a control for various variables, other than the substance of a story, which have been found to be related to readership scores.

Swanson (1955), for example, determined that visuals, type of page, geographical origin, and length, as well as subject matter, are significantly related to readership. The two most significant variables, he reports, are visuals and subject matter.

None of these variables, other than subject matter, are reflected in the reader-interest ratings of the headlines.

Certain variables, however, such as the form of the headline or the type of appeal expressed by the headline, are not controlled for by reader-interest ratings.

Felstehausen (1962) manipulated headline appeals in a controlled field experiment, and found no significant difference between types of appeals in terms of readership. He concludes that subject matter, rather than headline appeals, determines readership.

Feinberg (1970) experimentally tested the effects of syntactic

variation in newspaper headlines on reading interest. He found that while, overall, syntactics do not differ in interest value, the influence of syntax increases as topic interest decreases.

In light of Feinberg's positive finding of an interaction between headline substance and syntax in reader-interest ratings, this study's interpretation of reader-interest categories takes into consideration the possible influences of both the form and the substance of the headlines in each category.

II. STATEMENT OF THE PROBLEM

In the context of mass communication theory, the proposed research focuses on the audience and its use of the newspaper rather than looking at source or message effects. This research approach is interested in what people read in newspapers, and the characteristics of readers of different types of content.

The research questions posed are:

1. Is it possible to develop an empirical taxonomy of newspaper content, based on reader-interest data, which represents the predicted readership patterns of the audience being measured?
2. Is complete linkage cluster analysis or a factor analysis procedure, selected from a comparison of procedures, better able to yield representative categories of reader interest?
3. Are life-style and/or demographic characteristics able to distinguish among persons interested in different categories of newspaper content?

III. ASSUMPTIONS

The first assumption is that the goals of newspapers include both serving the public welfare, particularly as a watchdog of government, and achieving wide audience coverage by serving the needs and interests of individual readers.

A second assumption is that the information needs and interests of audience members must be systematically obtained and utilized in order to consistently serve the segmented audience.

Lastly, it is assumed that human beings have a basic need to organize their environment. As Savory (1970) has suggested, classification is forced upon us by the limitations of human mind and memory.

IV. LIMITATIONS

Since the data for the analyses were gathered from an available, nonrandom sample, the findings are not generalizable to any larger population. A random sample is not necessary, however, for the specific purpose of this research, which is to test methodology.

A limitation of this study which is inherent in survey research is the restricted length of the questionnaire. Only a certain amount of information can be gathered from an interview without encountering the risks of respondent fatigue or incomplete interviews.

The number of headlines measured in this study is 93. While this is a relatively large number of items for a reader-interest survey, it is nevertheless a limited number in terms of optimal identification of the elements of reader interest in newspaper content.

The present research is able to identify discriminable categories of reader interest which represent an editorial mix of the kinds of news that will reach a high proportion of the audience tested.

Additional research would be necessary, however, with more and/or different headlines, to identify other possible news categories of interest to this audience and/or to refine the interpretation of categories developed in this study.

CHAPTER II

LITERATURE REVIEW

The literature review defines the fundamental classification systems applied across the sciences, and evaluates the methods and concepts employed in the classification of mass communications content.

Extensive attention is given to the strengths and weaknesses of the methods used to develop taxonomies of both television and print content, as the taxonomies across media content are based on similar goals, data sets, and procedures.

I. TAXONOMY: DEFINITIONS AND A PERSPECTIVE

Within the biological sciences, the word taxonomy is synonymous with the theory and practice of classifying organisms (Blackwelder, 1967; Mayr, 1969). The term, however, has been adopted as another word for classification in a variety of disciplines. The word typology is also used as an alternative term for classification in the literature cited.

Representatives of diverse fields similarly define the fundamental classification process. Hagedorn (1969), a sociologist, states that all classifications have in common "an ordering or arranging of a phenomenon on selected criteria" (p. 23).

Hartigan (1975), a statistician, regards formal classification as the grouping and naming of similar objects, while Clifford and Stephenson (1975), writing for biologists, say that the objective of

classification is to "produce a number of tolerably discrete groups or patterns of co-occurrences" (p. 143).

The ordering or arranging of the environment is a basic function of the human mind. The use of language, for example, depends on the recognition of groups, such as the groups of objects which comprise the collective nouns (Clifford & Stephenson, 1975).

The beginning of the formal or purposeful classifications of the sciences is usually associated with Plato and Aristotle, both of the fourth century B.C. (Abrera, 1974).

Over the centuries, the appearance of new sciences, new schools of thought, new technologies, and volumes of additional information have expanded the scope and utility of formal classification systems. At the same time, however, these developments have contributed to controversies concerning the principles of classification. These controversies are found in both the older and newer sciences, and there is currently no suggestion of an immediate resolution.

Basic Forms and Procedures of Classification

Three basic types of classifications which are generalizable across fields are identified by Cormack (1971) and Clifford and Stephenson (1975). Cormack's distinctions are as follows:

1. A hierarchical classification is formed when classes themselves are classified into groups, and the process is repeated at each level to form a tree.

2. Partitioning creates mutually exclusive classes, thus forming a partition of a set of entities.

3. Clumping produces classes or clumps which can overlap, but which are regarded as distinct types.

Clifford and Stephenson (1975), in their discussion of classification types, refer to the formation of nonoverlapping groups as "dissection" rather than "partitioning," although their terms and definitions are otherwise parallel to those of Cormack.

Hagedorn (1969) identifies four basic classification procedures which are usually used, either individually or in combination, by typologists across disciplines. The four criteria noted by Hagedorn for abstracting classes are: (1) theory, which designates the characteristics to be selected; (2) common usage, or how a concept has been used by others; (3) a combination of knowledge and intuition, which is probably the most common basis; and (4) measurement, which forms typologies from quantified data, "frequently by intercorrelating or factor analyzing the dimensions" (p. 24).

Hagedorn, a sociologist, suggests that the conflicts among classification systems are related to the basic problem of deciding what kind of science is desired--a science of things or a science of relations.

A typologist concerned with a science of things, Hagedorn explains, usually attempts to determine what it is about an object that makes it different from other objects. The concern is for the "thing" rather than for its relationship to other things, i.e., how it varies with other variables.

On the other hand, the typologist oriented toward a science of relations develops classifications based on the measurement of relationships among variables.

A science of things, then, leads to classification in terms of definitional categories, while a science of relations produces classifications stated in terms of relationships.

Writers from other disciplines have identified a similar conflict in their respective fields, although they have expressed it in various terms.

In the field of animal and plant taxonomy, Clifford and Stephenson (1975) describe the current controversy between taxonomists who follow the "classic" approach to classification and those who advocate the newer "numerical" approach.

The classic or traditional scheme, as described by Clifford and Stephenson, is restricted to "the grouping of organisms by their structural attributes into taxa" (p. 1). Only those features that will distinguish species are considered important, and entities are classified by one attribute after another.

Characteristics of the numerical approach, as defined by Clifford and Stephenson, are: (1) measurement; (2) use of data-processing equipment; and (3) classification of data based on large numbers of simultaneous observations or attributes or both.

Hartigan (1975), a statistician, refers to the conflict between "traditional taxonomists" and "modern clustering" advocates. The former, he says, are specialists who are unwilling to substitute their instinctive knowledge of species in their field with the numerical classifications produced by the latter with the aid of computers. Hartigan adds that "the principles of classification, which might sometimes settle the disputes, are themselves very underdeveloped" (p. 3).

Blackwelder (1967) acknowledges the dispute among taxonomists in zoology with his comment, "There still are controversies in the taxonomy of organisms, its goals, its basis and its methods" (p. 4). A defender of the traditional viewpoint, he adds that he does not think the controversy will deter or even affect the practicing traditional taxonomist.

Lastly, Bailey (1973), another commentator from the social sciences, observes the following distinction between what he terms "classic" and "empirical" classifications:

1. In the classic approach, the typologist first has a type concept in his/her mind, and then finds specimens for each cell.
2. The empirical classification is based on an analysis of quantified data, and values of component dimensions are not known in advance.

The Subjective Element

In their review of traditional classification in biology, Clifford and Stephenson (1975) observe that "in the definitions of taxonomic levels there is usually an arbitrary element" (p. 5). This arbitrary component of traditional classification schemes is evident in the vague language used by taxonomists to describe the distinctions between classes or taxa.

Cain (1953) defines "species" as "a group of specimens which is considered sufficiently different . . . to be given a specific name" [my underlining] (p. 82).

A family is defined by Mayr, et al. (1953) as "a systematic

category . . . which is separated from other families by a decided gap" [my underlining] (p. 51).

The conclusion is apparent that specific boundaries in traditional taxonomy depend on how one defines them. The criteria are not established principles, but rather differ from one group of organisms to another, and are left to the experience of a taxonomist familiar with the group (Clifford & Stephenson, 1975).

Numerical taxonomists, on the other hand, while very often critical of the subjectivity of traditionalists, are not entirely free from subjective decisions themselves.

Sokal and Sneath (1963), in their explication of numerical taxonomy, refer to the "shrewd judgments" of biologists in evaluating statistical results. The interpretation and labeling of resulting categories is the most obviously subjective aspect of numerical classification.

The choice of a particular numerical classification technique is also a subjective decision, unless the selection is made on the basis of an objective comparison of several techniques. Too often, researchers rely on one method, without testing variations in procedure, and claim robust results which are actually an artifact of the method.

Furthermore, a number of steps in the various numerical classification procedures call for decisions by the researcher that involve some measure of arbitrary judgment (Smith & Blashfield, 1977). Several of these decisions are: (1) the choice of a criterion level, in factor analysis, for an item to be included in a factor; (2) the

selection of a type of rotation, in factor analysis; and (3) the determination of the final number of groups to be extracted, in factor analysis or cluster analysis.

Criteria for Evaluating Classification Systems

The evaluation or selection of a classification procedure depends on the nature of the data to be analyzed and the purpose of the classification (Abrera, 1974).

For example, if the data consist of large numbers of quantified observations or attributes, and the purpose is to establish relationships, a numerical taxonomy is appropriate.

On the other hand, if the researcher is working with established categories and wishes to fit an entity or entities into these categories, a traditional classification procedure should be used.

In addition, the data included in the classification analysis must be in harmony with the stated research purpose. An empirical classification of adult leisure activities, for example, obviously cannot be based on data gathered from teenagers, or on measures of reading interests rather than measures of leisure activities.

The evaluation of a classification is also dependent on the specificity of the researcher's report of the development of the classification. Since there are no absolute criteria against which to test classifications once derived, it is important for the investigator to be clear about the steps taken in the derivation (Clifford & Stephenson, 1975).

Of particular importance in the methodology report are details of the researcher's rationale for decisions involving subjective judgment.

Without a specific report of methods, a classification cannot be adequately evaluated, or replicated, and so cannot be considered useful.

II. TAXONOMIES OF MASS COMMUNICATIONS

Of Television Content

All of the taxonomies reviewed in this section are empirical, with measurement used to determine the relationship between programs and viewer preferences or behavior.

In the early 1960's, according to Kirsch and Banks (1962), traditional classifications of television content, i.e., classifications based on the obvious features of programs, were generally used. Kirsch and Banks' own definition of program types by factor analysis, however, marked the beginning of a major trend toward the empirical classification of television programs.

With a data set of 596 family viewing diaries, gathered from "several metropolitan areas" (p. 30), Kirsch and Banks tabulated the viewing by adult males of 62 programs aired during the week of February 16-22, 1961. The tabulated values of one and zero were subsequently intercorrelated and factor analyzed, using a principal axis analysis and varimax rotation.

The labels assigned to the resulting categories are as follows:

(1) ABC westerns, mostly on weekends; (2) CBS situation comedies; (3) music and variety; (4) ABC action; (5) NBC westerns; and (6) CBS action. An examination of the table of factor loadings provided by the authors indicates the factors are labeled appropriately.

A low 24 percent of the variance of the original matrix is accounted for by the factors, which indicates, according to Kirsch and Banks, that "although the method seems promising in producing a new way of looking at programs, more work needs to be done" (p. 31).

Missing from the report are explanations for the following decisions: (1) sample selection; (2) the choice of a correlation coefficient for the dichotomous data; (3) selection of the principal axis procedure with orthogonal rotation; and (4) the retention of six factors.

Hazard (1965) analyzed the attributes of reported program preferences rather than the preferences themselves, using data from a total of 1315 "likely television viewers" in Austin, Texas (p. 48).

With the help of judges, Hazard designed six scales to measure formal or structural attributes, and six scales to measure non-topical content attributes. The form scales include Fact-Fantasy, Drama-Non Drama, Characterization, Entertainment, Verbal-Action, and Physical Violence, while the content scales are Means Deviance-Conformity, Goals Deviance-Conformity, Psychological Tension, Simplicity-Complexity, Interaction, and Information.

TV programs named as favorites by the respondents were assigned a scale value on each of the 12 attributes, and each person's central tendency on the 12 attributes was determined. A 12x12 correlation matrix of the latter values was subjected to a principal axis factor analysis with varimax rotation.

The three major factors determined to be underlying the 12 attributes were labeled Closure, Realism and Deviance.

Hazard's methods correspond to his stated purpose of finding dimensions which would describe the similarities among TV program preferences on the 12 attributes "at a higher level of abstraction than the 12 dimensions themselves" (p. 49).

He does not clearly explain, however, just how these 12 attributes were derived and what they mean, nor does he acknowledge the possible existence of other attributes related to program preferences.

Finally, inadequate justification is found in this report for the sample selected, the factor analysis and rotation used, and the decision to retain three factors.

Swanson (1967) utilized data of reported viewing behavior from Brand Rating Index in his attempt to discover underlying patterns of audience viewing habits.

While Kirsch and Banks (1962) confined their analysis to responses from men, Swanson elected to analyze only the responses of a subsample of women. Neither report explains, however, why such a limitation was imposed on the sample.

Swanson applied a principal components factor analysis, rotated to an "objective" solution, to two correlation matrices. The first matrix was based on self-reports of frequency of exposure to 108 nighttime network programs (up to four broadcasts), while the second was based on similar reports of exposure to 46 daytime programs (up to 10 broadcasts).

Instead of assigning interpretative labels to the resulting factors, Swanson named each factor by its two or three highest loading

programs. The 12 nontrivial factors that account for a moderately low 45 percent of the variance in viewing of the 108 nighttime programs are: (1) Donna Reed-Patty Duke-Ozzie and Harriet; (2) To Tell the Truth-I've Got a Secret; (3) 90 Bristol Court; (4) The Reporter-Mr. Broadway; (5) Gunsmoke-Marshall Dillon; (6) NFL-AFL Football Games; (7) Flipper-Adventures of Mr. Magoo; (8) News; (9) Peyton Place; (10) That Was the Week That Was-Bell Telephone Hour; (11) Dr. Kildare-Ben Casey; and (12) No Time for Sergeants-The Tycoon.

Ehrenberg (1968) subsequently criticized the use of factor analysis to determine program types, and Swanson's study in particular.

An initial observation by Ehrenberg regarding Swanson's analysis is that neither the labels of the factors nor the text of the report offer an interpretation of what the programs in a factor have in common. In reality, Ehrenberg suggests, Swanson's first two factors are "ABC" and "CBS."

A second observation is that no justification is found in Swanson's report for the adoption of the principal components analysis and "objective" rotation.

Ehrenberg's major criticism, however, is that Swanson failed to account for prior knowledge, such as the existence of different networks, in his development of program types.

The general tendency to stay tuned to different programs on the same channel was previously demonstrated, Ehrenberg argues, citing Kirsch and Banks (1962), and further factor analyses, therefore, do not add to existing knowledge of viewing habits.

Wells (1969), in the discussion of his factor analytic study of

the durability of program types, acknowledges Ehrenberg's comments regarding prior knowledge, and then dismisses them.

Noting that reports of viewing behavior are more likely to be influenced by scheduling than are reports of program preferences, Wells points out that a factor analysis of viewing behavior in the 1966 season and his own factor analysis of 1966 preference ratings yielded seven virtually identical factors: (1) Adult Situation Comedies; (2) Teenage Situation Comedies; (3) Westerns; (4) Movies; (5) Musical variety; (6) Doctors; and (7) Panels.

Scheduling influences, Wells concludes, are not as great as content influences on viewing behavior, for 1966 at least.

Wells applied principal components factor analyses with varimax rotation to data from national TVQ surveys to determine whether program types remained the same between 1962 and 1968, or whether they changed.

Respondents (family members aged six or older) rated all prime time network programs on a five-point scale. Data analyzed were from questionnaires mailed in March of 1962, 1964, 1966 and 1968.

Three types of programs--Westerns, News, and Adult Situation Comedies--were present in all of the years studied. Six groups--Teenage Situation Comedies, Panels, Supernatural, Cartoons, Handsome Heroes, and Drama--disappeared after 1962, and three groups--Movies, Newlywed-Dating Games, and Science Fiction--appeared after 1962 and were still present in 1968.

One program type--Doctors--emerged after 1962 and then disappeared before 1968.

Wells also included in his analyses crosstabulations of preferences for program types with demographic variables. He found, for example, that older viewers are more likely than younger viewers to prefer news programs.

In contrast to the previous studies reviewed, Wells' investigation was based on data gathered from probability samples that included all kinds of readers, and his report provides a clear interpretation of the derived factors and a brief description of the factor analysis procedure used. The report does not reveal, however, Wells' methods for determining the number of factors to retain in each analysis.

Frank, Becknell, and Clokey (1971) reject Ehrenberg's (1968) condemnation of the use of factor analysis to determine program types, but concur with Ehrenberg's belief that prior information about TV viewing behavior must be accounted for in the development of empirical classifications of TV content.

In their search for program types based only on "content and casting characteristics" (p. 204), Frank et al. factor analyzed (1) raw preference ratings, (2) preference ratings adjusted (through multiple regressions) for scheduling characteristics, and (3) preference ratings adjusted for the demographic characteristics of respondents. Principal components analyses with varimax rotation were used.

According to the authors, both the scheduling characteristics of the programs and the personal characteristics of viewers confound the effects of content and casting on program preferences.

The data used were gathered from national probability samples in TvQ's November surveys of 1965, 1966 and 1967. Respondents (family

members six and older) supplied their demographic characteristics and six-point scale ratings of prime time television programs.

The results of the analyses of the raw data and of the data adjusted for personal characteristics, performed for each of the three years, were virtually identical, according to the authors. (Incomplete tables preclude this conclusion by the reader.)

About one-third of the factors found in the analyses of data adjusted for scheduling characteristics offered no new information, the authors report, and the remaining plausible factors were determined to be subsets of factors identified in the initial analyses of raw data and data adjusted for personal characteristics.

A composite of 11 program types, representing "an interaction in viewer preferences and network schedules" (p. 209), are reported as the factors "identified in our analyses" (p. 207): (1) Movies; (2) Peyton Place; (3) Solid Citizen (mostly musical varieties); (4) Conflict; (5) Situation Comedies; (6) Unreal Escapist; (7) Westerns; (8) Doctors; (9) Comic Strips; (10) Mating Game; (11) Teenage Music.

The authors acknowledge that these 11 types correspond closely to those identified by Wells (1969), although they claim that their adjusted analyses "clarified interpretation" (p. 207).

The following flaws were found in this study:

1. Because of the inadequacy of the tables, the reader cannot tell specifically what differences were found among the various analyses.

2. The report indicates that an average of 10.3 factors were found over the three years for the analyses of raw data and data

adjusted for personal characteristics, while an average of 25.7 factors resulted from the analyses of data adjusted for scheduling characteristics. No explanation is given, however, of the methods used to determine the number of factors to retain in each analysis.

3. Since the program types ultimately identified by Frank et al. correspond closely to those found by Wells, the advantages of massive prior adjustments (multiple regressions run for each program) seem questionable.

4. The authors do not explain the utility of a classification of program preferences with scheduling and viewer characteristics removed, nor do they explain how they determined that scheduling and demographic characteristics are confounding to content and casting effects on preferences.

5. Three of the 11 factors are discussed in relative detail in the report, but the remaining eight are given scant attention.

In their favor, the authors defend in their report their use of R-type factor analysis, and suggest that other taxonomic procedures may become more useful in the future.

Rao (1975) replicated the study by Frank et al. using measures of TV viewing frequency rather than program preference data.

Analyses were based on data collected in the 1967 Brand Rating Index (BRI) survey. Of the 14,000 respondents in the original national probability sample, 1996 were systematically selected for this study.

Rao reports that nine factors were produced by the principal components analysis of the raw data, and nine identical factors resulted from the analysis of the data adjusted for personal characteristics.

Labels assigned to the nine factors are: (1) ABC; (2) CBS; (3) Movie; (4) Adult Entertainment; (5) Western; (6) Family Entertainment; (7) Adventure; (8) Unrealistic; and (9) Sin.

The analysis of the data adjusted for scheduling characteristics produced 28 factors, but only three with satisfactory structure. These three were interpreted as Movie, Family Entertainment, and Western (already identified by the first two analyses above).

A review of Rao's table of high-loading items on the nine factors suggests that the first two factors might have been interpreted differently. The top-loading items on Factor Two, for example, are Green Acres, Andy Griffith, Beverly Hillbillies, Gomer Pyle, and Petticoat Junction, which might be considered "Down Home Situation Comedies" rather than "CBS."

Most of the weaknesses found in the study by Frank et al., including the inadequate discussion of the factors, are also present in Rao's investigation. Rao does, however, report that factors were retained when eigenvalues were greater than one. Since this criterion resulted in 25 trivial factors in the third analysis, it is evident other criteria were needed.

Gensch and Ranganathan (1974) question the utility of factor analytical classifications of program types once personal characteristics of the respondents have been removed.

Resulting factors, they argue, "do not represent actual preference configurations of the sample" (p. 391), and of course cannot be related back to audience subgroups. Such abstract factors, Gensch and Ranganathan conclude, are not useful for developing market segmentation strategies, or for any other practical purpose.

In their own investigation, Gensch and Ranganathan compared a factor analysis of raw viewing behavior data with two separate factor analyses of viewing data adjusted for program scheduling characteristics.

The three analyses were conducted with independent subsamples of Brand Rating Index data gathered in the fall of 1968. Measures of viewing frequency (up to four broadcasts) of 81 prime time TV programs and demographic characteristics were included in the data set.

While an adequate sample of 1000 was drawn from the original sample for the factor analysis of raw data, small samples of 100 and 150 were chosen for the two adjusted data analyses. Neither of the latter samples provides a large enough ratio of subjects to variables (the 81 programs) to warrant application of factor analysis (Smith & Blashfield, 1977).

The authors report, however, that the analyses adjusted for scheduling characteristics yielded factors less dominated by elements of scheduling than the factors found in the raw data analysis. Full tables of the results of the factor analysis of the raw data are not presented, however, for the reader to compare with the factors produced by the adjusted analyses.

The authors found eight common factors in the two adjusted analyses: (1) movies; (2) action shows; (3) light entertainment; (4) nostalgia or traditional values; (5) Peyton Place; (6) Dating and Newlywed Games; (7) westerns; and (8) variety shows.

These results, the authors conclude, "support the intuitively

appealing concept that individuals have viewing preference patterns based upon program content" (p. 396).

Subsequently, the eight program types were related to purchase patterns and demographic characteristics.

The specific factor analysis procedure employed by Gensch and Ranganathan in their analyses is not reported, although a reference to orthogonal solutions is made. The authors did report, however, that factors with eigenvalues greater than two were retained in each analysis. The eigenvalues-greater-than-one criterion is a more widely accepted bound (Gorsuch, 1974).

In a more recent study, Frank and Greenberg (1979) developed a classification of the television audience, based on data from a national survey of audience leisure interests and activities, the needs satisfied by these leisure activities, and television (as well as other media) usage and attitudes.

That is, instead of empirically classifying television content and relating audience characteristics to the resulting categories of content, Frank and Greenberg empirically classified the TV audience, based on leisure-interest data, and then related the resulting audience categories (or segments) to reported viewing of programs arbitrarily classified by the authors into subject-matter categories.

A unique contribution of this research, according to the authors, is that it offers a study of "how people with different patterns of interests and needs make use of television rather than studying the relationship between demographic variables and viewing behavior" (p. 43).

The investigation proceeded on the following assumptions:

1. The justification for television ultimately is based on its ability to attract and satisfy an audience.
2. An audience is "active." Its members choose whether to watch television as well as what to watch. They are not passive. They are not captive. They cannot be commanded. They must be attracted--day by day, hour by hour, program by program.
3. To consistently attract an audience, one must understand the interests and needs of potential viewers and how they relate to each other, to television usage, and to the use of related media.
4. The audience one attracts will vary from program to program depending, in large part, on the mix of interests and needs that the programs address. . . . That is, the audience of a particular station or network is not a static one, but a dynamic one, varying over time with the needs satisfied by its programming.
5. The potential viewing population is not composed of a mass of individuals homogeneous in their needs and interests, but rather of definable segments of individuals, each with its own different patterns of interests they wish to address and seeking satisfaction of different psychological needs. (pp. 43-4)

Data collection involved the personal interview administration of a lengthy seven-part questionnaire to 2,476 individuals from 1,125 households. While the authors indicate that the households and respondents within households were selected by probability procedures, they do not report their response rate.

In the first stage of the data analysis, the leisure interests and activities data were factor analyzed by the principal components procedure, and individuals were subsequently grouped by a cluster analysis of their factor scores, using an "expanded version of the Howard-Harris clustering algorithm" (p. 45). The report does not indicate the rotation employed in the factor analysis, nor does it give a reference for the Howard-Harris algorithm, or details of the authors' expanded version.

The clusters of respondents were then crosstabulated with

demographic and "needs" data to produce comprehensive profiles of 14 segments of the TV audience.

One of the segments, for example, was labeled "Arts and Cultural Activities" and identified generally as one of four segments with a concentration of adult females. The characteristics of this segment include a very high ranking on the "Classical Arts" leisure-interest factor; higher than average scores on a variety of other interest factors, such as "Investments" and "International Affairs"; needs that include "Understanding Others" and "Intellectual Growth and Stimulation"; high levels of education and socioeconomic status; and a high proportion of married individuals.

Next, the 14 segments were identified by their reported TV viewing behavior. The authors determined 18 subject-matter categories, plus an "Other" category, and recorded the percentage of persons in each segment who reported watching at least one of the programs in a category during the four weeks prior to the interview.

The table of "Percent Watching by Program Type and Segment" indicates, for example, that "Musical Performances" and "Theatrical Performances" have a higher than average proportion of viewers from the "Arts and Cultural Activities" segment.

The authors do not provide references or a rationale for the selection of their program types, which may or may not represent actual viewing patterns.

More valuable information might have been gained, it seems, if the authors had factor analyzed the reported viewing data and then related these empirically developed categories of TV content to reported viewing by various audience segments.

Program types defined by reported audience viewing behavior would also be more in keeping with the authors' goal to "focus on the uses of TV from an audience point of view" (p. 43).

The research is valuable, however, for its deviation from the traditional reliance on demographics alone to define the personal characteristics of television audience members.

Of Newspaper Content

Of the taxonomies reviewed in this section, those developed by Swanson (1955) and Bush (1960) are traditional, while the remainder are associated with numerical procedures.

Readership data from studies of 130 newspapers were used by Swanson in an effort to identify elements of newspaper content related to high vs. low readership.

Initially, Swanson created a system of categories for each of eight attributes posited to have some relationship to readership differences. Trained coders then classified the 40,158 items from the readership studies into these categories. No coding reliability data were obtained, however.

Next, for each attribute, the 40,158 items were sorted according to readership percentages into quartiles. Chi square tests of upper and lower quartiles determined whether an attribute was related to significant differences in readership.

Although five of the eight attributes--type of page, form, geographical origin, subject matter, and length--were judged in this manner to be related to readership, Swanson subsequently decided that various elements of these attributes were associated, and that subject matter

and length alone were sufficient for describing differences in readership.

Swanson's report does not present the criteria used in his classification of each attribute, nor does it define any of the categories for the reader.

Confidence in the categories is further weakened by the absence of data on coding reliability.

Bush (1960) rejected the limited number of subject-matter categories in common use and "carefully developed" definitions of 50 categories of newspaper content, based on elements of content that included psychological as well as logical dimensions (p. 207).

In spite of his attempts to avoid categorization by subject matter alone, most (or all) of Bush's categories have topical labels--War, Taxes, Crime, Our Nation, etc. The definitions of the categories do, however, sometimes include a psychological interpretation.

The classification scheme was initially validated by 18 judges who coded 30 "doubtful" news stories with almost unanimous agreement, and later was successfully applied in various content analyses.

The usefulness of the categories in content analyses indicates this traditional classification achieves the purpose for which it was designed. Also, Bush provides the reader with definitions of each category and a brief explanation of the rationale used in developing the categories.

In a 1955 study, Bush coded front-page stories of 27 newspapers for which he had readership scores, in an attempt to relate the readership data to his categories of newspaper content, following the procedures described by Swanson.

Of the 40 categories represented in these newspapers, four were found to be significantly related (chi-square significant at .01) to high readership by men--Crime, Labor-Major, Our Community, and Social and Safety Measures. Three were significantly related to high readership by women--Our Community, Education, and Crime; and four were significantly related to low readership by women--Governmental Acts, Politics, Economic Activity, and Communism in the U.S.A.

Bush acknowledges that these results are not generalizable, and that a much larger-scale study would be necessary to identify high and low readership categories.

A rare early example of the use of an empirical procedure in the classification of newspaper content is Nafziger, MacLean, and Engstrom's 1951 interpretation of readership data from two Minnesota surveys.

The authors present frequency distributions and factor analysis as two ways of studying readership data, and conclude that "the tool which seems to have the greatest promise is factor analysis" (p. 442).

The newspaper content reported in the readership studies was initially categorized by traditional procedures into 11 categories (9 subject-matter categories plus "pictures" and "cartoons"), as the authors mistakenly assumed that the use of factor analysis "requires that the newspaper content be broken down into meaningful categories" (p. 42).

Next, each reader in the two samples was assigned a score of reading for each category, based on the aided recall readership data. An 11x11 matrix of the intercorrelations of these reading scores was

developed for each sample and subjected to a centroid factor analysis with oblique rotation.

The two factor analyses produced similar results, each yielding three factors. Although none of these factors could be clearly interpreted, they were tentatively described as: (1) Easy-to-read entertainment material--pictures, comics, and sports; (2) General and public affairs reading; and (3) Reading of news about people and society, arts and hobbies, religion, and education.

Factors two and three were correlated in both analyses (.30 and .68).

The a priori categorization of the readership items into a small number of groups unnecessarily limited the amount of information entered in the factor analyses. The authors themselves suggest in their conclusions that "there might be differences within the present categories which are obscured by the scoring methods" (p. 455).

A detailed explanation of the centroid procedure is provided in the report, but the authors do not explain their reasons for choosing an oblique rotation and a three-factor solution.

Stempel (1964) empirically analyzed newspaper content as defined by editors in order to identify the news values employed by editors in their selection of stories.

The data set consisted of 32 news stories carried on March 19, 1963, by at least 5 of the 25 randomly selected afternoon dailies. Values of 0 and 1, to represent "not carried" and "carried" were presumably assigned to the stories, although Stempel does not indicate the values of the variables.

The number of variables analyzed, then, was 32, while the number

of observations was only 25. Since a distinctly larger number of observations than variables is necessary for empirical classification, the results of Stempel's analyses cannot be considered valid.

Single linkage cluster analysis, centroid factor analysis with orthogonal rotation, and Guttman scaling were applied to the data in a comparison of methods.

The Guttman model was quickly dismissed by Stempel as inappropriate for the data, and the linkage analysis produced eight clusters which could not be labeled because of the "considerable variety" within each one (p. 21).

Six factors were produced by the centroid analysis, and the similarities among items within each factor were tentatively interpreted as follows: (1) suspense-conflict; (2) public affairs; (3) human interest; (4) little in common other than, perhaps, timeliness; (5) the positive element in the news; and (6) political controversy.

Stempel concludes from these analyses that factor analysis seems to be "the most useful of the techniques employed" (p. 21). It has already been observed, however, that Stempel's results, and therefore his conclusions, are not based on valid analyses.

Further problems with Stempel's report include his failure to (1) define his selection of the three analyses for the data, (2) identify the correlation coefficient used with the (presumably) dichotomous data, and (3) report criteria used to determine the number of clusters or factors to retain.

Haskins (1965b) also compared several empirical procedures for classifying editorial content on the basis of readership, using data

gathered in readership studies of 47 issues of a national general magazine.

Since the general magazine and the modern newspaper share a similar responsibility--selecting, for each issue, a diverse collection of items that will reach the various elements of a heterogeneous audience--Haskins' investigation is relevant to both.

A previous analysis of the data (Haskins, 1965a) demonstrated that "a limited number of items--if in the proper mixture--could achieve almost maximum audience coverage" (p. 3, Haskins, 1965b). It was also established that ideal mixes of editorial content are not necessarily composed of all high readership items.

The kinds of items needed to achieve wide audience reach could be identified prior to publication, Haskins suggests, if valid, generalizable categories, representing effective editorial mixes, were to be developed from readership or pretest data.

The following assumptions about empirically developed readership categories were logically demonstrated by Haskins:

1. Operational definition of a reader-interest category: two or more items which are read by the same persons form a reading-interest category. . . .
2. A reader-interest category may or may not be a conventional subject-matter category (such as sports, government, health, etc.). . . .
3. Two items from different categories will have, by definition, wider audience coverage than two items that are not (all else being equal).
4. It follows that editorial mixes containing items from several different categories will have wider audience coverage than same-size mixes composed of items from fewer categories (up to some saturation point and all else being equal). (p. 6)

The subsequent application of empirical classification procedures to the magazine readership data was designed to identify efficient techniques for locating reader-interest categories.

Factor analysis, single linkage cluster analysis, and intuitive analyses of item-pair relationships were applied to 30 items drawn from the readership data set. Seven-group solutions were chosen on the basis of preliminary incremental analyses which determined that editorial mixes of seven items could achieve almost-maximum coverage.

Incremental analysis is a procedure that computes the increment in audience coverage supplied by the addition of succeeding items until the audience coverage of a set of items is obtained.

Following the classification procedures, incremental analysis was used to calculate the audience coverage of (1) various seven-item combinations representing the results of the different procedures, (2) a random choice of seven items, as a lower bound, and (3) the seven items with the highest readership.

The 30 items reached 80 percent of the audience measured, while the optimal mix of 7 items, produced in the preliminary analysis, reached 72 percent of the audience, and the random selection of 7 items achieved 57 percent audience coverage.

The following seven-item combinations achieved audience coverage decidedly better than the random mix, although not as high as the upper limit for seven items: (1) the highest-loaded items from the seven factors, 66 percent; (2) the seven items with highest readership, 66 percent; (3) the highest readership items from the seven clusters, 65 percent; and (4) the highest readership items from the seven factors, 64 percent.

A more diversified collection of 30 items, Haskins observes, would cover more than 80 percent of the audience, and combinations of categories resulting from the empirical analyses of such items would

in turn give better audience coverage. It is also likely that a larger number of variables would increase the efficacy of the procedures.

Haskins' paper does not report the correlation coefficient used with the dichotomous readership data, nor the specific factor analysis procedure and rotation applied, although a complete table of factor loadings is presented.

A table of the corresponding categories obtained by the factor analysis and linkage analysis is also included, which indicates high agreement between the procedures on four categories.

The categories yielded by the procedures are not labeled or interpreted, however. In all of the tables, the 30 items are identified by numbers rather than by names. Although the purpose of the research was to test methodology rather than to identify categories, it nevertheless might have been useful to report the cohesiveness found in the categories produced.

Conceptually, Haskins' investigation offers valuable insights which counter previous assumptions, and the results of his analyses suggest the feasibility of empirically identifying reader-interest categories that represent better-than-chance editorial mixes, using factor analysis or cluster analysis.

Clarke (1968) collected reader-interest data from 381 ninth and eleventh grade boys in his empirical investigation of the reading preferences of teenage boys.

The group-administered questionnaire contained 109 news story and feature leads, including items generally thought to appeal to teenagers. The youngsters, students from school districts outside Seattle, rated each lead by giving it an interest score on a 0 to 100 thermometer

scale. This "title-rating technique" was developed by Haskins (1960) and has been validated as a predictor of readership (Haskins, 1960; Stevenson, 1973).

An initial factor analysis with varimax rotation identified items with low communalities and items with variance distributed across a number of factors. These items, a total of 43, were then eliminated from the data set, and a second factor analysis, this time with oblique rotation, was performed.

Five factors, determined to be statistically significant, were extracted and labeled: (1) Public affairs, (2) Science; (3) Speed and violence; (4) Teen news (rock-and-roll, teen column, etc.); and (5) Sports.

Clarke provides a clear interpretation, with "illustrative stories," of each factor (p. 10). Since a complete table of factor loadings is not presented in the report, however, the reader cannot evaluate the suggested interpretations.

Also missing from the report are the specification of the factor analysis procedure used and the rationale for first choosing an orthogonal rotation, and then an oblique.

At the same time, Clarke does indicate a high amount of common variance was accounted for (78 percent), and that the number of factors was determined with the help of significance tests.

The 0 to 100 scale, in addition to being a validated measure, offers a wide range of values which enhanced the stability of the correlations, and thus, of the factor analysis.

Also, the large number of variables used in the study, and the

removal of those with low communalities, increased the ability of the factor analysis to identify patterns of teen newspaper reading preferences.

While the elimination of the variables with variance distributed across factors served to simplify the structure of the results, useful information may have been lost in the process.

Stempel (1967) utilized valid editorial pre-test data in an attempt to empirically develop reader-interest categories of news, as suggested by Haskins (1965a, 1965b).

Initially, Stempel took 200 headlines from two Ohio newspapers, and from this group purposefully selected 38 to represent 38 of the 40 news categories developed by Swanson (1955). The 0 to 100 thermometer scale was selected as the measure of reader interest, and a pretest determined that respondents could use the scale with headlines alone.

While Stempel reports that interviews were completed with 225 persons from a randomly drawn sample of adult residents in Athens, Ohio, he does not report his response rate.

A principal axes factor analysis with varimax rotation was applied to the data, and the resulting factors were labeled as follows:

(1) National Politics; (2) Immediate Reward; (3) Economic Activity; (4) Public Health and Welfare; (5) Artifact; (6) Low Interest; (7) Conflict-Suspense; and (8) Leisure-Activity.

Stempel provides a brief interpretation of each factor, and a complete table of factor loadings. A review of this table indicates that Stempel did not necessarily look at all of the high-loading headlines when he labeled and interpreted the factors.

Factor Seven, for example, is labeled "Conflict-Suspense" with an accident headline loading at .754 and a fire head at .580. Close behind in the loadings on this factor, however, are the headlines, "Church Gets New Pastor" (.536), and "Double Ring Ceremony Unites Athens Pair" (.483).

A fundamental problem with the design of this research is the imposition of the author's, and Swanson's, biases in the selection of the variables to be analyzed. The strict stratification of the variables, using Swanson's categories, limits the ability of the factor analysis to identify reader-defined categories of newspaper content.

While the selection of a diverse group of items to represent newspaper content is desirable, the limitation of these items to a certain number and kind is not.

In his report of the data analysis, Stempel does not defend his choice of the principal axes procedure with orthogonal rotation, but he does indicate that Humphrey's criterion was used to determine the number of factors, and provides a reference for this test (Fruchter, 1954).

Ryan (1976), noting that communications scholars "have abandoned the arbitrary classification of news into researcher-defined categories" (p. 441), developed an empirical classification of the reading interests of non-white residents of an urban slum.

Because a five-point scale was found to be awkward in pilot tests, dichotomous "would read or listen" and "would not read or listen" responses to 24 short news statements were solicited (p. 443). The double-barreled nature of the responses, however, makes it impossible to relate them to either broadcasting or newspaper content alone.

Furthermore, the 24 news statements were selected in a purposefully limited manner. A total of 360 news stories, from print and broadcasting sources, were first categorized by judges as public affairs, health, economics or education and as conflict, impact or prominence.

Next, items which the judges agreed met the criteria for one content category and one content-free category were included in the item pool, and two items per combination of content and content-free categories were used in the questionnaire.

This elaborate scheme produced, then, 24 news items strictly stratified according to a limited number of content and content-free characteristics.

Personal interviews were conducted with a nonrandom sample of 67 respondents, and the data were subjected to a principal axes analysis with orthogonal rotation. The three resulting factors were identified as (1) public affairs-prominence, (2) education-economics, and (3) health, although these interpretations do not represent clearly defined patterns.

While Ryan does not explain his choice of the principal axes procedure with orthogonal rotation, he does provide a complete table of factor loadings for the reader to review. The correlation coefficient used with the dichotomous data is not identified.

Overall, the major drawbacks of this research effort are:

1. The study is restricted to a population of 67 respondents.
2. As in the previous study reviewed, the identification of reader-defined categories of news is precluded by the imposition of limitations on the variables to be analyzed.

Johnson (1978) developed an empirical taxonomy of editorial content taken from the Tennessee Valley Authority's in-house newspaper, using reader-interest data gathered from TVA employees by Haskins (1974).

A 56 percent response rate was achieved in the mail survey, which addressed a random sample of employees. Respondents used the 0 to 100 thermometer scale to rate 33 headlines with blurbs.

Principal axis factor analysis, with orthogonal and oblique solutions, and weighted average cluster analysis were applied to the data in order to find the empirical method that best classified reader interests.

The two factor analyses yielded eight similar factors: (1) Personal Help; (2) Leisure and Outdoors; (3) People, Philanthropy, and Nostalgia; (4) Company Progress and Power; (5) Employee Education; (6) Company Innovations; (7) History; and (8) Social Change.

Full tables of factor loadings and tables listing the headlines included in each factor are found in Johnson's report.

The eight factors resulted, in both the orthogonal and oblique analyses, from computer programming instructions which specified that only factors with a minimum eigenvalue of one be retained. A more liberal and appropriate specification for an initial analysis is $v/3$ factors, where "v" is the number of variables being analyzed.

Johnson subsequently utilized scree tests and Humphrey's rule (Fruchter, 1954), and concluded that all eight factors should be interpreted.

A criterion loading of .33 for including an item in a factor was adopted by Johnson on the basis of convention rather than on the basis of a review of the table of loadings.

Prior to the cluster analysis, Johnson developed, with incremental analysis, an optimal editorial mix of eight headlines, which provided 77.3 percent predicted audience coverage.

These eight headlines were then used as the initiating headlines for the eight clusters developed in the cluster analysis. Since the clusters were not produced strictly on the basis of the inherent relationships among the headlines, they are not as valid as the factors and, in fact, turned out to be too complex for interpretation.

Incremental analysis determined that the predicted audience coverage provided by the highest predicted readership stories from each factor (74.8 percent) and the predicted coverage of randomly selected stories from each factor (71.3 percent) did not differ significantly from the predicted coverage of the optimal mix (77.3 percent).

Finally, Johnson related demographic and attitudinal variables to interest in the various reader-interest categories (factors).

Weaver and Mauro (1978) followed the procedures of Nafziger et al. (1951) in their empirical investigation of newspaper readership patterns.

A rationale offered for imitating Nafziger et al. is that they developed the only classification of newspaper content that "used actual newspaper readership data" (p. 84). The a priori categorization of readership items, employed by Nafziger et al., is endorsed by Weaver and Mauro as a way to identify "broad, general newspaper reading patterns" (p. 85).

Data collected in a readership survey of Tampa Tribune subscribers were used in the study. The 244 readership items in the data set were first classified into 17 content categories. Definitions of

these categories are provided in the report, but the rationale for their use is not.

Individuals were assigned category reading scores, calculated on the basis of their reported readership of items in a category, and four 17x17 correlation matrices of reading scores were computed: (1) across all women, N-232; (2) across all men, N-220; (3) for men aged 18-34, N-42; and (4) for women aged 18-34, N-55.

Items were also classified into nine "newspaper material" categories (straight news, editorials, etc.), and correlations of reading scores for these categories were computed across all men and across all women, resulting in two 9x9 matrices.

Each of the six correlation matrices was subjected to an iterated principal factor analysis with varimax rotation and four factors specified. The reasons for choosing principal axes analyses with orthogonal rotations, and for designating four-factor solutions, are not given. The authors do, however, present complete tables of factor loadings.

The same categories were derived from each of the four analyses of the content categories: (1) current affairs or general surveillance; (2) sports; (3) entertainment (comic strips, puzzles); and (4) general service content. In the results of the analyses of the younger men and women, the first factor did not include human interest, and the fourth did not include business service.

The four newspaper material categories produced by the analysis of men's reading scores were identified as: (1) surveillance; (2) evaluation; (3) entertainment (puzzles); and (4) entertainment (comics).

The same categories emerged from the analysis of women's

reading scores, but in the following order: (1) evaluation (columns, editorials, letters); (2) entertainment (comics); (3) surveillance; and (4) entertainment (puzzles).

The primary problems with this research are Weaver and Mauro's erroneous assumptions regarding the need for "actual readership data" and the desirability of a priori classification.

This literature review has indicated that Haskins' 0 to 100 title-rating technique is a validated predictor of readership, which can be more flexible than readership data in determining patterns of newspaper readership.

This review has also observed that a priori classification violates the definition of an empirical classification, greatly reduces the information entered and derived from the factor analysis, and obviates the development of reader-defined categories of content.

Summary Discussion of Taxonomies of Mass Communications

As Ryan (1976) observed, many communications researchers have abandoned the traditional classification of media content in favor of empirical procedures that identify the ways media users categorize content.

Since the early 1960s, almost all of the taxonomies of print or broadcasting content have employed numerical procedures and audience data.

One reason for the increase in empirical procedures in this and other areas of mass media research is the increase, since the early 1960s, in the availability of efficient computer programs of numerical analyses.

A more fundamental motivation for the empirical development of categories of content based on audience feedback is the growing recognition, in both broadcasting and print journalism, of the importance of responding to audience needs and interests.

The justification for television, according to Frank and Greenberg (1979) is "its ability to attract and satisfy an audience" (p. 43). In order to do this, they continue, one must first identify the interests and needs of the various segments of the audience.

Similarly, many newspaper experts have cited the need to systematically identify reader needs and interests in order to provide useful information to all groups of readers, and thus reverse circulation and readership declines (Edwards, 1976).

Of the empirical classification studies reviewed, most used a factor analysis procedure to classify media content, although studies by Stempel (1964), Haskins (1965b) and Johnson (1978) employed cluster analysis as well as factor analysis techniques.

The evaluation of the empirical taxonomies of television or print content primarily focused on the following considerations:

1. Was a true empirical classification achieved?
2. Were key steps and criteria of the data analysis executed correctly and reported precisely?
3. Was the data base appropriate for the goals of the research?

In addition, the review noted those studies that related the background characteristics of audience members to levels of interest in different categories of media content.

Empirical classification. Bailey (1973) defines an empirical classification as one in which component dimensions are not known in advance. Classifications based on variables that have been classified a priori, or selected to represent traditional categories, therefore cannot claim to be literally empirical or audience-defined.

While most of the taxonomies of television content were derived directly from an empirical analysis of the preference or viewing data, a number of the taxonomies of newspaper content were developed from data that were first organized according to available classification schemes and then analyzed empirically.

Because individual news stories vary from day to day, while TV programs remain the same, it is more difficult to establish consistent patterns of reader interest with data related to specific newspaper items than it is to develop reliable taxonomies of television content using data related to specific programs.

In order to classify a diverse collection of newspaper items without referring to traditional classification schemes, the investigator could (1) select a large number of actual headlines from all sections of a variety of newspapers, (2) have respondents rate the headlines using the validated 0 to 100 scale, and (3) empirically analyze the responses.

This approach was followed in the present study, and was also successfully used by Clarke (1968) in his analysis of teenage boys' ratings of 109 news leads.

Key steps and criteria of the data analysis. Various common errors in the reports of the data analysis were found among the taxonomies of mass communications.

Several of the studies did not report the specific factor analysis procedure used, and very few explained the decision to use a particular method. Although the communality estimates and method of extracting factors are less important when there are 30 or more variables and none are expected to have a communality less than .4 (Gorsuch, 1974), this kind of information should be included in the report.

The type of rotation selected was not defended in any of the reports. Smith and Blashfield (1977) observe that varimax seems to be the media industry standard, although, they add, "some claim that oblique, correlated rotations are more realistic than orthogonal, uncorrelated methods" (p. 194).

Both the factor procedure and type of rotation to be used can best be determined by a Harris comparison of different procedures and rotations, with various numbers of factors specified. From the comparison, a procedure and rotation can be selected which gives interpretable results consistent with the dominant patterns observed.

The Harris comparison is also helpful, following scree tests of eigenvalues, in determining how many factors are consistent across procedures. Few of the studies reviewed reported the method used to determine the number of factors to be extracted.

Similarly, the researchers who used cluster analysis did not adequately defend their selection of a certain number of clusters. Plots of the various values of (1) the maximum distance within, (2) the number of distances within less than or equal to the maximum, or (3) the total number of distances less than or equal to the maximum can be useful in selecting an appropriate number of clusters. A

subjective review of the cluster map to ascertain interpretable groupings is also essential.

The factor analytic studies that used dichotomous data should have reported the correlation coefficient employed, although none did. While most factor analyses involve the Pearson coefficient, it is not appropriate for dichotomous data. Other coefficients, such as Spearman's, are acceptable (Smith & Blashfield, 1977).

Any report of a factor analysis should include either a complete table of factor loadings or, at least, a full table of the items included in each factor and specification of the minimum loading criterion. Several of the studies reviewed did not contain this information, without which the reader could not evaluate the investigator's interpretation of the factors.

In certain of the studies that did provide a table of factor loadings, the interpretation and labeling of the factors appear weak or questionable.

Corresponding problems in the reports of the cluster analyses are the failure to include the cluster map, and inadequate interpretation of the clusters.

The data collected for some of the studies failed to include a sufficient ratio of subjects to variables for factor analysis. The most liberal ratio suggested in the literature is two to one (Smith & Blashfield, 1977), while others favor four or five observations per variable (Gorsuch, 1975).

The present study avoids the common errors of previous research by incorporating the following:

1. A Harris comparison supports the selection of a factor analytic procedure and rotation.
2. Scree tests of eigenvalues and the Harris comparison precede decisions regarding the number of factors to retain.
3. Plots of distances, and a subjective review of the cluster map, form the basis of the determination of the number of clusters to interpret.
4. The variables entered in the factor and cluster analyses have a wide value range.
5. Factor loadings and the criterion loadings are included in the report.
6. The cluster map is available in the report.
7. Attention is given to a careful and comprehensive interpretation of the factors and clusters.
8. The data base provides a three to one, subjects to variables, ratio.

The data base and the goals of the research. Only one or two of the studies were designed for methodological purposes alone. The rest were apparently designed to identify generalizable categories of viewing or reading interests.

Several of these latter studies, however, limited the utility of their results by (1) restricting their analyses to a portion of the sample, such as only men or only women, without justification, or (2) using nonrandom samples, or (3) failing to report response rates which would indicate whether or not a probability sample was actually representative.

The methodological goals of the present research allow the use of data gathered from an available, nonrandom sample.

Background variables and interest categories. Few of the investigators of the empirical classification of editorial content related reader-interest categories to the background characteristics of readers.

Weaver and Mauro's (1978) initial breakdown of their sample into men vs. women, and persons 18-34 vs. all persons 18 and older, did not provide the quality of information they could have achieved if they had analyzed the entire sample and then crosstabulated the resulting categories with various background characteristics.

Ryan (1976) and Clarke (1968) each focused on a special segment of the audience (non-white, urban slum residents and teenage boys, respectively), and in that way achieved some insight into the relationship between interest categories and certain background characteristics. Clarke also crosstabulated his categories with the reading habits and skills of the boys.

Johnson (1978) used demographics and measures of attitudes toward TVA's company newspaper as independent variables in a discriminant analysis of persons most interested in different categories (factors) of editorial content.

Of the broadcasting studies reviewed, those by Wells (1969), Gensch and Ranganathan (1974), and Frank and Greenberg (1979) crosstabulated preferred or viewed program types with demographic background characteristics. Only Frank and Greenberg, however, also considered leisure activities and needs in their profiles of audience segments.

According to Frank and Greenberg, "audience segments defined in

terms of their interests and needs may or may not correspond to the traditional demographic categories predominantly used at present" (p. 44). If demographic variables and "interests and needs" variables do not correspond, they add, the utility of either as the sole basis for describing audiences is in question.

The present study includes 21 leisure-activity measures and 5 demographic variables in the background analysis of readers interested in different categories of news.

Discriminant analyses and crosstabulation tables were utilized in the development of reader profiles.

III. FACTOR ANALYSIS AND CLUSTER ANALYSIS

Factor analysis is a procedure commonly used in the social sciences to reduce data sets. Another method available for classifying data is cluster analysis, which has been more prevalent among the natural sciences than the social sciences, although its use is increasing in the fields of psychology (Blashfield, 1976) and sociology (Bailey, 1973).

This section will outline the fundamental characteristics of the factor and cluster models employed in this research and available in the Statistical Package for the Social Sciences (SPSS) (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) and/or the Statistical Analysis System (SAS) (Barr, Goodnight, Sall, Blair, & Chilko, 1979).

Factor Analysis

Factor analysis requires the assumption of a linear model, i.e., that the factors are composed of linear combinations of the variables.

A further consideration in the application of factor analysis is that a sufficient number of cases to variables are included in the data to enable the major factors to emerge. Ratios of four to one and five to one, cases to variables, are commonly suggested, although Rummel (1970) concludes, "What rule of thumb to use . . . in determining the minimum allowable ratio of cases to variables for inference is still a matter of research taste" (p. 220).

All levels of data may be used in factor analysis, although care must be taken with nominal or ordinal data to make sure frequency distributions are not unduly skewed. Skewness restricts the range of the correlation coefficient, especially when the range of one or both variables is reduced (Rummel, 1970). Dichotomous data require the use of a correlation coefficient such as Spearman's or the point biserial in place of the Pearson coefficient.

The primary data for factor analysis are the observed correlations among the standardized variables. If the correlation matrix is made up of units (objects, individuals, communities, etc.), the factor analysis is a Q-type. If the matrix, on the other hand, is made up of dependent variables, the factor analysis is an R-type.

Following preparation of the correlation matrix, initial factors are extracted according to either a component or common factor model. The factor problem is to fit the observed correlations with the selected model, so that the factors identified by the model account for the observed intercorrelations in the data.

The difference between component and common factor models lies in their respective assumptions regarding the communalities of the variables.

The communality of variable z_j is the variance of z_j that is common to one or more of the other variables. Stated another way, it is the proportion of z_j 's variance which can be accounted for by factors that are shared by more than one variable.

The component factor model assumes that all the variance in a matrix of variables is relevant to the intercorrelations among the variables. Under the component model, unities are retained on the diagonal of the matrix as the estimates of the communalities of the variables.

The linear expression of the component model for any variable z_j is:

$$z_j = a_{j1}F_1 + a_{j2}F_2 + \dots + a_{jm}F_m,$$

where F 's are common factors and a 's are coefficients or loadings of the factors.

The distinguishing assumption of the common factor model is that each variable has both common and unique variance. The communality of each variable is therefore less than unity, and the linear expression of the common factors (those shared with other variables) and a unique factor is:

$$z_j = a_{j1}F_1 + a_{j2}F_2 + \dots + a_{jm}F_m + u_jY_j,$$

where F 's are common factors, Y stands for the unique factor, and a 's and u 's are coefficients or loadings of the factors.

Unique factors are assumed to be independent of one another and of the common factors.

Squared multiple correlations, iterated or not, replace unities as estimates of communalities in the diagonal of the common factor

matrix. Initial factors are therefore extracted from a matrix that excludes unique variance from the variance to be accounted for.

The principal components procedure found in SPSS extracts principal factors (i.e., derived from a characteristic roots and vectors analysis of the correlations) under the component model.

In this procedure, initial factors are extracted so that each factor accounts for the maximum possible amount of the variance of the variables being factored. That is, the first factor is composed of the linear combination of the variables that accounts for the maximum amount of the variance, and the second factor is extracted so that it is uncorrelated with the first and maximizes the remaining variance, and so on.

Initial, or principal factors are uncorrelated and may then be rotated to orthogonal (uncorrelated) or oblique (correlated) solutions.

Although as many factors as variables are generally needed under the full component model to account for the variance, a "truncated component" solution is usually preferred in which all small, trivial factors are dropped and the resulting inaccuracy is attributed to error.

Four of the five procedures in SPSS that are based on the common model are principal factor solutions (minimum residuals, image, back-door image, and alpha), while the fifth is a maximum likelihood solution (Rao).

The principal factor procedure that is closest to the traditional common model is the minimum residual analysis (MINRES), an iterative procedure which minimizes all residuals.

The basic communality estimates of MINRES are the squared multiple correlations. Iteration, then, involves extracting principal factors from the matrix and inserting resulting communality estimates into a new target matrix, and repeating these solutions until the maximum change between communalities from one estimate to the next is below some arbitrary level.

Image and alpha analyses alter off-diagonal elements and thus deviate from the common model. Image is an iterative solution; back-door image requires one iteration or specification of the diagonals; and alpha is iterative.

The Rao maximum likelihood solution is a common factor variant that seeks factors which have the maximum canonical correlations with the variables, rather than the factors which account for the maximum possible variance (i.e., principal factors).

Any factor analysis solution can be rotated orthogonally or obliquely. An orthogonal rotation is one in which each new factor is a 90-degree angle from the previous one, thus yielding factors which are independent of one another (uncorrelated). Oblique rotation, however, allows the movement of the axes to a position that best fits the data rather than to a rigid position. The resulting factors are, then, correlated.

The purposes of the study and the nature of the data will help to determine the type of rotation used. Also, both types can be applied and compared.

A specific factoring method and type of rotation do not have to be selected in advance. Rather, it is beneficial for the investigator

to apply several methods and compare results to see which give the most consistent and interpretable results.

Although the choice of procedure is not as crucial when the number of variables is high (30+) and the variables are expected to have communalities of .4 or more, a "Harris comparison" of the results from various procedures is an aid in determining the number of factors to extract.

For example, if more consistent and nontrivial factors are produced across procedures when five factors are specified than when four are used, the better choice is the five-factor solution.

Also, as suggested, the comparison of orthogonal and oblique rotations can be helpful in deciding which to use.

Cluster Analysis

The most widely used cluster analysis procedures are the agglomerative hierarchical methods (Blashfield, 1976). Each of these methods computes a similarity-dissimilarity matrix, based on Euclidian distance, and at each step in the agglomerative process, the matrix is recalculated to determine the relationships among the clusters and remaining entities. Solutions yielded by these methods can be illustrated as hierarchical trees.

Of the agglomerative hierarchical procedures, the four most commonly applied are single linkage, complete linkage, average linkage, and the minimum variance method (Anderberg, 1973).

In single linkage analysis, every member of a cluster is more similar to at least one member of the cluster than it is to any member of another cluster. Because the resulting clusters tend to resemble

chains, various reviewers have rejected it as a desirable clustering procedure (Cormack, 1971; Sokal & Sneath, 1973).

The complete linkage method attempts, at each stage, to minimize the diameter of the clusters, thus forming clusters that are optimally compact (Johnson, 1967). Each member of a cluster is more similar to all members of any other cluster. The major criticism of this method is that the probability of a cluster gaining a new member decreases as the size of the cluster increases (Blashfield, 1976).

Average linkage analysis defines a cluster as a group in which each member has a greater mean similarity with members of the cluster than with members of another cluster. This method is more likely than others to form "nonconformist" groups (Blashfield, 1976).

Lastly, the minimum variance method generates clusters so that the variance within clusters is minimal. A criticism of this method is its bias toward spherical clusters (Cormack, 1971).

The CLUSTER procedure in SAS performs a hierarchical analysis based on the complete linkage algorithm described by Johnson (1967). The distance between two observations (headlines, in the present study) can be written,

$$d(x_i, x_j) = (x_i - x_j)'(x_i - x_j),$$

where x_i denotes the i 'th observation vector.

Summary Comparison of Factor Analysis and Cluster Analysis

Factor analysis can be described as a means of extracting a set of summary variables from a large number of variables, while cluster analysis is more accurately described as a means of sorting a population of items into clusters (Day & Parsons, 1971). While an item

can load heavily on more than one factor produced by factor analysis, cluster analysis yields mutually exclusive categories.

Wrigley (1957) suggests that the multiple classification provided by factor analysis may be more realistic, and provides information lost in simple classification. On the other hand, if a simple classification is satisfactory for the data, cluster analysis obviously provides clearer results.

Cluster analysis is computationally more objective than factor analysis, requiring fewer subjective judgments. Again, however, factor analysis methods use more of the information regarding the interrelationships among the variables.

The determination of the number of groups to extract is also simpler with cluster analysis procedures, as the order of the mergings can be viewed and groups compared by looking at the cluster map.

The ultimate comparison of factor analysis and cluster analysis procedures for any particular data set must be achieved through an objective comparison of the categories produced by each.

CHAPTER III

RESEARCH METHOD

I. HYPOTHESES

Haskins (1965a) first demonstrated, with magazine readership data, that a small number of editorial items, if combined efficiently, could achieve close to maximum audience coverage. In a subsequent analysis (1965b), he found that a set of seven representative items from categories produced by a factor analysis of the readership data, and a set of seven from categories yielded by a cluster analysis of the data, each achieved audience coverage of about 65 percent.

The audience coverage of the total group of 30 items analyzed was 80 percent, and Haskins observes that a more diverseified original group of items would likely increase the audience reach achieved by representative items from empirical categories.

These findings suggest the feasibility of using factor analysis or cluster analysis procedures to develop categories of readership that represent the reading patterns of the audience being measured.

Clarke (1968) selected 109 news and feature leads that represented a variety of newspaper content, and asked respondents (teenage boys) to rate the leads using the validated 0 to 100 scale. A factor analysis of the data produced five factors, which accounted for 78 percent of the common variance.

These results suggest the feasibility of empirically classifying items representing a wide variety of newspaper content into representative

categories of reader interest. The homogeneity of the audience measured, however, may have enhanced the cohesiveness of the categories produced in Clarke's study.

The findings of Haskins and Clarke support the following hypotheses:

1. An empirical taxonomy of newspaper content, based on 0 to 100 interest ratings of a variety of newspaper items, can be produced which represents editorial mixes of content that will likely be read by 70 percent or more of the population being measured.

2. Complete linkage cluster analysis and a factor analysis selected from a Harris comparison of seven procedures (truncated components, image, backdoor image, Rao, alpha and MINRES, all orthogonal, and MINRES, oblique) are equally useful in identifying representative reader-interest categories.

A few of the researchers who developed taxonomies of media content also found evidence of a relationship between content categories and audience demographic and/or life-style characteristics (Wells, 1969; Gensch & Ranganathan, 1974; Johnson, 1978; Frank & Greenberg, 1979). The third hypothesis of this study follows:

3. Persons interested in the various categories of news identified by the empirical analysis can be distinguished on the basis of demographic and life-style characteristics.

II. RESEARCH DESIGN

The research design chosen for this study is a one-shot survey (Figure 1):

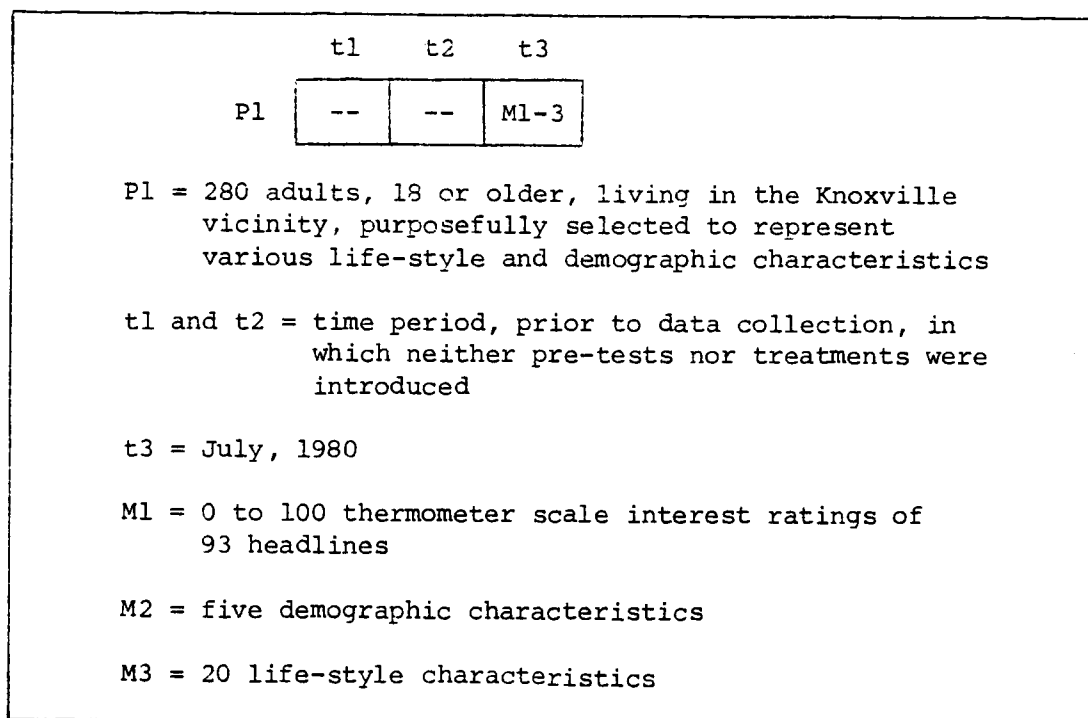


Figure 1. Research design for study. (Notational system, Haskins, 1981)

III. PRELIMINARY INVESTIGATION

A preliminary reader-interest survey was conducted in the fall of 1977. One hundred respondents rated 100 headlines that had been selected from a variety of newspapers in a variety of time periods. The 0 to 100 scale was used, and life-style and demographic questions were included in the questionnaire. Data were collected in personal interviews with available subjects.

The ratio of subjects to variables in this study is unacceptable for empirical classification procedures, so initial analyses were later disregarded.

In the spring of 1979, however, 35 of the original 100 headlines were selected, in order to achieve an approximate three to one ratio

of subjects to variables, and entered in various factor analyses as a class project in Statistics 6060 (Factor Analysis).

As a first step in finding the appropriate number of factors to extract, a scree test with a 10-factor (variables/3) truncated components solution and the first 10 factors produced by an image analysis (both orthogonal) was conducted. The scree indicated a maximum number of factors of seven or eight, and a minimum of four.

Eight nontrivial factors were identified in the image analysis, following Gorsuch's (1974) guidelines. According to Gorsuch, trivial factors are those which do not have two or three loadings above criterion.

All together, four, six, seven and eight factors were extracted from each of the following factor analysis procedures: (1) truncated components, orthogonal; (2) backdoor image, orthogonal; (3) MINRES, orthogonal; (4) MINRES, oblique; and (5) alpha, orthogonal.

A Harris comparison of the seven- and eight-factor solutions, and the factors produced by image, which did not allow specification of the number of factors, revealed consistent loading patterns for seven factors, but no clear-cut eighth factor.

Considering the evidence from the scree test, the number of nontrivial image factors, and the patterns in the Harris comparison, a seven-factor solution was chosen (Table 1).

Although one of the seven resulting factors has only one headline with primary salient loadings, it is considered a valid factor as all solutions for seven and eight factors indicate this variable is a factor by itself.

TABLE 1. Factors Produced from Reader-interest Ratings of 35 Headlines

Factor	Headline	Loading ^a
1. Life-threatening individual mishaps	Mother and 6 children die in farm home fire	.87
	Air crash fatal to 8	.82
	Four shot to death in tavern holdup	.81
	100 hurt in train smashup	.76
	Boy wounded in gun mishap	.73
	Baby sitter rescues 4 small cousins from blaze	.63
	Two killers elude state manhunt	.63
	Mistrial called in murder case	.59
2. International problems; economic concerns	U.S. offers plan for world relief	.75
	Time for Middle East peace is now	.72
	Tensions rise in Middle East border dispute	.69
	Soviets attack arms policies	.60
	State spending ceiling urged	.50
	Ways to get out--and stay out--of debt	(.41)
	Public calls for better welfare screening	(.40)
3. Self-improvement	Choose clothes that make you look your best	.77
	Closing in on the fountain of youth	.63
	Does exercise really prolong life?	.61
	Lose pounds with amazing pineapple diet	.61
	How to be a smart shopper	.57
	Why some people look younger and live longer	.56
	Ways to get out--and stay out--of debt	.46
	The myth of the perfect parent	(.41)
4. Government economic problems and frauds	Mayor and U.S. attorney clash over vote frauds	.80
	Stock market skid biggest in 6 months	.62
	Congressman pleads guilty to tax evasion	.57
	National debt grows to staggering level	.48
	State spending ceiling urged	(.48)
	Public calls for better welfare screening	.42
5. Solutions for family problems	New product labels will aid consumers	.66
	The case for a simpler life style	.66
	The tests that cheat our children	.54
	Couple appeals for aid in finding son	.51
	Danny Kaye: pied piper of laughter	.45
	The myth of the perfect parent	.43

TABLE 1 (continued)

Factor	Headline	Loading
6. Isolated factor	Wealthy recluse had laborer's job	.75
7. Solutions for social problems	New hope for retarded children	.70
	Social security revision urged	.65
	National debt grows to staggering level	(.46)

^aLoadings are from the MINRES oblique solution for seven factors. Secondary loadings are in parentheses.

The MINRES oblique solution was chosen as one that represented the inherent structure of the variables. In general, the oblique MINRES solution seemed to display the patterns that emerged from the analyses as a whole in the Harris comparison, and it did not report any discrepant loadings.

The total common variance accounted for by these seven factors was 63 percent.

IV. MEASUREMENTS AND VARIABLES

Interest Ratings of Newspaper Content

Respondents provided interest ratings of 93 newspaper headlines, using Haskins' (1960) 0 to 100 title-rating technique.

The headlines were drawn from a master list of 800 headlines which had been selected from a variety of newspapers in time periods ranging from 1930 to 1980. The newspapers sampled include the Atlanta Constitution, the New York Times, the Chicago Tribune, the Knoxville News-Sentinel and the Knoxville Journal.

The headlines in the master list are all "universal" headlines, in that they are neither time-bound nor location-bound. They are headlines which might be applicable across time periods and geographic regions of the United States.

Since a large number of headlines is desirable for the empirical classification of news content, and the preliminary study demonstrated that as many as 100 headlines can be tested in a reader-interest interview, it was decided that between 90 and 100 headlines should be selected for this study.

The 93 headlines that appear in the questionnaire (Appendix A) were purposefully selected to represent the different sections of the newspapers.

The title-rating technique requires respondents to rate titles (headlines), or titles plus blurbs, using a 0 to 100 thermometer scale (Figure 2). The respondents are instructed to give an item a rating of 0 if they are positive they would not like to read it; a rating of 100 if they are positive they would like to read it; and any score from 1 to 99, depending on their interest in the item, if they are not positive.

Haskins (1960) developed the title-rating technique and nationally cross-validated it. The method was later cross-culturally validated by Stevenson (1973).

For his validation studies, Haskins selected random samples of readers of two national magazines for title-rating pretests of editorial items that had not yet been published. Two new random samples, from the same populations, were drawn for subsequent surveys that determined reported readership of the items after their appearance in the magazines.

Results of the before and after surveys showed that predictions of absolute readership ("Read All") were in error by 7 percent, on the average. Predicted readership is defined by Haskins as the percentage of respondents who rate an item 90 or higher.

Pretests and follow-up readership surveys of the same individuals at different times resulted in predictions of absolute readership within 6 percent of actual readership.

Predictions of reported readership are in turn predictions of

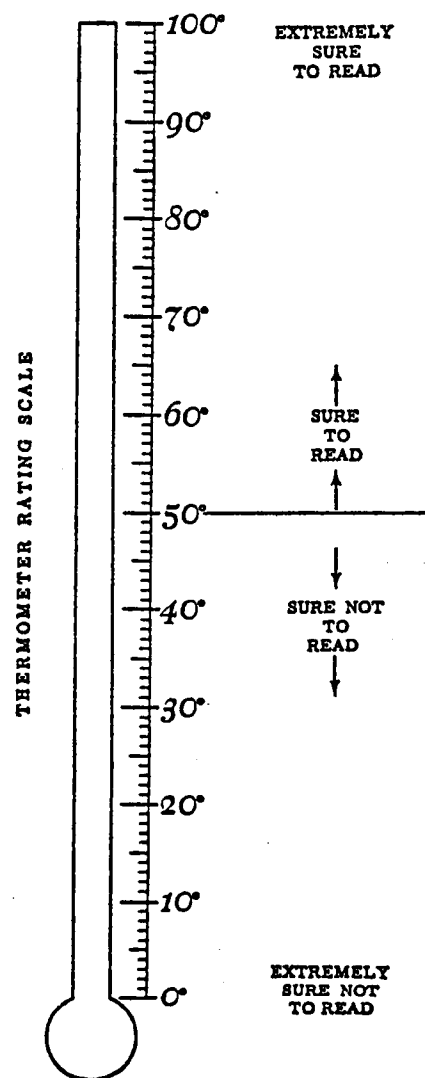


Figure 2. The interest rating scale.

actual readership, since Ludeke and Inglis (1942) validated the basic reader research interviewing technique (Gallup, 1928) with experimental evidence that reported readership does not differ significantly from actual readership.

Stevenson (1973) conducted validation studies of the title-rating technique in the Philippines, Venezuela and Argentina, using pretests and readership posttests with different samples within populations. In spite of small data bases in two of the three studies, mean errors of predicted absolute readership ranged from 7 percent to 12 percent.

Life-style Variables

Background data regarding the respondents' leisure activities were gathered in the survey.

Participation in various leisure activities is one aspect of a person's life style. The other factors that define life style, according to Wells and Tigert (1971), are individual interests and opinions.

Life-style variables, also known as psychographics, were first measured by marketing researchers in the early 1960s, and have more recently been used in analyses of mass media audiences (Schweitzer, 1977). Demographics and life-style information are generally combined to provide comprehensive profiles of respondents.

A major impetus to life-style research was Wells and Tigert's specification of the three components of life style, and their creation of 300 activity, interest and opinion (AIO) statements (Nelson, 1969).

These statements, Wells and Tigert (1971) report, were developed from "intuition, hunches, conversations with friends, other research,

reading, head-scratching, day-dreaming, and group or individual narrative interviews" (p. 31).

The present study considers only the activities component in its investigation of readers' life styles. London and Wenkert (1969) similarly limited their study of the life styles of continuing education students to items related to leisure activities.

The activity variables measured by London and Wenkert were developed by the authors with some suggestions from a 1963 Gallup poll regarding leisure activities, and studies of participation in organizations by Hausknecht (1962) and Wright and Hyman (1958).

While Wells and Tigert suggest asking respondents to agree or disagree along a six-point scale with statements indicating participation in certain activities, London and Wenkert favor asking questions concerning the frequency of participation in various leisure activities.

The 20 activity variables in the present study (p. 4, questionnaire, Appendix A) were selected because they span a variety of leisure activities which might be expected to discriminate among persons with different reading interests.

Three of these variables (L1, L4 and L5) were borrowed from Wells and Tigert (1971); four (L17-L20) are typical media exposure items; and the remaining variables (L2, L3 and L6-L16) were taken from London and Wenkert (1969).

It was decided that the use of specific time frames with the leisure activity questions might enhance the validity of the responses. Each of the 20 questions, then, was posed in the context of one of the following time frames: (1) in the past four months; (2) in the past week; and (3) yesterday.

Dichotomous yes/no responses, indicating whether the respondent had or had not participated in the activity in the specified time period, were requested.

New Variables

An additional activity variable, indicating the scope of leisure activity participation, was created for the data analysis, following the example of London and Wenkert (1969).

Also, variables representing the various empirical categories of news were created, each with values of 1 to 3, indicating low, medium or high interest in the content of the category.

The development of these new variables is described in more detail in the "Data Analysis" section of this chapter.

Demographic Variables

The five demographic variables measured in this study are marital status, socioeconomic status, age, education and sex.

Marital status has three values to represent "single," "married," or "other or no answer."

Socioeconomic status was measured using Duncan's Socioeconomic Index (Miller, 1977), which translates reported occupations into socioeconomic scores. The values of this variable range from 3 to 93, although these values were subsequently recoded for the crosstabulations.

Six age categories, from "18-24" to "60 or older" are found in the questionnaire, as well as a "refused" category. The two highest age groups were later combined to form one category for respondents 50 or older.

Values for the education variable represent six levels of schooling, from an eighth grade education or less to more than four years of college, and "other" and "no answer" categories. Levels of education were recoded for the crosstabulations as "high school or less," "some college" and "college graduate."

The sex variable has assigned values for women and men.

V. DATA COLLECTION

Personal interviews, conducted by trained, experienced interviewers, were used to collect the data.

Each interview was initiated by the interviewer's introduction. As part of this introduction, the interviewer presented the respondent with a booklet containing the 93 headlines, typed individually on 5x3 cards.

A copy of the 0 to 100 thermometer scale could be seen by the respondent on the inside front cover of the booklet. (A xeroxed image of the open headline booklet is in Appendix A.)

As the respondent progressed through the booklet, rating the headlines, the interviewer recorded responses on the questionnaire. All ratings of "100" were recorded as "99" for keypunching, since there is no appreciable difference between the two scores.

After the rating of headline "44," the interviewer interrupted the respondent to ask the leisure activity questions, and then asked the respondent to continue with the headlines.

At the conclusion of the headline list, the interviewer asked the demographic questions, and then thanked the respondent for the interview.

VI. SAMPLE SELECTION AND SIZE

Interviews were conducted in or near Knoxville, Tennessee, with 280 available, nonrandom subjects. Only adult respondents, 18 or older, were included in the sample.

The size of the sample was determined in advance to provide a three to one, subjects to headlines, ratio for the empirical classification analyses.

A controlled effort was made to interview persons with a variety of demographic and life-style characteristics, although quotas were not used. A varied sample was deemed necessary for adequate analysis of the relationship between the background characteristics and reading interests.

A random sample is not necessary, however, for methodological studies such as this one, which do not attempt to draw inferences about a larger population.

VII. DATA ANALYSIS

There were four primary stages of the data analysis:

1. An empirical classification of the headlines was achieved, using factor analysis procedures.

2. An empirical classification of the headlines was achieved, using complete linkage cluster analysis.

3. Incremental analyses of various sets of headlines determined the audience coverage of high and low benchmark mixes, and the coverage of mixes representing the empirical categories produced by factor analysis, and those produced by cluster analysis.

4. Stepwise discriminant analyses and crosstabulations revealed the relationship between levels of interest in the reader-interest categories and the background characteristics of the respondents.

Secondary analyses demonstrated the application of significance tests to the proportions of audience coverage achieved by mixes of content from the empirical categories developed.

Because the data are from a nonrandom sample, differences observed in the analysis of the data are "true" or population differences. The significance levels calculated for various statistics are therefore not to be interpreted literally, but are rather to be regarded as indications of "apparent" significance.

Empirical Classification Using Factor Analysis

Seven procedures were used in the search for factors of reader interest: (1) principal (truncated) components, orthogonal; (2) image, orthogonal; (3) backdoor image, orthogonal; (4) Rao, orthogonal; (5) alpha, orthogonal; (6) MINRES, orthogonal; and (7) MINRES, oblique.

Initial indications of the number of factors to extract from the data were derived from a scree test of the eigenvalues reported by a principal components analysis, and from a count of the nontrivial factors, out of 31, produced by principal components and image analyses.

Subsequently, a Harris comparison of factors produced across procedures, with various specifications of "NFACTORS" (number of factors), as suggested by the scree and the number of nontrivial factors out of 31, was reviewed to determine an appropriate procedure and number of factors for the solution.

Following the selection of this initial factor solution, each of the long and/or complex factors produced was in turn factor analyzed to accomplish a finer breakdown of reader-interest categories.

Again, the scree test, a count of nontrivial factors produced out of the number of variables divided by three, and a Harris comparison were used in each of the new analyses to help select the best solution.

The method of re-factoring factors is a novel approach, tested in this study, for achieving a final set of factors from a relatively large data set. This procedure is not found in the mass communications research literature, nor is it reported in the classification literature of other fields, except in connection with factor analyses of multiple measurements of the same constructs (Jackson, 1975).

An example of an earlier multi-stage effort to extract factors from a fairly large data set is Clarke's (1968) analysis of reader interest in 109 news leads.

Clarke initially factor analyzed all 109 leads, then removed variables with low communalities or double loadings and factor analyzed the remaining variables for his final solution.

While the resulting factors reported by Clarke are interpretable and concise, useful information may have been lost by the elimination of items with variance distributed across factors.

In the present study, the usefulness of the procedure of re-factoring certain initial factors of reader interest was tested by calculating the incremental audience coverage provided by new factors derived from long initial factors.

The labeling and interpretation of the factors was a necessarily subjective process which involved taking into consideration both the content and the form of headlines in each factor. Opinions regarding the naming of the factors were solicited from persons who are in the journalism field, and from others who are not.

The factors are, of course, open to interpretations other than those presented in the results.

Empirical Classification Using Cluster Analysis

Prior to the complete linkage cluster analysis, the matrix of observations and variables had to be turned around, so that the cluster procedure available in SAS would cluster the headlines and not the respondents.

The program used to transform the matrix is found in Appendix B.

The number of clusters to retain for a final solution was in part suggested by a review of a plot of the values for the "maximum distance in a cluster" found for each "number of clusters" on the SAS CLUSTER printout.

Breaks in the distances plotted are indications of plausible stopping points for the specification of a number of clusters for the data.

The cluster map was also examined to determine at which points interpretable clusters could be identified.

The labeling and interpretation of the clusters followed the same process employed for the labeling and interpretation of the factors.

Incremental Analyses

As applied in this study, incremental analysis is a means of measuring the cumulative predicted audience coverage of a set of headlines.

Predicted audience coverage, or readership, of an item is defined as the proportion of respondents who rate the item 90 or higher. To measure predicted item readership, as well as the cumulative readership likely for a set of headlines, it was first necessary to recode the respondents' reader-interest ratings as (1) scores between 90 and 99, and (0) scores between 0 and 89.

The frequency of the value "1" for each item was calculated to show the predicted readership of individual items.

Predicted audience coverage of a designated set of headlines was achieved by determining the number of respondents remaining in a frequency analysis of headlines with values of 1 and 0 after those respondents who had rated any of the specified headlines 90 or higher (value 1) had been removed.

The following groups of headlines were tested for cumulative predicted audience coverage: (1) highest-loading headlines, one from each factor; (2) randomly selected headlines, one from each factor; (3) from each cluster, one headline from the highest-merging pair, selected by a toss of a coin; (4) randomly selected headlines, one from each cluster; and (5) various sets of headlines selected at random from the list of 93 headlines.

An optimal mix of items, in terms of audience coverage, was developed by successively selecting headlines which added the most

audience coverage when combined with previously selected items. The initial item in this mix is the headline with the highest predicted readership.

Statistical tests appropriate for proportions from a single sample determined the apparent significance of differences observed among the proportions of audience coverage provided by various sets of headlines.

Discriminant Analyses and Crosstabulations

The reader-interest categories produced by the factor analysis procedures were used in the investigation of the relationship between levels of interest in the various empirical categories of news and respondents' demographic and life-style characteristics.

New variables were created to represent each of the content categories identified by the factor analyses. The values of these variables were calculated by computing each respondent's mean reader-interest score for each category of content. These mean scores were then recoded to indicate three levels of interest in a category:

- (1) mean ratings of 0 to 29; (2) mean ratings of 30 to 69; and
- (3) mean ratings of 70 to 99.

Discriminant analyses were performed for each content category, with the three levels of interest in the category as the dependent variables. The independent variables for each analysis included the 5 demographic variables, the 20 leisure-activity variables, and a new variable indicating the scope of the respondent's leisure activities.

This last variable was created by summing the respondents' "yes" responses to the activity questions.

Finally, for each category of news, the three levels of reader interest were crosstabulated with the background variables identified as apparently significant discriminators of interest in the category.

CHAPTER IV

RESULTS

The empirical classification of the reader-interest data, using factor analysis procedures and complete linkage cluster analysis, and the subsequent incremental analyses which calculated the predicted audience coverage provided by reader-interest factors and the coverage provided by reader-interest clusters, were used to test the first hypothesis:

Hypothesis 1. An empirical taxonomy of newspaper content, based on 0 to 100 interest ratings of a variety of newspaper items, can be produced which represents editorial mixes of content that will likely be read by 70 percent or more of the population being measured.

The usefulness of the empirical categories of newspaper content was investigated further by a comparison of the predicted audience coverage achieved by each empirical scheme with (1) the average predicted audience coverage of random selections of items, and (2) the predicted audience coverage of an optimal mix of items.

Single-sample significance tests for proportions demonstrated the apparent significance of differences observed.

The second hypothesis of this study is stated as follows:

Hypothesis 2. Complete linkage cluster analysis and a factor analysis selected from a Harris comparison of seven procedures (truncated components, image, backdoor image, Rao, alpha and MINRES, all orthogonal, and MINRES, oblique) are equally useful in identifying

representative reader-interest categories.

The incremental analyses, as mentioned, established the predicted audience coverage of items representing the clusters and the predicted coverage of content representing the factors. Any observed difference between the two proportions of audience coverage is a literal difference which indicates that one method is, to some degree, better than the other.

For practical purposes, however, a small difference between the proportions is not sufficient justification for favoring one method as more useful than the other. It was arbitrarily decided, therefore, that cluster analysis and factor analysis could be considered equally useful if the percentages of predicted audience coverage provided by the two methods did not differ by more than 3 percent.

A single-sample significance test ascertained the apparent probability of the equality of the proportions.

The discriminant analyses of levels of interest in the reader-interest factors tested the third hypothesis, which states:

Hypothesis 3. Persons interested in the various categories of news identified by the empirical analysis can be distinguished on the basis of demographic and life-style characteristics.

Crosstabulation tables of levels of interest in each category and corresponding discriminating variables were produced to display specific differences suggested by the discriminant analyses.

All three of the hypotheses tested were confirmed. The following sections of this chapter present the results of the various stages of the data analysis, and some overall findings. Whenever appropriate,

these results are discussed in terms of the hypotheses.

I. SOME OVERALL FINDINGS

In the course of the data analysis, various general findings were catalogued, including the overall demographic characteristics of the respondents (Table 2), the respondents' reported participation in certain leisure activities (Table 3), and the predicted readership of the 93 editorial items tested (Table 4).

Table 2 shows that the population for this study is represented by persons of different ages with various levels of education and socioeconomic status. A majority of the respondents said they are married, although close to 40 percent reported they are single. The group is composed of almost equal numbers of men and women.

The reported participation in the leisure activities in Table 3 indicates that about one-third of the activities are engaged in by 65 percent or more of the respondents; one-third, by between 50 and 60 percent of the respondents; and another third, by only 14 to 33 percent.

The most frequently reported activity is visiting neighbors or relatives, and the least frequently reported activity is performing in a musical or dramatic production.

The predicted readership of each of the editorial items in Table 4 is the number and percent of respondents who rated the item 90 or higher. The item with the highest predicted readership is "New cancer drug tested" (48.6 percent), while the item least likely to be read is "Brokerage firms faring modestly" (4.3 percent).

TABLE 2. Demographic Characteristics of the Respondents

Demographic Characteristic	Frequency	Percent
B1. Marital status		
Single	105	37.5
Married	160	57.1
Other; no answer	15	5.4
Total	280	100.0
B2. Socioeconomic status		
0-29	52	18.6
30-49	70	25.1
50-69	62	22.0
70-93	79	28.0
No answer	17	6.1
Total	280	100.0
B3. Age		
18-24	54	19.3
25-29	49	17.5
30-39	82	29.3
40-49	42	15.0
50 or older	53	18.9
Total	280	100.0
B4. Education		
0-8 grade	7	2.5
9-11 grade	11	3.9
High school graduate	90	32.1
1-3 years of college	72	25.7
College graduate	44	15.7
More than 4 years of college	50	17.9
Other	4	1.4
No answer	2	0.7
Total	280	100.0
B5. Sex		
Woman	136	48.6
Man	144	51.4
Total	280	100.0

TABLE 3. Respondents' Participation in Leisure Activities^a

Activity question	"Yes" responses	
	Frequency	Percent
In the past four months, have you...		
L1. done volunteer work for a hospital or service organization?	60	21.4
L2. attended a sporting event?	162	57.9
L3. entertained people in your home?	240	85.7
L4. been a member of a service organization?	92	32.9
L5. worked in a political campaign or for a candidate or an issue?	43	15.4
L6. worked on a home improvement or repair project?	213	76.1
L7. been to the movies?	185	66.1
L8. been to a concert or play?	155	55.4
L9. purchased one or more books?	218	77.9
L10. visited an art gallery or museum?	91	32.5
L11. taken lessons in art, music, dance or theater?	45	16.1
L12. performed in a musical or dramatic production?	41	14.6
L13. taken a college course?	82	29.3
In the past <u>week</u> , have you...		
L14. engaged in outdoor sports?	161	57.5
L15. visited neighbors or relatives?	245	87.5
L16. visited friends other than neighbors or relatives?	221	78.9
L17. read one or more news magazines?	167	59.6
<u>Yesterday</u> , did you...		
L18. watch any 30-minute <u>local</u> TV news show in the evening?	157	56.1
L19. watch any <u>national network</u> TV news show in the evening?	144	51.4
L20. read a newspaper?	215	76.8

^aFive percent of the respondents reported participation in fewer than 5 activities; 31.1 percent, between 5 and 9 activities; and 63.9 percent, between 10 and 17 activities.

TABLE 4. Predicted Readership of the 93 Editorial Items Tested^a

Headline	Frequency	Percent
1. Boys in mine found alive	89	31.8
2. Rivalry plaques senate foreign relations panel	21	7.5
3. Survey shows outlook for food prices	55	19.6
4. Teachers OK salary scale	54	19.3
5. 100 hurt in train smashup	99	35.4
6. Moscow embassy envoy quits	34	12.1
7. Baby sitter rescues 4 small cousins from blaze	96	34.3
8. New cancer drug tested	136	48.6
9. A.L. wins 5 to 3 in battle of homers	23	8.2
10. Noted novelists offer new books	31	11.1
11. Bonn and Paris unable to align defense policies	21	7.5
12. Mideast talks: more of the same	22	7.9
13. World food outlook improves	56	20.0
14. State senate votes probe of relief costs	41	14.6
15. Nurse injured as she fights off intruder	85	30.4
16. Campaign issues	46	16.4
17. New hope for retarded children	102	36.4
18. Senate cites 4 newsmen for contempt	55	19.6
19. Space signals said to hint life afar	116	41.4
20. Concert celebrates composer's birth	33	11.8
21. 50,000 march in New Delhi to protest food crisis	29	10.4
22. 2 policemen save life of baby	94	33.6
23. Brokerage firms faring modestly	12	4.3
24. Supreme Court ends historic session	35	12.5
25. Neighbors help Jenkins family	44	15.7
26. Australia drifted 3,400 miles over the ages, scientists think	82	29.3
27. U.S. teen makes history at Wimbledon	60	21.4
28. Art exhibit recalls turn of the century	31	11.1
29. Power struggle in Japan begins	30	10.7
30. Time for Middle East peace is now	55	19.6
31. Abducted girl's body found in Florida	95	33.9
32. Twisters lash 6 states; 1 killed	99	35.4
33. Ten tips on managing your time	78	27.9
34. Physician's conviction overturned	49	17.5
35. Area food shoppers pay about 2½% more	54	19.3
36. 17 judges indicted in Philadelphia	65	23.2
37. Birth rate for teens increases	60	21.4
38. Soviets and China seem to move toward talks	58	20.7
39. Smugglers' ring broken in Britain	27	9.6
40. Couple survive 3 days in snowbound car	93	33.2

TABLE 4 (continued)

Headline	Frequency	Percent
41. Witty, perplexing novel establishes author	39	13.9
42. Foster parents: where caring makes the system work	62	22.1
43. House starts debate today on farm bill	13	4.6
44. Choose clothes that make you look your best	86	30.7
45. Doctor assails methods in psychiatry	48	17.1
46. Rams overcome Packers by 27-17	33	11.8
47. The hungry person's diet	65	23.2
48. 10 die in weekend traffic accidents	65	23.2
49. Mistrial called in murder case	66	23.6
50. Stopgap agreement averts police strike	33	11.8
51. 3 die in new rioting in Sudanese capital	20	7.1
52. Profound change in Communist bloc seen	44	15.7
53. Market surges, then slips back	27	9.6
54. Hospitals full; nursing shortage severe	46	16.4
55. Hurricane toll now exceeds 200	94	33.6
56. The art of being a stepparent today	35	12.5
57. First concert in a series of Mozart	19	6.8
58. U.S. sweeps 5 Pan Am swim gold medals	54	19.3
59. Study alters view of gene structure	65	23.2
60. Irked consumers cutting corners	56	20.0
61. Five nations agree to take refugees	60	21.4
62. Woman killed in plunge	76	27.1
63. The tests that cheat our children	102	36.4
64. Keeping fit should be fun	79	28.2
65. A new armada sails off southern Spain	20	7.1
66. Americans question arms pact	41	14.6
67. Canadiens beat Rangers for Stanley Cup	14	5.0
68. Give children more responsibility	72	25.7
69. New reports on high blood pressure	97	34.6
70. Kidnap-murder suspect charged	69	24.6
71. Ways to get out--and stay out--of debt	114	40.7
72. Home stressed as aid to education	80	28.6
73. Scouts rescued from snowstorm	85	30.4
74. Personal finance: children and budgeting	58	20.7
75. Pedestrian, 69, killed as auto skids off road	58	20.7
76. How to be a smart shopper	81	28.9
77. Behavior of infants and apes is linked	85	30.4
78. Governors agree taxes will have to go higher	76	27.1
79. African presidents gather in Ethiopia	15	5.4
80. America's older citizens	58	20.7

TABLE 4 (continued)

Headline	Frequency	Percent
81. Business opposes city tax program	46	16.4
82. Mayor and U.S. attorney clash over vote frauds	49	17.5
83. Heart attack; sudden death for younger victims	97	34.6
84. Boy wounded in gun mishap	66	23.6
85. Hungarian athlete defects; asks U.S. asylum	48	17.1
86. Social security revision urged	80	28.6
87. The myth of the perfect parent	82	29.3
88. Congressman pleads guilty to tax evasion	47	16.8
89. Mother and 6 children die in farm home fire	82	29.3
90. 2 escape thru jail window; 1 recaptured	73	26.1
91. Siamese twins separated	107	38.2
92. 85 will tee off in Masters today	25	8.9
93. Feel better about yourself	80	28.6

^aPredicted readership of an item is the number and percent who rated the item 90 or higher. Five percent of the respondents did not give any of the items a 90 or higher rating.

II. RESULTS OF THE FACTOR

ANALYSIS PROCEDURES

A principal components analysis of the ratings of the 93 headlines provided the eigenvalues plotted for the scree test (Figure 3). The scree plot tends to form a curve, but the break observed between five and six factors indicates that at least five distinct factors can be derived from the data.

Image and components analyses, with 31 factors (variables/3) specified, were reviewed to determine the number of nontrivial factors (factors with two or three loadings above criterion) produced by each.

The image analysis produced 7 factors with 3 or more items loading at or above the criterion of .4, and 10 factors with 2 or more items loading. Among the factors produced by the components analysis, 10 were found with 3 or more items meeting the .42 criterion, and 12, with 2 or more items loading.

The criterion loading for each factor analysis reported in this chapter was established by identifying the minimum loading appearing as the dominant loading for at least two or three of the factors produced by the analysis. Across procedures, the criterion loadings range from .39 to .42.

Considering the evidence of the scree test for a minimum of 5 factors in the data set, and the identification by the image and components analyses of 7, 10 or 12 nontrivial factors, it was decided to specify 6, 7, 10 and 11 factors for the comparison of factors produced across procedures. Subsequently, eight-factor solutions were also produced to help in the identification of a possible seventh factor.

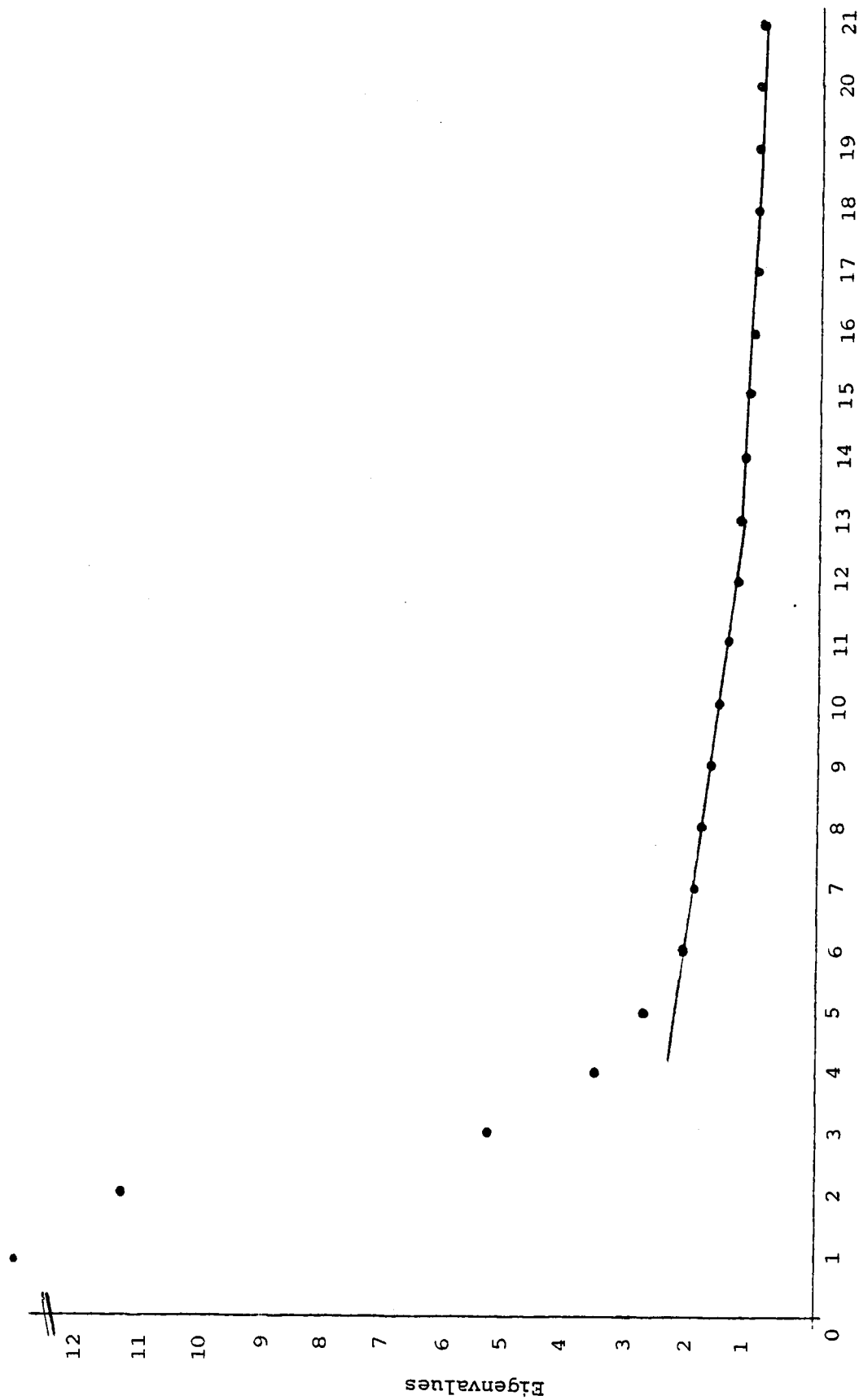


Figure 3. Scree plot of eigenvalues for 21 factors, from the principal components analysis of 93 headlines.

Table 5 displays the Harris comparison of factors produced across selected procedures. The procedures found in this and subsequent Harris comparisons are listed as follows, with their abbreviations: (1) truncated components, orthogonal (TC, $\perp$); (2) MINRES, orthogonal (MN, $\perp$); (3) MINRES, oblique (MN, $\delta = 0$); (4) Rao, orthogonal (Rao, $\perp$); (5) alpha, orthogonal (AL, $\perp$); (6) image, orthogonal (IM, $\perp$); and backdoor image, orthogonal (BI, $\perp$). Number subscripts indicate the number of factors in the solution.

The first six factors in Table 5 are compared across selected procedures at 6, 7 and 10 factors. It can be observed that the MINRES oblique solutions show a number of inconsistent loadings. All of the other procedures, however, are quite consistent across the 6 factors, although the 10-factor solutions separate certain headlines from Factor III.

Procedures and n-factor solutions that were compared but not displayed conform to the dominant patterns observed in the table for the first six factors. In general, the 6-, 7- and 8-factor solutions follow the patterns of the 6- and 7-factor solutions displayed, and the various 10- and 11-factor solutions are the same as the 10-factor solutions found in the table.

Since very few of the 7- and 8-factor solutions produced more than 6 nontrivial factors, the seventh factor in Table 5 is identified by the orthogonal 10- and 11-factor solutions. Seventh factors produced by MINRES oblique 10- and 11-factor solutions are highly inconsistent, and therefore not shown.

No consistent factors beyond the seventh factor were observed among the solutions produced for the comparison.

TABLE 5. Harris Comparison of Factor Analyses of 93 Headlines^a

Factor	Vars. Loading	TC6 ┐	MN6 ┐	MN6 6.0	Rao6 ┐	TC7 ┐	MN7 ┐	MN7 6.0	AL7 ┐	TC10 ┐	MN10 ┐	MN10 6.0	BI10 ┐
I	H2	.64	.61	.61	.62	.62	.61	.59	.59	.67	.64	.67	.66
	H6	.61	.60	.58	.60	.61	.60	.58	.58	.62	.60	.57	.60
	H11	.72	.72	.70	.72	.72	.72	.69	.71	.76	.75	.75	.75
	H12	.67	.65	.65	.64	.66	.64	.63	.64	.73	.69	.72	.71
	H13	.49	.47	.54	.46	.47	.46	(.48)	.45	.46	.46	.47	.46
	H14	.64	.62	.67	.61	.62	.61	.63	.64	.56	.58	.57	.57
	H16	.62	.60	.60	.60	.62	.59	.59	.66	.63	.61	.59	.62
	H18	.47	.46	.50	.46	.47	.46	.49	.46	.43	.44	---	.44
	H21	.55	.54	.57	.54	.55	.54	.55	.53	.55	.54	.51	.55
	H23	.44	.43	.46	.43	.43	.43	.44	.45	.48	.46	.49	.47
	H24	.58	.57	.58	.57	.58	.57	.58	.56	.53	.54	.50	.53
	H29	.61	.60	.61	.61	.62	.61	.63	.59	.63	.62	.59	.62
	H30	.64	.62	.63	.62	.63	.61	.61	.61	.65	.63	.62	.64
	H35	.40	---	.46	---	---	---	---	---	---	---	---	---
	H36	.44	.43	.45	.43	.45	.43	.44	.42	---	---	---	---
	H38	.70	.69	.70	.70	.71	.70	.71	.67	.67	.68	.62	.68
	H43	.57	.56	.59	.56	.56	.55	.57	.58	.54	.54	.54	.54
	H50	.45	.44	.48	.44	.46	.45	.48	.43	.39	.41	---	.40
	H51	---	---	---	---	---	---	---	---	.50	.45	.46	.48
	H52	.70	.69	.69	.71	.72	.71	.72	.66	.72	.72	.64	.71
	H53	.62	.61	.65	.61	.62	.61	.64	.62	.63	.62	.60	.62
	H60	---	---	.47	---	---	---	---	---	---	---	---	---
	H61	.54	.53	.58	.53	.54	.53	.57	.52	.48	.50	.44	.49
	H65	.43	.44	.45	.46	.45	.45	.47	.41	.46	.45	.42	.46
	H66	.77	.77	.77	.78	.79	.78	.79	.74	.74	.76	.69	.75
	H78	.56	.54	.59	.54	.58	.55	.61	.52	.46	.48	---	.47
	H79	.59	.58	.58	.59	.61	.60	.60	.59	.63	.61	.58	.62
	H81	.54	.53	.58	.52	.54	.53	.58	.53	.48	.50	.45	.49
	H82	.62	.61	.65	.60	.63	.61	.65	.58	.49	.53	.43	.51
	H85	.40	.41	.45	.42	.42	.42	---	.39	.39	.40	---	.40
	H86	(.49)	(.47)	.55	(.46)	(.49)	(.47)	(.54)	.48	---	(.41)	---	(.39)
	H88	.48	.47	.53	.47	.49	.48	.53	.48	.39	.42	---	.41
II	H1	.46	.44	.48	.44	.44	.44	.46	.42	.47	.46	.46	.46
	H5	.66	.63	.61	.63	.66	.63	.61	.63	.66	.63	.62	.64
	H7	.65	.62	.65	.61	.62	.62	.62	.60	.62	.62	.61	.62
	H15	.68	.66	.68	.65	.67	.65	.66	.68	.66	.65	.64	.66
	H17	---	---	.46	---	---	---	---	---	---	---	---	---
	H22	.63	.61	.66	.60	.61	.60	.63	.59	.59	.60	.59	.60
	H25	.52	.50	.56	.49	.49	.49	.52	.45	.47	.48	.46	.48

TABLE 5 (continued)

Factor	Vars. Loading	TC6 └┘	MN6 └┘	MN6 δ=0	Rao6 └┘	TC7 └┘	MN7 └┘	MN7 δ=0	AL7 └┘	TC10 └┘	MN10 └┘	MN10 δ=0	BI10 └┘
H31		.75	.73	.74	.73	.74	.73	.73	.76	.74	.73	.72	.73
H32		.69	.67	.69	.66	.68	.66	.67	.67	.67	.66	.65	.67
H34		.44	.43	.52	.42	.43	.42	.49	.43	.40	.41	.41	.41
H40		.68	.67	.70	.66	.68	.66	.69	.66	.67	.66	.67	.67
H42		---	---	.46	---	---	---	---	---	---	---	---	---
H48		.74	.74	.74	.75	.75	.74	.75	.74	.77	.76	.77	.76
H49		.68	.66	.68	.67	.69	.67	.69	.66	.67	.66	.66	.66
H54		---	---	.44	---	---	---	---	---	---	---	---	---
H55		.67	.65	.66	.65	.67	.65	.66	.65	.69	.66	.67	.67
H62		.82	.81	.82	.82	.82	.82	.83	.82	.83	.82	.83	.82
H70		.72	.71	.76	.72	.73	.72	.76	.70	.72	.71	.72	.71
H73		.63	.61	.65	.61	.62	.61	.64	.61	.63	.62	.64	.63
H75		.75	.74	.74	.75	.76	.74	.76	.73	.77	.75	.77	.76
H83		---	---	.48	---	---	---	---	---	---	---	---	---
H84		.74	.73	.76	.74	.74	.73	.77	.72	.74	.73	.75	.74
H89		.81	.80	.81	.81	.81	.81	.82	.79	.81	.81	.82	.81
H90		.69	.67	.68	.68	.70	.68	.71	.68	.71	.69	.72	.70
H91		.64	.63	.67	.63	.64	.63	.67	.64	.66	.65	.66	.65
III													
H3		.45	.43	.48	.43	.44	.43	.46	---	---	---	---	---
H8		.40	.39	.46	.39	.41	.40	.45	---	---	---	---	---
H13		(.41)	(.40)	(.47)	(.42)	(.39)	(.40)	(.44)	---	---	---	---	---
H17		.41	.40	.49	.41	.40	.40	.46	---	---	---	---	---
H33		.62	.58	.59	.58	.61	.58	.58	.67	.73	.68	.69	.70
H34		---	---	.48	---	---	---	.47	---	---	---	.41	---
H35		.52	.50	.55	.51	.51	.50	.54	.42	---	.41	---	---
H42		.52	.52	.60	.53	.51	.52	.58	---	---	---	---	---
H44		.61	.59	.62	.59	.62	.59	.61	.72	.68	.65	.72	.67
H47		.49	.46	.50	.46	.50	.47	.50	.57	.61	.54	.59	.56
H54		.42	.41	.50	.42	.43	.42	.50	---	---	---	---	---
H56		---	---	.44	.39	.39	---	.44	---	---	---	---	---
H59		---	---	---	---	.40	---	.43	---	---	---	---	---
H60		.60	.59	.61	.59	.61	.59	.61	.50	---	.48	.42	.44
H63		.58	.56	.61	.57	.58	.56	.60	.44	---	.45	---	---
H64		.62	.59	.64	.59	.63	.60	.64	.63	.64	.64	.67	.64
H68		.57	.56	.62	.57	.56	.56	.61	.43	---	.45	.42	---
H69		.66	.64	.69	.64	.67	.66	.71	.61	.46	.56	.55	.52
H71		.67	.64	.66	.65	.68	.65	.67	.64	.65	.67	.65	.66
H72		.67	.66	.69	.67	.67	.66	.68	.53	---	.55	.48	.48
H74		.68	.66	.68	.66	.69	.66	.69	.58	.61	.62	.56	.67

TABLE 5 (continued)

Factor	Vars. Loading	TC10 ┐	MN10 ┐	Ra010 ┐	AL10 ┐	IM10 ┐	BI10 ┐	TC11 ┐	MN11 ┐	Ra011 ┐	AL11 ┐	IM11 ┐	BI11 ┐
VII	H42	.54	.42	.44	---	---	.49	.56	.46	.46	.46	.42	.51
	H56	.51	---	.41	---	---	.45	.55	.43	.43	.41	.41	.49
	H60	.39	---	---	---	---	---	---	---	---	---	---	---
	H63	.67	.51	.50	---	(.46)	.59	.66	.51	.49	.51	(.46)	.58
	H68	.64	.49	.52	---	(.47)	.57	.68	.55	.56	.68	.51	.61
	H72	.63	(.47)	.49	---	(.40)	.54	.65	(.50)	(.50)	(.49)	(.41)	.56
	H74	(.50)	---	---	---	---	(.40)	.55	---	---	---	---	(.45)
	H87	.51	---	---	---	---	.43	.55	---	(.40)	---	---	(.47)

^aAlpha10 and Image10 load seventh factor items on Factor III.

Although the seventh factor identified by the 10- and 11-factor solutions is interpretable and fairly consistent across procedures, a 6-factor solution (MINRES) was ultimately selected as the appropriate initial solution for this study's investigation of factors of reader interest.

The decision to extract six factors was primarily based on the following considerations:

1. The 10- and 11-factor solutions do not contribute substantially to the refinement of the 6 factors produced by the 6-, 7- and 8-factor solutions.
2. It was suspected that the separation of family-related items, accomplished by the 10- and 11-factor solutions, would be achieved as well by the re-factoring of the 6-factor solution's Factor III.
3. When MINRES orthogonal solutions were obtained for 16, 20 and 25 factors, just to see if higher n-factor solutions might provide a satisfactory refinement of the factors, at least 2 long and complex factors, similar to Factors I and II in Table 5, were still found.

The MINRES orthogonal solution was arbitrarily selected over the other orthogonal procedures as a representative six-factor solution. The criterion loading for this solution is .40. In the display of the 6 factors in Table 6, the headlines belonging to each factor are listed in rank order, according to their loadings in the MINRES solution.

Two headlines out of 93 were found with double loadings. "World food outlook improves" (H13) and "Social security revision urged" (H86) are both members of Factors I and III.

Several headlines failed to load on any of the six factors.

TABLE 6. Factors Produced from Reader-interest Ratings of 93 Headlines

Factor	Headline	Loading ^a
I. Includes inter-national, economic and government news	66. Americans question arms pact	.77
	11. Bonn and Paris unable to align defense policies	.72
	38. Soviets and China seem to move toward talks	.69
	52. Profound change in Communist bloc seen	.69
	12. Mideast talks; more of the same	.65
	14. State senate votes probe of relief costs	.62
	30. Time for Middle East peace is now	.62
	2. Rivalry plagues senate foreign relations panel	.61
	53. Market surges, then slips back	.61
	82. Mayor and U.S. attorney clash over vote frauds	.61
	29. Power struggle in Japan begins	.60
	16. Campaign issues	.60
	6. Moscow embassy envoy quits	.60
	79. African presidents gather in Ethiopia	.58
	24. Supreme Court ends historic session	.57
	43. House starts debate today on farm bill	.56
	21. 50,000 march in New delhi to protest food crisis	.54
	78. Governors agree taxes will have to go higher	.54
	81. Business opposes city tax program	.53
	61. Five nations agree to take refugees	.53
	13. World food outlook improves	.47
	88. Congressman pleads guilty to tax evasion	.47
	86. Social security revision urged	(.47)
	18. Senate cites 4 newsmen for contempt	.46
	50. Stopgap agreement averts police strike	.44
	65. A new armada sails off southern Spain	.44
	23. Brokerage firms faring modestly	.43
	36. 17 judges indicted in Philadelphia	.43
	85. Hungarian athlete defects; asks asylum in U.S.	.41
II. Tragedies, disasters, crime, and rescue from life-threatening situations	62. Woman killed in plunge	.81
	89. Mother and 6 children die in farm home fire	.80
	48. 10 die in weekend traffic accidents	.74
	75. Pedestrian, 69, killed as auto skids off road	.74
	84. Boy wounded in gun mishap	.73

TABLE 6 (continued)

Factor	Headline	Loading
	31. Abducted girl's body found in Florida	.73
	70. Kidnap-murder suspect charged	.71
	32. Twisters lash 6 states; 1 killed	.67
	40. Couple survive 3 days in snowbound car	.67
	90. 2 escape thru jail window; 1 recaptured	.67
	15. Nurse injured as she fights off intruder	.66
	49. Mistrial called in murder case	.66
	55. Hurricane toll now exceeds 200	.65
	5. 100 hurt in train smashup	.63
	91. Siamese twins separated	.63
	7. Baby sitter rescues 4 small cousins from blaze	.62
	22. 2 policemen save life of baby	.61
	73. Scouts rescued from snowstorm	.61
	25. Neighbors help Jenkins family	.50
	1. Boys in mine found alive	.44
	34. Physician's conviction overturned	.43
III. Includes self-improvement, family concerns, medical information, and economic issues	76. How to be a smart shopper	.74
	72. Home stressed as aid to education	.66
	74. Personal finance: children and budgeting	.66
	87. The myth of the perfect parent	.66
	69. New reports on high blood pressure	.64
	71. Ways to get out--and stay out--of debt	.64
	93. Feel better about yourself	.64
	64. Keeping fit should be fun	.59
	60. Irked consumers cutting corners	.59
	44. Choose clothes that make you look your best	.59
	33. Ten tips on managing your time	.58
	63. The tests that cheat our children	.56
	68. Give children more responsibility	.56
	83. Heart attack: sudden death for younger victims	.54
	42. Foster parents: where caring makes the system work	.52
	35. Area food shoppers pay about 2½% more	.50
	80. America's older citizens	.50
	86. Social security revision urged	.49
	47. The hungry person's diet	.46
	3. Survey shows outlook for food prices	.43
	17. New hope for retarded children	.40

TABLE 6 (continued)

Factor	Headline	Loading
	13. World food outlook improves	(.40)
	8. New cancer drug tested	.39
IV. Cultural, educational interests	57. First concert in a series of Mozart	.66
	41. Witty, perplexing novel establishes author	.65
	28. Art exhibit recalls turn of the century	.63
	10. Noted novelists offer new books	.55
	20. Concert celebrates composer's birth	.53
	45. Doctor assails methods in psychiatry	.42
	77. Behavior of infants and apes is linked	.42
V. Sports	46. Rams overcome Packers by 27-17	.80
	67. Canadiens beat Rangers for Stanley Cup	.70
	9. A.L. wins 5-3 in battle of homers	.67
	92. 85 will tee off in Masters today	.62
	58. U.S. sweeps 5 Pan Am gold medals	.53
	27. U.S. teen makds history at Wimbledon	.41
VI. Science: the earth and universe	19. Space signals said to hint life afar	.61
	26. Australia drifted 3,400 miles over the ages, scientists think	.52

Included in this group of headlines are: (1) "Teachers OK salary scale" (H4); (2) "Birth rate for teens increases" (H37); (3) "Smugglers' ring broken in Britain" (H39); (4) "3 die in new rioting in Sudanese capital" (H51); (5) "The art of being a stepparent today" (H56); and (6) "Study alters view of gene structure" (H59).

Although labels are given to the factors in Table 6, a discussion of the interpretation of factors produced is reserved for the final set of factors identified following the re-factoring procedures.

Most (82 percent) of the final communalities reported by the MINRES six-factor solution are .4 or higher. Three headlines were found with communalities of less than .3: (1) "Teachers OK salary scale" (H4); (2) "Birth rate for teens increases" (H37); and (3) "Boys in mine found alive" (H1). Of these, two failed to load on a factor.

Just 50.6 percent of the variance in the data is accounted for by the six-factor solution, leaving a large amount of variance to be examined by the re-factoring analyses.

In each of the subsequent analyses of the long and complex factors found in the six-factor solution, a MINRES orthogonal solution was selected for purposes of theoretical consistency. Harris comparisons of factors produced across procedures were still performed, however, to determine the appropriate number of factors to extract from each data set, and to ensure the consistency of the MINRES procedure with the dominant patterns observed.

Results of the Reanalysis of Factor I

The 29 headlines listed under Factor I (Table 6, p. 96) were entered in new factor analyses, along with Headline 51, which was

inadvertantly added to the list. This additional headline, which loads on Factor I in the 10- and 11-factor solutions, failed to load on a factor in the MINRES 6-factor solution designated to represent the factors produced from Factor I.

The scree plot (Figure 4) indicates that there is 1 highly dominant factor, and a total of at least 3 distinct factors, in the data set of 30 headlines.

An image analysis of 10 factors (variables/3) indicates 4 nontrivial factors are to be found, while the truncated components analysis of 10 factors suggests as many as 8 nontrivial factors.

Four nontrivial factors were observed in the four-, five- and six-factor solutions produced for the comparison, although the composition and consistency of the four factors varied with the number of factors specified. The five- and six-factor orthogonal solutions for four factors are found in Table 7. (Since none of the oblique solutions produced consistent or interpretable factors, they were omitted from further consideration.)

The four-factor solutions did not produce clearly interpretable or consistent factors. A review of Table 7 shows that the five-factor solutions are also inconsistent, especially in the definition of Factors 2 and 4.

Because the six-factor solutions did produce consistent and interpretable factors, the four factors identified by the MINRES six-factor solution were designated as the new factors derived from Factor I. These four factors are shown in Table 8, with the headlines in each factor listed in rank order according to their loadings in the

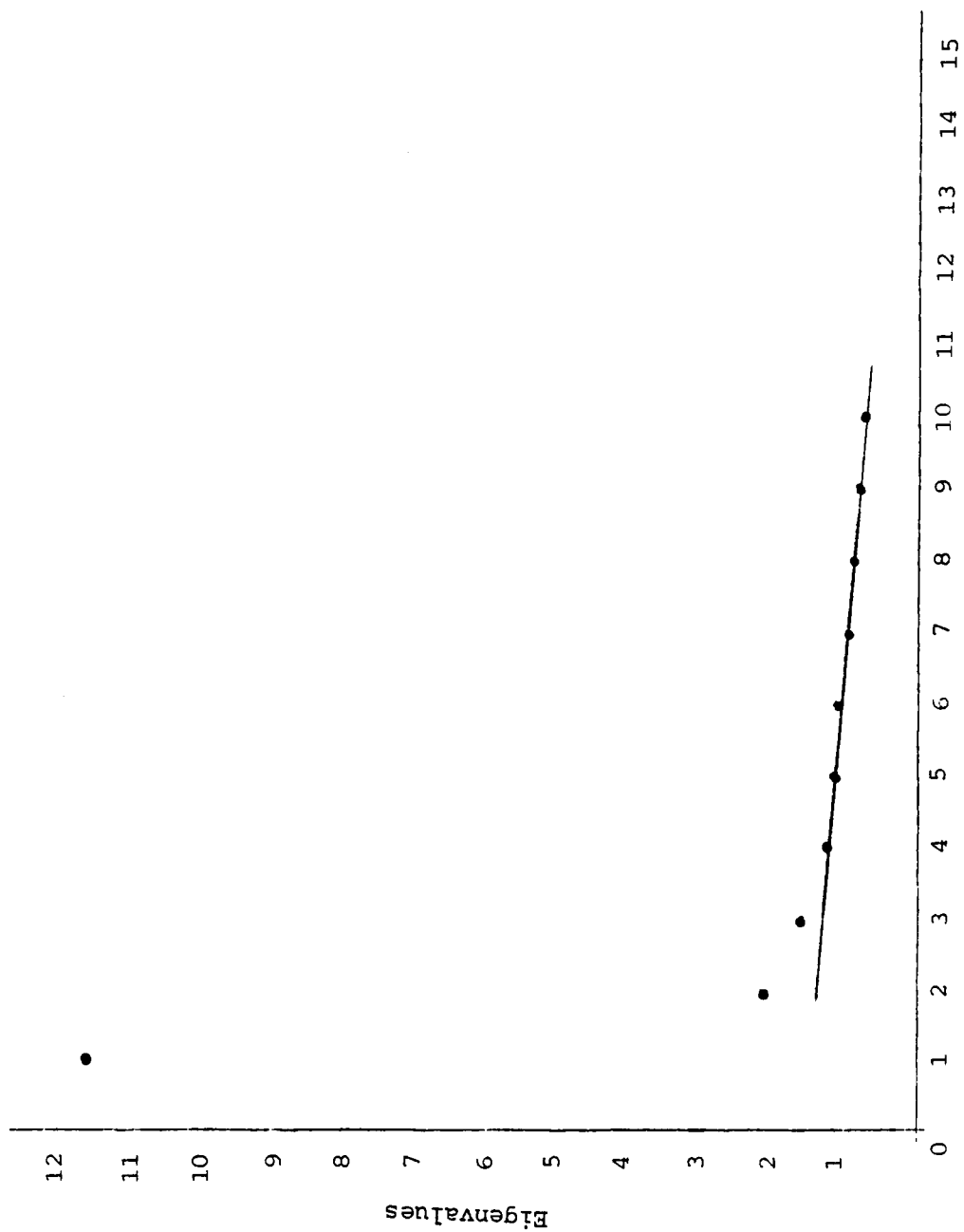


Figure 4. Scree plot of eigenvalues for 10 factors, from the principal components analysis of items from Factor I.

TABLE 7. Harris Comparison of Factor Analyses of Items Loading on Factor I

Factor	Vars. Loading	TC5 ┐	MN5 ┐	Rao5 ┐	AL5 ┐	IM5 ┐	BI5 ┐	TC6 ┐	MN6 ┐	Rao6 ┐	AL6 ┐	IM6 ┐	BI6 ┐
1	H2	.65	.43	.48	.57	.43	---	.50	.50	.47	.47	.46	.49
	H6	.56	.56	.58	.56	.53	.52	.59	.55	.52	.55	.52	.55
	H11	.77	.65	.68	.77	.62	.58	.68	.68	.62	.68	.62	.66
	H12	.69	(.47)	.49	.62	.45	(.41)	(.49)	.51	.45	.50	.47	.49
	H16	.47	---	---	.43	---	---	---	---	---	---	---	---
	H21	.43	.47	.46	.43	.44	.45	---	(.39)	---	.40	.40	---
	H24	.46	.47	.50	.49	.46	.44	.52	.48	.46	.48	.46	.48
	H29	.58	.65	.66	.58	.61	.62	.69	.64	.63	.65	.61	.64
	H30	.61	.45	.48	.54	.44	(.41)	.50	.50	.47	.49	.46	.48
	H38	.62	.61	.64	.60	.60	.56	.70	.71	.75	.69	.65	.69
	H51	---	.45	.41	---	.42	.50	---	---	---	---	---	---
	H52	.55	.70	.71	.58	.68	.68	.74	.69	.71	.70	.68	.70
	H65	---	.58	.57	.44	.56	.59	.63	.52	.51	.53	.53	.53
	H66	.50	.62	.63	.53	.61	.60	.68	.65	.64	.67	.64	.66
	H79	(.45)	.60	.58	.48	.56	.61	.55	.50	.47	.53	.51	.50
	H85	---	.44	(.43)	---	.41	.44	---	---	---	---	---	---
2	H14	.52	---	---	.53	---	---	---	---	---	---	---	---
	H23	.67	---	---	.52	---	---	---	---	---	---	---	---
	H43	.70	---	---	.64	---	---	---	---	---	---	---	---
	H50	---	.50	.47	---	.46	.51	.51	.45	.46	.43	.44	.45
	H53	.54	---	---	.50	.42	---	.44	.41	.39	.41	.42	.42
	H61	---	.51	.44	---	.46	.54	.53	.48	.46	.47	.46	.48
	H66	---	---	---	---	---	---	(.43)	(.41)	---	(.42)	(.40)	(.42)
	H78	---	.55	.50	(.39)	.57	.59	.54	.60	.54	.66	.58	.63
	H81	.63	.70	.80	.62	.65	.68	.72	.71	.79	.68	.65	.69
	H82	.54	.58	.60	.52	.62	.59	.66	.62	.62	.61	.61	.63
3	H86	---	(.39)	---	---	.43	.45	.55	.42	---	.47	.44	.46
	H18	.66	.51	.45	.53	.41	.52	.66	.51	.46	.53	.42	.51
	H21	---	---	---	---	---	---	.44	.40	---	(.39)	---	.41
	H24	(.44)	---	---	---	---	---	---	---	---	---	---	---
	H36	.66	.50	.48	.53	.43	.53	.69	.51	.47	.54	.44	.54
	H82	(.44)	---	---	(.47)	---	---	---	---	---	---	---	---
	H85	.51	.43	.46	.47	.40	(.42)	.49	.46	.46	.44	.40	.46
	H88	.65	.67	.71	.63	.51	.60	.65	.66	.71	.62	.52	.61

TABLE 7 (continued)

Factor	Vars. Loading	TC5 └─┘	MN5 └─┘	Rao5 └─┘	AL5 └─┘	IM5 └─┘	BI5 └─┘	TC6 └─┘	MN6 └─┘	Rao6 └─┘	AL6 └─┘	IM6 └─┘	BI6 └─┘
4	H2	---	---	---	---	---	---	---	---	(.42)	---	---	---
	H11	---	---	---	---	---	---	---	---	(.48)	---	---	---
	H12	---	---	---	---	(.40)	---	---	---	(.45)	---	---	---
	H14	---	.52	.63	---	.47	.48	.50	.54	.60	.50	.48	.50
	H16	---	---	.43	---	---	---	.39	---	.44	---	---	---
	H23	---	.54	.47	---	.46	.56	.72	.54	.48	.57	.45	.55
	H43	---	.57	.53	---	.47	.56	.66	.57	.52	.58	.47	.55
	H53	---	.40	---	---	---	.41	(.42)	---	---	(.39)	---	---

TABLE 8. Factors Produced from Reader-interest Ratings of the 30 Items from Factor I

Factor	Headline	Loading ^a
1. International; negotiations; important decisions	38. Soviets and China seem to move toward talks	.71
	52. Profound change in Communist bloc seen	.69
	11. Bonn and Paris unable to align defense policies	.68
	66. Americans question arms pact	.65
	29. Power struggle in Japan begins	.64
	6. Moscow embassy envoy quits	.55
	65. A new armada sails off southern Spain	.52
	12. Mideast talks: more of the same	.51
	2. Rivalry plagues senate foreign relations panel	.50
	30. Time for Middle East peace is now	.50
	79. African presidents gather in Ethiopia	.50
	24. Supreme Court ends historic session	.48
	21. 50,000 march in New Delhi to protest food crisis	(.39)
2. Economic, governing conflicts, problems	81. Business opposes city tax program	.71
	82. Mayor and U.S. attorney clash over vote frauds	.62
	78. Governors agree taxes will have to go higher	.60
	61. Five nations agree to take refugees	.48
	50. Stopgap agreement averts police strike	.45
	86. Social security revision urged	.42
	53. Market surges, then slips back	.41
	66. Americans question arms pact	(.41)
3. Scandal in, or protests against, governments	88. Congressman pleads guilty to tax evasion	.66
	18. Senate cites 4 newsmen for contempt	.51
	36. 17 judges indicted in Philadelphia	.51
	85. Hungarian athlete defects; asks U.S. asylum	.46
	21. 50,000 march in New Delhi to protest food crisis	.40
4. More routine reports of government, economic activities	43. House starts debate today on farm bill	.57
	23. Brokerage firms faring modestly	.54
	14. State senate votes probe of relief costs	.54

^aLoadings are from the MINRES orthogonal solution for six factors. Secondary loadings are in parentheses.

MINRES six-factor solution.

Headlines, from the list of 30, which failed to load on any of the new factors are : (1) "World food outlook improves" (H13); (2) "Campaign issues" (H16); and (3) "3 die in new rioting in Sudanese capital" (H51).

The criterion loading established for the MINRES six-factor solution is .39. The variance accounted for by this solution is 62.3 percent, with the first factor accounting for 39.0 percent of the variance. Final communalities reported for the variables range from .38 to .71.

Results of the Reanalysis of Factor II

The 21 items loading on Factor II (Table 6, p. 96) were reanalyzed to determine if the factor could be broken down into smaller categories.

Although the points on the scree plot (Figure 5) beyond the dominant first factor are fairly close, there is evidence for the existence of perhaps three or four identifiable factors in the data set.

While an image analysis of seven factors (variables/3) produced four nontrivial factors, a seven-factor truncated components analysis produced six factors with two or more items loading.

The Harris comparison (Table 9) was conducted with four-, five- and six-factor orthogonal solutions. Oblique solutions produced proved to be highly inconsistent and therefore were not considered in the comparison.

Across procedures, no more than four identifiable factors were

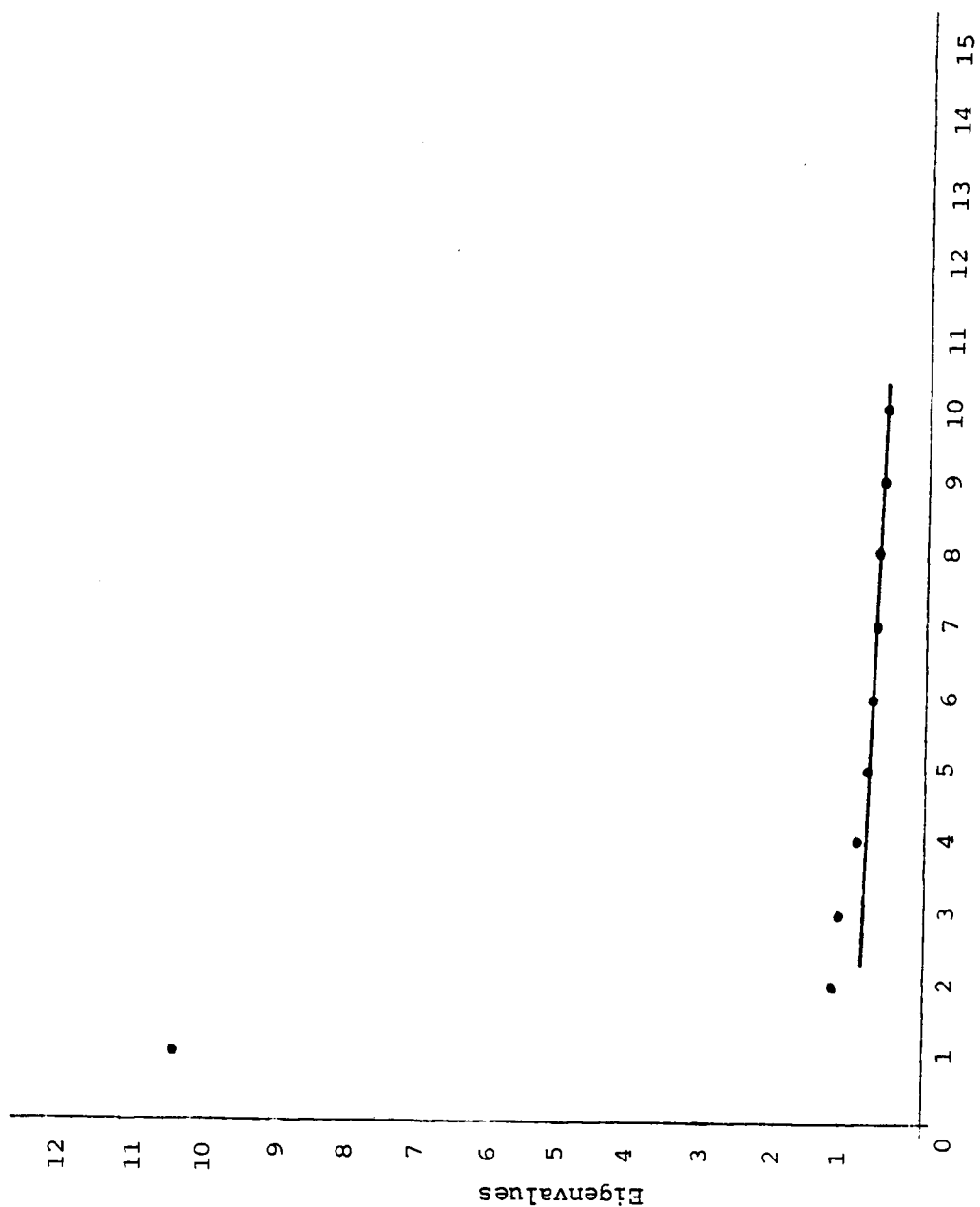


Figure 5. Scree plot of eigenvalues for 10 factors, from the principal components analysis of items from Factor II.

TABLE 9 (continued)

Vars. Factor Loading	TC4	MN4	Rao4	AL4	IM4	BI4	TC5	MN5	Rao5	AL5	IM5	BI5	TC6	MN6	Rao6	AL6	IM6	BI6
H55	.72	.64	.64	.63	.54	.62	.76	.53	.64	.57	.54	.63	.75	.60	.60	.59	.54	.62
H62	.57	.59	.59	.59	(.50)	.57	(.48)	---	.57	(.42)	(.50)	.54	(.49)	.50	.53	(.46)	.51	.54
H73	---	(.41)	.45	---	---	---	---	---	.43	---	---	---	---	---	---	---	---	---
H91	.57	.46	.45	.48	.41	.47	---	---	.43	---	.40	.40	---	---	---	.40	---	.39
4																		
H15	.50	.47	.47	.45	.45	.50	.63	.52	.48	.53	.45	.49	---	.42	---	.44	.41	---
H22	---	---	---	---	---	(.40)	---	---	---	---	---	(.41)	---	---	---	---	---	---
H31	.45	(.46)	(.46)	(.44)	.43	(.47)	.49	.46	(.46)	.45	.43	.47	---	(.41)	---	.40	(.40)	---
H34	.77	.54	.54	.55	.44	.53	.68	.51	.54	.49	.44	.53	.84	.54	.55	.52	.45	.54
H40	---	---	---	---	---	(.40)	.54	(.44)	---	.46	---	.40	---	---	---	(.40)	---	---
H49	.57	.61	.63	.61	.49	.58	.59	.61	.62	.61	.49	.58	.52	.61	.64	.62	.49	.57
H70	(.46)	.52	.54	.51	(.47)	.52	(.50)	.54	.54	.53	(.47)	.52	---	.52	(.48)	.52	(.45)	(.49)

produced.

All of the n-factor solutions must be reviewed to see the dominant patterns. Essentially, the four-factor solutions best reflect the patterns observed across solutions.

For example: Headlines 22 and 25 load on Factor 2 in the four- and six-factor solutions, but load inconsistently in the five-factor solutions. At the same time, Headlines 1 and 73 load on Factor 2 in the four- and five-factor solutions, but load inconsistently across the six-factor solutions.

The MINRES four-factor solution was therefore designated to represent the factors identified in the reanalysis of Factor II. The four factors identified by this solution are given in Table 10, with the headlines in each factor listed in rank order according to their loadings.

All 21 headlines met the criterion loading of .41 for one or more of the factors.

The four-factor solution accounts for 65.3 percent of the variance, while the first factor alone accounts for 50.0 percent of the variance.

Final communalities reported for the 21 headlines range from .35 to .76.

Results of the Reanalysis of Factor III

The 24 items in Factor III (Table 6, p. 97) were factor analyzed in this final stage of the factoring process.

As in the previous analyses of original factors, it was found that the oblique solutions could not be compared, due to their complexity and inconsistency.

TABLE 10. Factors Produced from Reader-interest Ratings of the 21 Items from Factor II

Factor	Headline	Loading ^a
1. Routine reports of accidents (usually fatal), crime and criminal proceedings	75. Pedestrian, 69, killed as auto skids off road	.70
	89. Mother and 6 children die in farm home fire	.69
	48. 10 die in weekend traffic accidents	.63
	84. Boy wounded in gun mishap	.58
	90. 2 escape thru jail window; 1 recaptured	.57
	62. Woman killed in plunge	(.51)
	70. Kidnap-murder suspect charged	(.51)
	49. Mistrial called in murder case	(.46)
2. Rescue from life-threatening situations; help for those in distress	22. 2 policemen save life of baby	.73
	7. Baby sitter rescues 4 small cousins from blaze	.58
	25. Neighbors help Jenkins family	.54
	73. Scouts rescued from snowstorm	.47
	1. Boys in mine found alive	.42
3. Disasters; more dramatic reports of accidents, crime and other life-threatening situations	55. Hurricane toll exceeds 200	.64
	62. Woman killed in plunge	.59
	32. Twisters lash 6 states; 1 killed	.54
	5. 100 hurt in train smashup	.48
	31. Abducted girl's body found in Florida	.48
	91. Siamese twins separated	.46
	40. Couple survive 3 days in snowbound car	.41
	73. Scouts rescued from snowstorm	(.41)
4. Murder, attempted murder; criminal proceedings	49. Mistrial called in murder case	.61
	34. Physician's conviction overturned	.54
	70. Kidnap-murder suspect charged	.52
	15. Nurse injured as she fights off intruder	.47
	31. Abducted girl's body found in Florida	(.46)

^aLoadings are from the MINRES orthogonal solution for four factors. Secondary loadings are in parentheses.

The scree plot (Figure 6) of the eigenvalues of the factors in the data indicates the presence of one dominant factor, and suggests that two or four factors might be extracted.

Four factors are suggested by the count of the nontrivial factors produced by an image analysis of eight factors (variables/3), while five nontrivial factors are identified by the truncated components analysis.

Four- and five-factor orthogonal solutions were produced for the comparison. These solutions, displayed in Table 11, show highly consistent loadings across procedures for the first four factors, and a consistent fifth factor identified by the five-factor solutions.

The two headlines that form the fifth factor load on Factor 3 in the four-factor solutions. Since the separation of these headlines into a fifth factor enhances the interpretability of the factors, the five-factor solution (MINRES) was selected to represent the factors inherent in Factor III.

The factors identified by the five-factor MINRES orthogonal solution are reported in Table 12. Headlines belonging to each factor are ranked according to their loadings.

The criterion loading designated for this solution is .42. Just one headline, "Hospitals full; nursing shortage severe" (H54), failed to load on any of the factors.

The first factor accounts for 41.5 percent of the variance in the data, and the five-factor solution accounts for 63.4 percent of the variance.

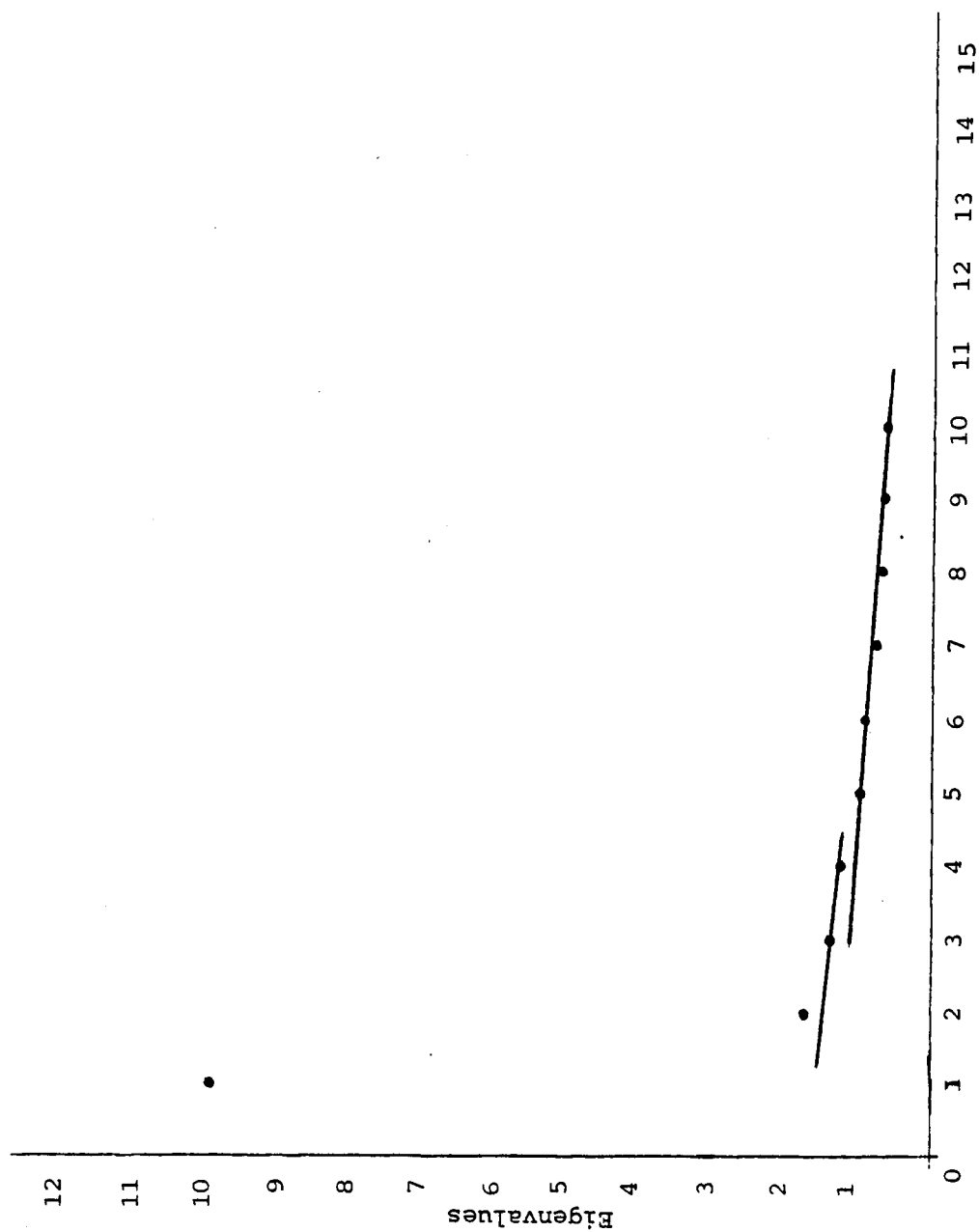


Figure 6. Scree plot of eigenvalues for 10 factors, from the principal components analysis of items from Factor III.

TABLE 11. Harris Comparison of Factor Analyses of Items Loading on Factor III

Factor	Vars. Loading	TC4 ┐	MN4 ┐	Rao4 ┐	AL4 ┐	IM4 ┐	BI4 ┐	TC5 ┐	MN5 ┐	Rao5 ┐	AL5 ┐	IM5 ┐	BI5 ┐
1	H33	.67	.59	.58	.59	.54	.58	.65	.58	.57	.58	.53	.58
	H44	.77	.73	.73	.73	.63	.70	.77	.73	.73	.72	.63	.70
	H47	.69	.58	.59	.57	.53	.58	.70	.59	.60	.59	.53	.59
	H64	.66	.61	.61	.62	.57	.62	.65	.61	.61	.61	.56	.61
	H71	.55	.51	.50	.51	.50	.52	.52	.50	.49	.50	.49	.51
	H76	.64	.62	.63	.62	.58	.62	.63	.62	.62	.61	.58	.62
	H93	.62	.60	.59	.60	.55	.59	.63	.60	.60	.60	.56	.60
2	H42	.53	.48	.48	.48	.46	.49	.51	.42	.48	.46	.47	.48
	H63	.73	.65	.66	.65	.59	.66	.72	.65	.66	.64	.60	.65
	H68	.75	.69	.69	.69	.61	.68	.74	.68	.68	.68	.62	.68
	H71	(.45)	(.40)	(.40)	(.40)	---	(.40)	(.49)	(.42)	(.41)	(.43)	---	(.41)
	H72	.72	.67	.67	.67	.59	.66	.73	.68	.68	.69	.59	.67
	H74	.64	.57	.58	.57	.51	.57	.66	.59	.59	.59	.51	.58
	H87	.63	.55	.55	.56	.51	.56	.59	.55	.54	.55	.52	.55
3	H3	.74	.64	.64	.64	.55	.63	.76	.65	.65	.66	.55	.64
	H13	.67	.58	.57	.58	.52	.58	.61	.53	.54	.53	.52	.55
	H35	.70	.63	.63	.63	.55	.62	.73	.67	.67	.67	.55	.63
	H54	.48	.41	.41	.41	---	.41	---	---	---	---	---	---
	H60	.62	.57	.58	.56	.52	.57	.57	.49	.49	.51	.52	.54
	H80	.48	.44	.43	.45	.43	.46	---	---	---	---	.43	---
	H86	.59	.53	.52	.53	.51	.55	---	---	---	(.40)	.51	(.44)
4	H8	.77	.66	.66	.65	.51	.62	.77	.62	.62	.64	.52	.62
	H17	.73	.60	.60	.61	.50	.60	.77	.70	.70	.68	.51	.63
	H69	.46	.42	.43	.41	---	.43	.43	---	---	.39	---	.42
	H83	.60	.52	.52	.51	.46	.53	.57	.46	.46	.49	.45	.51
5	H54	---	---	---	---	---	---	.42	---	---	---	---	---
	H80	---	---	---	---	---	---	.71	.56	.47	.58	---	.50
	H86	---	---	---	---	---	---	.64	.61	.72	.49	---	.47

TABLE 12. Factors Produced from Reader-interest Ratings of the 24 Items from Factor III

Factor	Headline	Loading ^a
1. Self-improvement	44. Choose clothes that make you look your best	.73
	76. How to be a smart shopper	.62
	64. Keeping fit should be fun	.61
	93. Feel better about yourself	.60
	47. The hungry person's diet	.59
	33. Ten tips on managing your time	.58
	71. Ways to get out--and stay out--of debt	.50
2. Children, parenting, budgeting (family concerns)	68. Give children more responsibility	.68
	72. Home stressed as aid to education	.68
	63. The tests that cheat our children	.65
	74. Personal finance: children and budgeting	.59
	87. The myth of the perfect parent	.55
	42. Foster parents: where caring makes the system work	.42
	71. Ways to get out--and stay out--of debt	(.42)
3. Concern about food costs, supply, and costs to the consumer in general	35. Area food shoppers pay about 2½% more	.67
	3. Survey shows outlook for food prices	.65
	13. World food outlook improves	.53
	60. Irked consumers cutting corners	.49
4. Information (new) about leading medical problems	17. New hope for retarded children	.70
	8. New cancer drug tested	.62
	83. Heart attack: sudden death for younger victims	.46
5. Issues related to the elderly	86. Social security revision urged	.61
	80. America's older citizens	.56

^aLoadings are from the MINRES orthogonal solution for five factors. Secondary loadings are in parentheses.

Final communalities reported for the variables range from .34 (for "Hospitals full; nursing shortage severe") to .66.

Incremental Analyses of Items Representing Derived Factors

In order to evaluate the usefulness of the procedure of re-factoring long and complex initial factors, the incremental predicted audience coverage achieved by subsets of original factors was calculated.

Table 13 shows the incremental audience coverage of headlines representing the four factors derived from Factor I; Table 14, the incremental coverage of items representing the four factors derived from Factor II; and Table 15, the incremental coverage provided by items representing the five factors derived from Factor III.

It can be seen that, in each case, the new factors derived from long, initial factors represent content which is likely to be read by different people, rather than by the same people.

The substantial increases in audience coverage achieved by the new groups of factors demonstrate the usefulness of the re-factoring method for developing a representative classification of reader interests.

A further justification for the derivation of factors from original factors is the ability of the re-factoring process to identify highly interpretable factors from fairly complex and difficult-to-interpret initial factors.

Composite Results of the Factor Analyses

Table 16 presents the final composite set of factors identified by the various factor analysis procedures.

TABLE 13. Incremental Audience Coverage of Items Representing Factors Derived from Factor I

Factor	Top-loading Headline	Percent Incr. Aud. Coverage
1	38. Soviets and China seem to move toward talks	20.7
2	81. Business opposes city tax program	32.5
3	88. Congressman pleads guilty to tax evasion	40.3
4	43. House starts debate today on farm bill	41.8

TABLE 14. Incremental Audience Coverage of Items Representing Factors Derived from Factor II

Factor	Top-loading Headline	Percent Incr. Aud. Coverage
1	75. Pedestrian, 69, killed as auto skids off road	20.7
2	22. 2 policemen save life of baby	39.6
3	55. Hurricane toll exceeds 200	52.1
4	49. Mistrial called in murder case	54.0

TABLE 15. Incremental Audience Coverage of Items Representing Factors Derived from Factor III

Factor	Top-loading Headline	Percent Incr. Aud. Coverage
1	44. Choose clothes that make you look your best	30.7
2	68. Give children more responsibility	41.8
3	35. Area food shoppers pay about 2½% more	47.5
4	17. New hope for retarded children	58.6
5	86. Social security revision urged	63.9

TABLE 16. Composite List of Reader-interest Categories Produced by Factor Analysis Procedures

Factor	Headline	Loading ^a
1. International; negotiations; important decisions	38. Soviets and China seem to move toward talks	.71
	52. Profound change in Communist bloc seen	.69
	11. Bonn and Paris unable to align defense policies	.68
	66. Americans question arms pact	.65
	29. Power struggle in Japan begins	.64
	6. Moscow embassy envoy quits	.55
	65. A new armada sails off southern Spain	.52
	12. Mideast talks: more of the same	.51
	2. Rivalry plagues senate foreign relations panel	.50
	30. Time for Middle East peace is now	.50
	79. African presidents gather in Ethiopia	.50
	24. Supreme Court ends historic session	.48
	21. 50,000 march in New Delhi to protest food crisis	(.39)
2. Economic, governing conflicts, problems	81. Business opposes city tax program	.71
	82. Mayor and U.S. attorney clash over vote frauds	.62
	78. Governors agree taxes will have to go higher	.60
	61. Five nations agree to take refugees	.48
	50. Stopgap agreement averts police strike	.45
	86. Social security revision urged	.42
	53. Market surges, then slips back	.41
	66. Americans question arms pact	(.41)
3. Scandal in, or protests against, governments	88. Congressman pleads guilty to tax evasion	.66
	18. Senate cites 4 newsmen for contempt	.51
	36. 17 judges indicted in Philadelphia	.51
	85. Hungarian athlete defects; asks asylum in U.S.	.46
	21. 50,000 march in New Delhi to protest food crisis	.40
4. More routine reports of government, economic activities	43. House starts debate today on farm bill	.57
	23. Brokerage firms faring modestly	.54
	14. State senate votes probe of relief costs	.54

TABLE 16 (continued)

Factor	Headline	Loading
5. Routine reports of accidents (usually fatal), crime and criminal proceedings	75. Pedestrian, 69, killed as auto skids off road	.70
	89. Mother and 6 children die in farm home fire	.69
	48. 10 die in weekend traffic accidents	.63
	84. Boy wounded in gun mishap	.58
	90. 2 escape thru jail window; 1 recaptured	.57
	62. Woman killed in plunge	(.51)
	70. Kidnap-murder suspect charged	(.51)
	49. Mistrial called in murder case	(.46)
6. Rescue from life-threatening situations; help for those in distress	22. 2 policemen save life of baby	.73
	7. Baby sitter rescues 4 small cousins from blaze	.58
	25. Neighbors help Jenkins family	.54
	73. Scouts rescued from snowstorm	.47
	1. Boys in mine found alive	.42
7. Disasters; more dramatic reports of accidents, crime, and other life-threatening situations	55. Hurricane toll exceeds 200	.64
	62. Woman killed in plunge	.59
	32. Twisters lash 6 states; 1 killed	.54
	5. 100 hurt in train smashup	.48
	31. Abducted girl's body found in Florida	.48
	91. Siamese twins separated	.46
	40. Couple survive 3 days in snowstorm	.41
	73. Scouts rescued from snowstorm	(.41)
8. Murder, attempted murder; criminal proceedings	49. Mistrial called in murder case	.61
	34. Physician's conviction overturned	.54
	70. Kidnap-murder suspect charged	.52
	15. Nurse injured as she fights off intruder	.47
	31. Abducted girl's body found in Florida	(.46)
9. Self-improvement	44. Choose clothes that make you look your best	.73
	76. How to be a smart shopper	.62
	64. Keeping fit should be fun	.61
	93. Feel better about yourself	.60
	47. The hungry person's diet	.59
	33. Ten tips on managing your time	.58
	71. Ways to get out--and stay out-- of debt	.50

TABLE 16 (continued)

Factor	Headline	Loading
10. Children, parenting, budgeting (family concerns)	68. Give children more responsibility	.68
	72. Home stressed as aid to education	.68
	63. The tests that cheat our children	.65
	74. Personal finance: children and budgeting	.59
	87. The myth of the perfect parent	.55
	42. Foster parents: where caring makes the system work	.42
	71. Ways to get out--and stay out--of debt	(.42)
11. Concern about food costs, supply, and costs to the consumer in general	35. Area food shoppers pay about 2½% more	.67
	3. Survey shows outlook for food prices	.65
	13. World food outlook improves	.53
	60. Irked consumers cutting corners	.49
12. Information (new) about leading medical problems	17. New hope for retarded children	.70
	8. New cancer drug tested	.62
	83. Heart attack: sudden death for younger victims	.46
13. Issues related to the elderly	86. Social security revision urged	.61
	80. America's older citizens	.56
14. Cultural, educational interests	57. First concert in a series of Mozart	.66
	41. Witty, perplexing novel establishes author	.65
	28. Art exhibit recalls turn of the century	.63
	10. Noted novelists offer new books	.55
	20. Concert celebrates composer's birth	.53
	45. Doctor assails methods in psychiatry	.42
	77. Behavior of infants and apes is linked	.42
15. Sports	46. Rams overcome Packers by 27-17	.80
	67. Canadiens beat Rangers for Stanley Cup	.70
	9. A.L. wins 5-3 in battle of homers	.67
	92. 85 will tee off in Masters today	.62
	58. U.S. sweeps 5 Pan Am gold medals	.53
	27. U.S. teen makes history at Wimbledon	.41
16. Science: the earth and universe	19. Space signals said to hint life afar	.61
	26. Australia drifted 3,400 miles over the ages, scientists think	.52

^aLoadings are from MINRES orthogonal procedures. Secondary loadings are in parentheses.

In this table, Factors 1-4 are the new factors derived from the original Factor I; Factors 5-8 are the four factors derived in the reanalysis of the original Factor II; Factors 9-13 are the five factors resulting from the reanalysis of Factor III; and Factors 14-16 are the original Factors IV, V and VI.

A summary interpretation of each of the 16 factors is provided in the following paragraphs.

Factor 1, "International; negotiations; important decisions."

Most of the headlines loading on this factor report information about international activities and U.S. foreign relations. A number of them specifically deal with negotiations between or among nations.

Included in this factor, at a somewhat lower loading, is the headline, "Supreme Court ends historic session" (H24), which does not refer to international relations. The inclusion of this headline suggests that perhaps the factor can be characterized by important national and international decisions, as well as by other international concerns.

Factor 2, "Economic, governing conflicts, problems." Information related to national or local economic concerns dominate this factor. Conflict is also a major characteristic, with items reporting news of strikes averted, officials clashing, business opposing taxes, and revisions in social security urged.

The headline, "Americans question arms pact" (H66), which has a secondary loading on this factor, is apparently seen as an economic concern as well as an issue of importance to U.S. foreign relations.

Factor 3, "Scandal in, or protests against, governments." The headlines in this factor reflect either scandal in government (U.S.) or protests against governments. The headline reporting the citing of newsmen for contempt might be read as a scandal involving guardians of the public trust, or it might be seen as the newsmen's protest against the government.

Factor 4, "More routine reports of government, economic activities." This factor is similar to Factor 2 and is, in fact, part of Factor 2 in certain of the solutions reported in the Harris comparison of factor analyses of Factor I (Table 7, p. 102).

The three headlines report economic and government activities, but the reports are of a more routine nature than are those found in Factor 2.

Factor 5, "Routine reports of accidents (usually fatal), crime and criminal proceedings." The headlines in this factor, particularly those with the highest loadings, are the routine reports of accidents (mostly accidental death), crime and criminal proceedings typically found in the daily newspaper.

All of the headlines deal with individual mishaps or incidents, rather than with large-scale disasters or dramatic events. "Woman killed in plunge," a secondary item, has elements of both a routine report and a dramatic event.

Factor 6, "Rescue from life-threatening situations; help for those in distress." Help or rescue for persons in distress characterize all of the headlines loading on this factor. All but one,

"Neighbors help Jenkins family" (H25), report rescue from life-threatening situations.

It seems that a similar appeal is made to the reader, whether the help reported is for a destitute or needy family, or for persons whose lives are in danger.

Factor 7, "Disasters; more dramatic reports of accidents, crime and other life-threatening situations." These headlines represent the more dramatic reports of accidents and other life-threatening situations found in the daily news. Disasters load especially high on this factor.

Only two headlines in this group suggest rescue or survival, and both have low loadings. One is a secondary item.

Factor 8, "Murder, attempted murder; criminal proceedings." All of the headlines in this factor are reports of murder, or attempted murder, or criminal proceedings for murder suspects, if "Physician's conviction overturned" (H34) is considered a murder trial story. This is likely, as two celebrated trials of physicians in which convictions were overturned (Sam Sheppard case and Jeffrey MacDonald case) were trials for murder.

Factor 9, "Self-improvement." The headlines loading on this factor are all addressed to the achievement of personal goals such as managing time, dressing well, keeping fit and saving money.

Factor 10, "Children, parenting, budgeting (family concerns)." Headlines in this factor generally refer to children and parenting. The one headline that does not refer directly to family matters,

"Ways to get out--and stay out--of debt" (H71), corresponds to the economic concern expressed by the headline, "Personal finance: children and budgeting" (H74).

In general, it is understandable that family concerns would coincide at some point with economic concerns.

Factor 11, "Concern about food costs, supply, and costs to the consumer in general." Three of the four headlines in this factor contain a reference to food, while the fourth item reflects a concern about consumer costs in general. It is likely that persons interested in food supplies and food costs would also be concerned about other personal costs.

Factor 12, "Information (new) about leading medical problems." This factor is made up of high readership items that deal with three major medical concerns of our society: (1) mental retardation; (2) cancer; and (3) heart disease. A fourth item that loads on this factor in other solutions is "New reports on high blood pressure" (H69).

It is possible that the use of the word "new" as the first word in a headline enhances the interest generated by the topic.

Factor 13, "Issues related to the elderly." It is evident that the two items loading on this factor, "Social security revision urged" (H86) and "America's older citizens" (H80) reflect issues related to the elderly.

Factor 14, "Cultural, educational interests." Cultural topics such as classical music, art and literature dominate this factor. Also included, however, are two items with information about the behavioral sciences.

It is likely that persons interested in cultural news would be educated people who are also interested in broadening their base of knowledge.

Another possible explanation for the presence of the two science items is that the readers may have seen them as topics that might be found in books.

Factor 15, "Sports." All of the headlines dealing with sports events that were included in the questionnaire loaded on this factor.

Factor 16, "Science: the earth and universe." These two items form a very stable factor across procedures. Since they were separated from the other science items, it is evident that this particular kind of science news, dealing with the earth and the universe (at least), has a distinct appeal.

The science items loading with the cultural activities are related to human development, while these items are not. Further research would need to be done to better identify the distinguishing characteristics of this factor.

III. RESULTS OF THE COMPLETE LINKAGE

CLUSTER ANALYSIS PROCEDURE

The results of the cluster analysis of the 93 headlines are quite straightforward, as compared to the results of the factor

analyses. Just one procedure, the complete linkage cluster analysis, was used to identify clusters of reader interest.

Figure 7 shows a plot of the "maximum distance in a cluster" values for 1 through 21 clusters. The values shown on the "y" axis of the plot are 1/100,000 of the reported distances found in the results of the analysis.

A break in the plotted points indicates a more or less distinct distance between the cluster groupings on either side of the break. The plot, therefore, indicates various logical numbers of clusters which might be extracted.

In particular, Figure 7 suggests the feasibility of 3-, 4-, 6-, 8-, 12-, 16- and 18-factor solutions.

Another consideration in the selection of a number of clusters is the interpretability of the clusters observed at various levels of the hierarchical cluster map (Figure 8).

It was determined, after reviewing the clusters of headlines produced at different levels of the hierarchy, that at least 18 clusters must be specified to achieve meaningful interpretation.

The 18-cluster solution was therefore chosen to identify the clusters present in the data set of 93 headlines. Essentially, only 16 reader-interest categories are identified by the 18-cluster solution, as two of the resulting clusters are in fact isolated items.

These lone items are "Teachers OK salary scale" (H4) and "The art of being a stepparent today" (H56), which are also among the isolated items reported by the factor analyses.

Table 17 presents the 16 clusters extracted from the 18-cluster

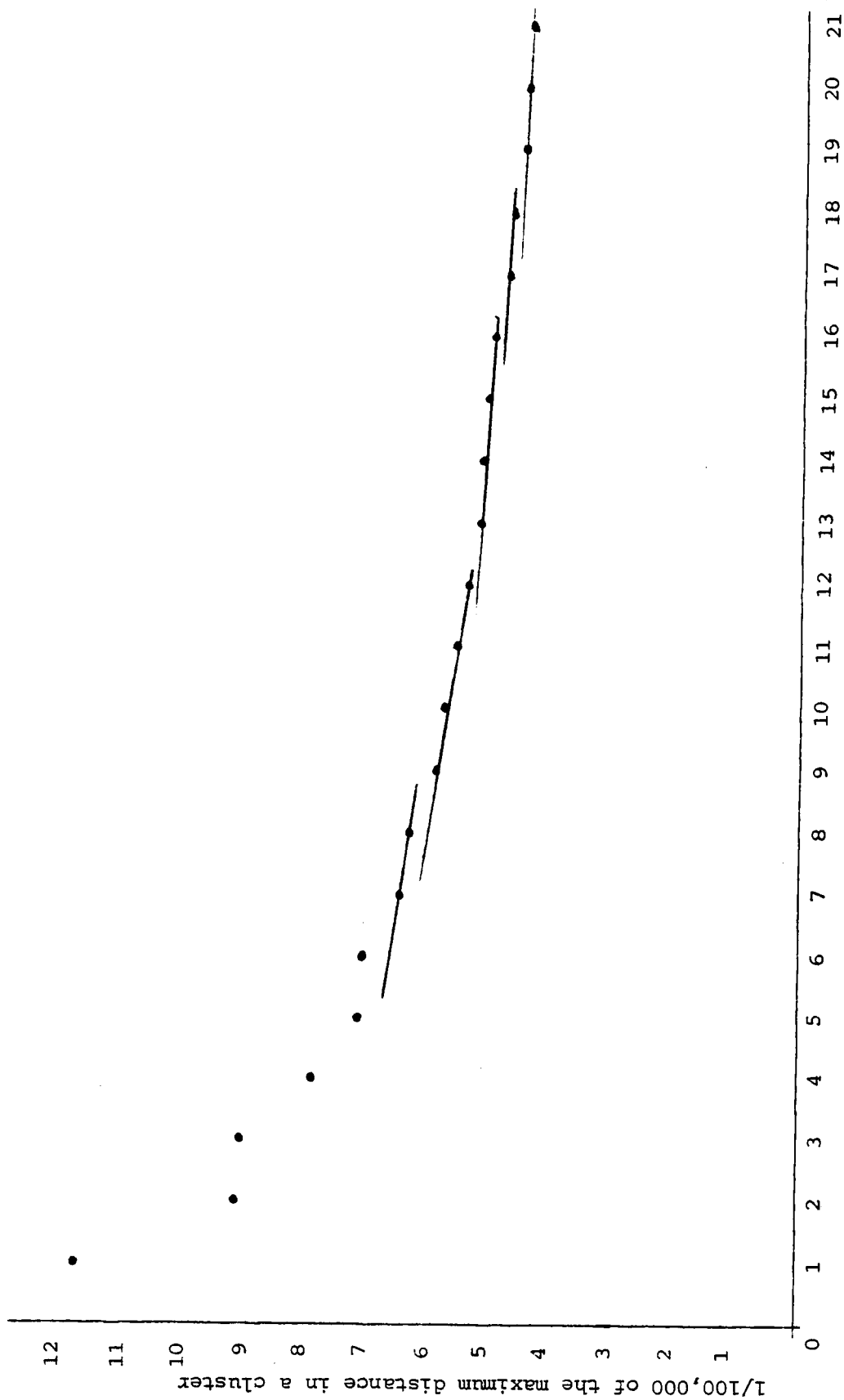


Figure 7. Plot of the reported values of the "maximum distance in a cluster" for 21 clusters.

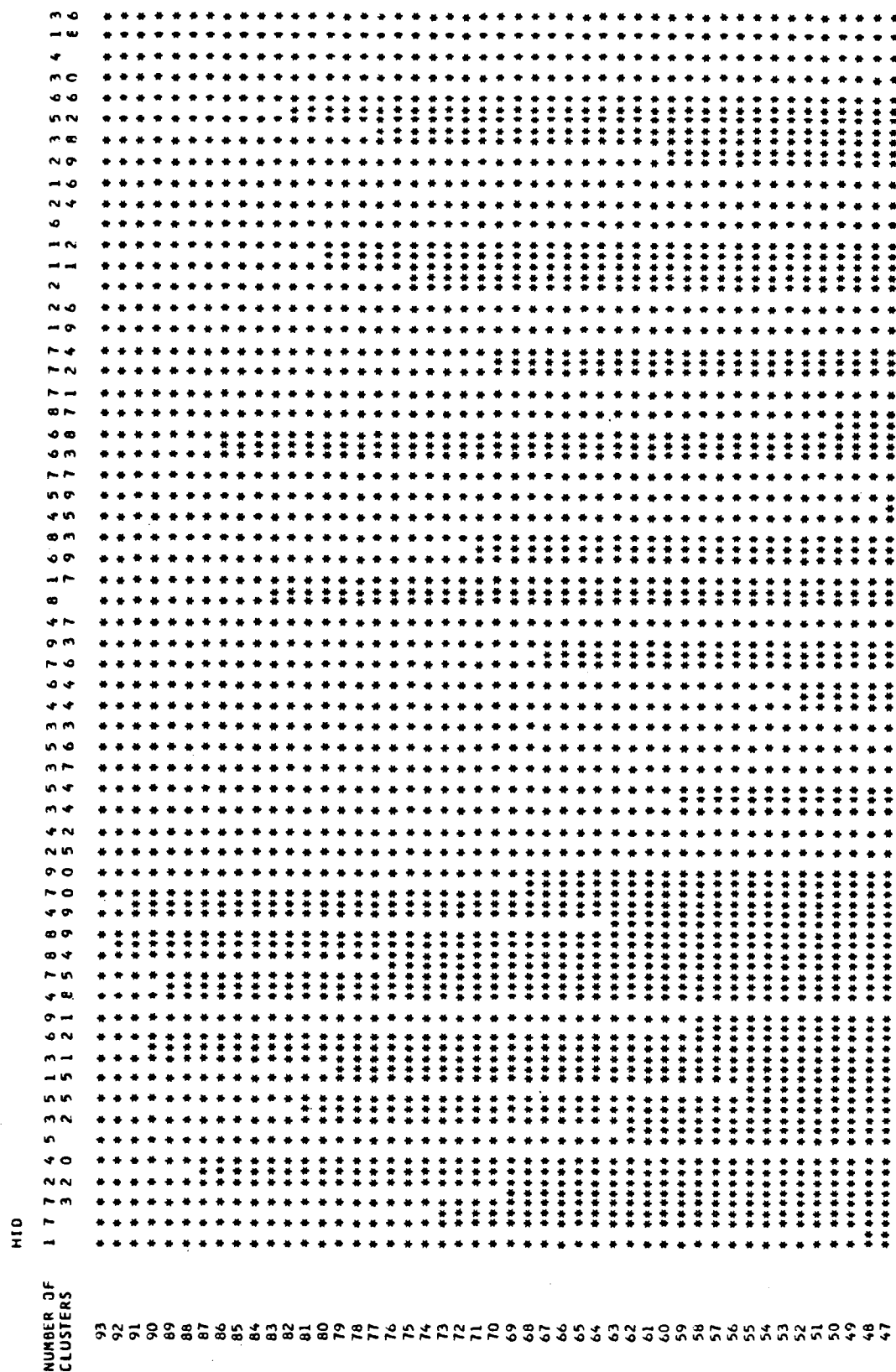


Figure 8. Cluster map showing the hierarchical clustering of the 93 headlines.

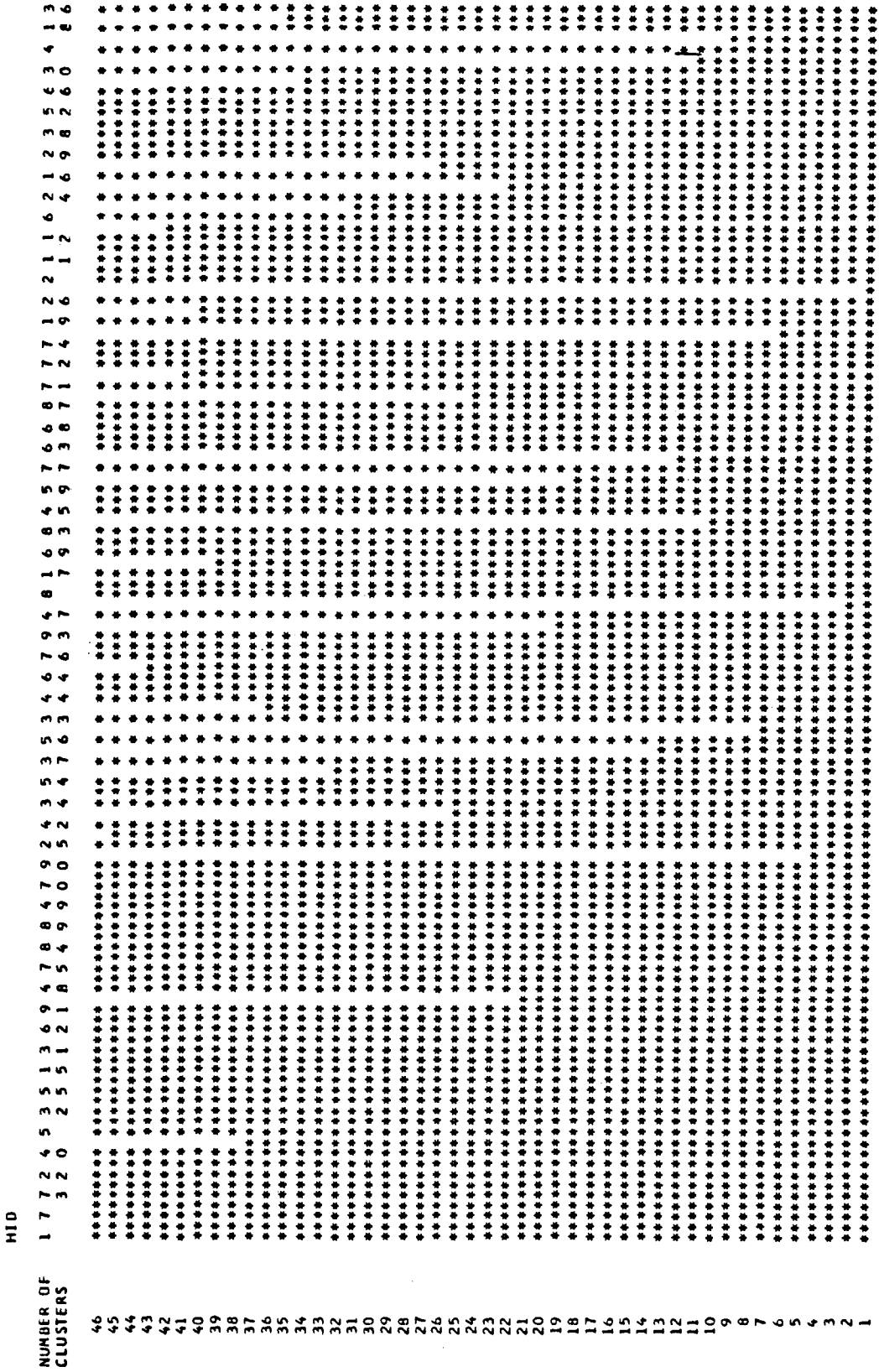


Figure 8 (continued)

NUMBER OF CLUSTERS	HID		3 2 3 8 2 5 3 3 6 1 6 8 8 1 8 7 5 8 8 9 4 6 9 2 4 5 5 7 6 1 4 2 5 2		6 1 9 5 7 8 5 0 3 1 0 6 4 8 8 0 1 2 6 7 2 3 3 3 1 9 5 0 1 0 7 8	
			* * *		* * *	
93			* * *		* * *	
92			* * *		* * *	
91			* * *		* * *	
90			* * *		* * *	
89			* * *		* * *	
88			* * *		* * *	
87			* * *		* * *	
86			* * *		* * *	
85			* * *		* * *	
84			* * *		* * *	
83			* * *		* * *	
82			* * *		* * *	
81			* * *		* * *	
80			* * *		* * *	
79			* * *		* * *	
78			* * *		* * *	
77			* * *		* * *	
76			* * *		* * *	
75			* * *		* * *	
74			* * *		* * *	
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69			* * *		* * *	
68			* * *		* * *	
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65			* * *		* * *	
64			* * *		* * *	
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58			* * *		* * *	
57			* * *		* * *	
56			* * *		* * *	
55			* * *		* * *	
54			* * *		* * *	
53			* * *		* * *	
52			* * *		* * *	
51			* * *		* * *	
50			* * *		* * *	
49			* * *		* * *	
48			* * *		* * *	
47			* * *		* * *	

Figure 8 (continued)

		H10	
NUMBER OF		3 2 3 8 2 5 3 3 6 1 6 8 8 1 8 7 5 8 8 9 4 6 9 2 4 5 5 7 6 1 4 2 5 2	6 1 9 5 7 8 5 0 3 1 0 6 4 8 8 0 1 2 6 7 2 3 3 3 1 9 5 0 1 0 7 8
CLUSTERS			
46	*	***	***
45	*	***	***
44	*	***	***
43	*	***	***
42	*	***	***
41	*	***	***
40	*	***	***
39	*	***	***
38	*	***	***
37	*	***	***
36	*	***	***
35	*	***	***
34	*	***	***
33	*	***	***
32	*	***	***
31	*	***	***
30	*	***	***
29	*	***	***
28	*	***	***
27	*	***	***
26	*	***	***
25	*	***	***
24	*	***	***
23	*	***	***
22	*	***	***
21	*	***	***
20	*	***	***
19	*	***	***
18	*	***	***
17	*	***	***
16	*	***	***
15	*	***	***
14	*	***	***
13	*	***	***
12	*	***	***
11	*	***	***
10	*	***	***
9	*	***	***
8	*	***	***
7	*	***	***
6	*	***	***
5	*	***	***
4	*	***	***
3	*	***	***
2	*	***	***
1	*	***	***

Figure 8 (cnnt.inued)

TABLE 17. Reader-interest Categories Produced by Complete Linkage Cluster Analysis

Cluster	Headline
1. Tragedies, disasters, crime, and rescue from these kinds of life-threatening situations	31. Abducted girl's body found in Florida 62. Woman killed in plunge 15. Nurse injured as she fights off intruder 91. Siamese twins separated 32. Twisters lash 6 states; 1 killed 55. Hurricane toll exceeds 200 5. 100 hurt in train smashup
Join at 37 clusters <	22. 2 policemen save life of baby 40. Couple survive 3 days in snowstorm 7. Baby sitter rescues 4 small cousins from blaze 73. Scouts rescued from snowstorm
Join at 22 clusters <	1. Boys in mine found alive 84. Boy wounded in gun mishap 89. Mother and 6 children die in farm home fire 48. 10 die in weekend traffic accidents 75. Pedestrian, 69, killed as auto skids off road 49. Mistrial called in murder case 70. Kidnap-murder suspect charged 90. 2 escape thru jail window; 1 recaptured
2. Social problems, solutions	34. Physician's conviction overturned 54. Hospitals full; nursing shortage severe 37. Birth rate for teens increases 25. Neighbors help Jenkins family 42. Foster parents: where caring makes the system work
3. Self-improvement	76. How to be a smart shopper 93. Feel better about yourself 44. Choose clothes that make you look your best 64. Keeping fit should be fun 33. Ten tips for managing your time 47. The hungry person's diet
4. Information (new) about leading medical problems	8. New cancer drug tested 17. New hope for retarded children 69. New reports on high blood pressure 83. Heart attack: sudden death for younger victims
5. Science: human behavior, development	45. Doctor assails methods in psychiatry 59. Study alters view of gene structure 77. Behavior of infants and apes is linked

TABLE 17 (continued)

Cluster	Headline
6. Children, parenting, budgeting (family concerns)	63. The tests that cheat our children
	68. Give children more responsibility
	87. The myth of the perfect parent
Join at 24 clusters <	74. Personal finance: children and budgeting
	72. Home stressed as aid to education
	71. Ways to get out--and stay out--of debt
7. Science: the earth and universe	19. Space signals said to hint life afar
	26. Australia drifted 3,400 miles over the ages, scientists think
8. International; negotiations; important decisions	11. Bonn and Paris unable to align defense policies
	12. Mideast talks: more of the same
	2. Rivalry plagues senate foreign relations panel
	6. Moscow embassy envoy quits
Join at 22 clusters <	24. Supreme Court ends historic session
	52. Profound change in Communist bloc seen
	66. Americans question arms pact
	38. Soviets and China seem to move toward talks
	29. Power struggle in Japan begins
	30. Time for Middle East peace is now
	16. Campaign issues
9. Conduct of guardians of the public trust being questioned	18. Senate cites 4 newsmen for contempt
	36. 17 judges indicted in Philadelphia
10. Dissidence, crime abroad	21. 50,000 march in New Delhi to protest food crisis
	39. Smugglers' ring broken in Britain
	85. Hungarian athlete defects; asks asylum in U.S.
11. U.S. victories in international athletic competition	27. U.S. teen makes history at Wimbledon
	58. U.S. sweeps 5 Pan Am swim gold medals
12. Economic concerns, especially regarding food	3. Survey shows outlook for food prices
	35. Area food shoppers pay about 2½% more
Join at 20 clusters <	60. Irrked consumers cutting corners
	13. World food outlook improves
	61. Five nations agree to take refugees
	80. America's older citizens
	86. Social security revision urged

TABLE 17 (continued)

Cluster	Headline
13. Increasing costs of government; fraud and conflict	14. State senate votes probe of relief costs
	88. Congressman pleads guilty to tax evasion
	78. Governors agree taxes will have to go higher
Join at 23 clusters <	81. Business opposes city tax program
	82. Mayor and U.S. attorney clash over vote frauds
	50. Stopgap agreement averts police strike
14. Regional (North American) sports	9. A.L. wins 5-3 in battle of homers
	46. Rams overcome Packers by 27-17
	67. Canadiens beat Rangers for Stanley Cup
	92. 85 will tee off in Masters today
15. Low readership items	23. Brokerage firms faring modestly
	43. House starts debate today on farm bill
	53. Market surges, then slips back
Join at 27 clusters <	51. 3 die in new rioting in Sudanese capital
	79. African presidents gather in Ethipoia
Join at 30 clusters <	65. A new armada sails off southern Spain
16. The arts	10. Noted novelists offer new books
	41. Witty, perplexing novel establishes author
Join at 28 clusters <	20. Concert celebrates composer's birth
	57. First concert in a series of Mozart
	28. Art exhibit recalls turn of the century

solution. Natural groupings of items within clusters are shown, and the levels at which these subsets within clusters join together are indicated.

Within Cluster 1, for example, three subsets of headlines can be identified. Each subset contains items which merged before the items as a group joined with the other subsets in the cluster.

Summary interpretations of the 16 reader-interest clusters are given in the following paragraphs, and the correspondence between the clusters and the factors is also included in the discussion.

Cluster 1, "Tragedies, Disasters, Crime, and Rescue from These Kinds of Life-threatening Situations"

The first cluster corresponds almost exactly with the initial Factor I. Furthermore, the subsets within this cluster are very similar to three of the four new factors identified in the reanalysis of Factor I.

As a group, the headlines in the cluster refer to life-threatening situations such as accidents, disasters and crime. Subsets group together items that are (1) dramatic reports of life-threatening situations, (2) reports of rescue from life-threatening situations, and (3) fairly routine reports of accidents and crime.

Cluster 2, "Social Problems, Solutions"

Societal problems such as teenage pregnancy, medical care, courtroom justice, and providing for homeless children or needy families are addressed by the headlines in this cluster.

"Physician's conviction overturned" (H34) is not grouped with

the stories of criminal proceedings, as it is in the factor analysis results, but rather turns up as one reflection of society's problems.

"Neighbors help Jenkins family" (H25), which loads with rescue items in the factor analysis results, is here emphasized as a societal concern.

No factor was produced that corresponds to Cluster 2.

Cluster 3, "Self-improvement"

This group of items reports information related to achieving personal well-being, and corresponds to Factor 9, also labeled "Self-improvement."

The only item that loads on the factor but is not found in this cluster is "Ways to get out--and stay out--of debt" (H71). The cluster analysis reports this headline with family concerns, where it also appears, with a secondary loading, in the factor analysis results.

Cluster 4, "Information (New) About Leading Medical Problems"

This cluster corresponds to Factor 12, and contains items with information about cancer, heart disease and mental retardation. Again, it is noted that the use of the word "new" at the beginning of certain of the headlines in this group may be one element of their appeal to the readers.

The headline which appears in this cluster but is not found in Factor 12, "New reports on high blood pressure" (H69), is one which does load on Factor 12 in certain of the factor analysis solutions examined.

Cluster 5, "Science: Human Behavior and Development"

Two science clusters are found among the resulting reader-interest clusters. This one pertains to human behavior and development, while the other, Cluster 7, contains information about nonhuman scientific subjects.

In the factor analysis results, two of the headlines in Cluster 5 are included with the cultural/educational items in Factor 14. These are "Doctor assails methods in psychiatry" (H45) and "Behavior of infants and apes is linked" (H77).

The third headline in this cluster, "Study alters view of gene structure" (H59) is reported as an isolated item in the factor analysis results.

Cluster 6, "Children, Parenting, Budgeting (Family Concerns)"

This cluster corresponds almost exactly with Factor 10. The only difference between the two is that Factor 10 includes the headline "Foster parents; where caring makes the system work" (H42). In the cluster analysis, this headline is grouped with social concerns in Cluster 2.

Subsets within Cluster 6 seem to separate items that are somewhat more objective issues (money, help with homework) from items more intimately involved with child development and child/parent relations.

Cluster 7, "Science: the Earth and Universe"

This cluster of science news corresponds exactly with Factor 16. Further research is needed to identify the various kinds of science items that belong to this reader-interest category.

Cluster 8, "International; Negotiations; Important Decisions"

The composition of this cluster closely corresponds to that of Factor 1. Both Cluster 8 and Factor 1 are characterized by international news, U.S. foreign relations items, and news of negotiations or important decisions.

"Supreme Court ends historic session" (H24) appears in both the cluster and the factor, indicating the likelihood that important decisions of national, as well as international, scope belong to this reader-interest category.

"Campaign issues" (H16) is included in the cluster and not in the factor. The topic of this headline might be construed as including U.S. foreign relations.

Three items found in Factor 1 but not in Cluster 8 are: (1) "A new armada sails off southern Spain" (H65); (2) "African presidents gather in Ethiopia" (H79); and (3) "50,000 march in New Delhi to protest food crisis" (H24), which has a secondary loading on Factor 1.

Cluster 9, "Conduct of Guardians of the Public Trust Being Questioned"

This cluster contains two items, both of which are found in Factor 3, "Scandal in, or protests against, governments." Both of the items report legal action being taken against persons entrusted with the protection of the public.

Cluster 10, "Dissidence, Crime Abroad"

Two of the three headlines in this cluster are also included in Factor 3: (1) "50,000 march in New Delhi to protest food crisis" (H21); and (2) "Hungarian athlete defects; asks U.S. asylum: (H85). The

third item in this cluster, "Smugglers' ring broken in Britain" (H39), is isolated in the factor analysis results.

As a group, the three headlines in this cluster report news of either dissidence or crime in foreign countries.

Cluster 11, "U.S. Victories in International Athletic Competition"

The cluster analysis separates the two sports items in this cluster from the other sports news, while the factor analysis groups all sports news into one category.

The two items in this cluster report news of international competition, unlike the other sports items, and emphasis is placed on U.S. victories. It is possible that the placement of "U.S." as the initial word in the headlines is related to the appeal of the headlines to the readers.

Cluster 12, "Economic Concerns, Especially Regarding Food"

This cluster corresponds to a combination of Factors 11 and 13, which themselves form one category in the four-factor solution of the reanalysis of Factor III.

All of the headlines in this cluster can be interpreted as having some relationship to economic concerns. Subsets of the clusters separate headlines referring to personal expenditures, especially for food, from broader economic concerns such as the influx of refugees, the world food outlook, and providing for the elderly.

Cluster 13, "Increasing Costs of Government; Fraud and Conflict"

This cluster contains elements of Factors 2 and 4, which are combined into one factor by certain of the factor solutions compared

in the reanalysis of Factor I.

Economic concerns are evident in this cluster, especially those related to government spending. Fraud and conflict also characterize the items in the cluster.

Subsets separate items related to state and national government news from items reporting local government news.

Cluster 14, "Regional(North American) Sports"

Sports reports from the U.S. and Canada are included in this cluster. As was noted previously, Clusters 14 and 11 together correspond to one general sports factor, Factor 15.

Cluster 15, "Low Readership Items"

The items in this cluster have in common their low predicted readership scores. None of the items achieves 10 percent predicted audience coverage.

The subsets of the cluster are somewhat more interpretable in terms of content. One contains routine reports of economic and government activities; another, news from Africa; and the third is made up of only one headline.

Cluster 16, "The Arts"

Cluster 16 corresponds closely to Factor 14, "Cultural, educational interests," but does not include the last two items in Factor 14 which report scientific information related to human development.

Cluster 16, therefore, is strictly concerned with the arts, while Factor 14 is not.

Subsets in the cluster separate items pertaining to literature

from items reporting presentations of classical music or art.

IV. RESULTS OF THE INCREMENTAL ANALYSES

Hypothesis 1 (p. 80) was tested when incremental analyses were applied to representative headlines from the 16 reader-interest categories developed by factor analysis, and to representative content from the 16 categories developed by cluster analysis.

It was determined that the set of 16 headlines representing the factors (highest-loading headlines, one from each factor) provides 85.7 percent predicted audience coverage, while the set of headlines representing the clusters (high-merging items, one from each cluster) achieves 85.0 percent predicted audience coverage.

Hypothesis 1, which suggests that 70 percent or better predicted audience coverage can be achieved through the use of empirical guidelines, was therefore confirmed.

A set of randomly selected items, one from each factor, achieves 85.0 percent predicted audience coverage, and a set of randomly selected headlines, one from each cluster, provides 84.3 percent predicted audience coverage. These results indicate that headlines other than the top-loading or high-merging ones can produce effective editorial mixes of content.

The predicted audience coverage achieved by empirical guidelines was subsequently compared with the predicted audience coverage provided by items selected at random from the list of 93, and with the predicted coverage achieved by an optimal mix of items.

A rough estimate of the amount of audience coverage provided

by randomly selected items was calculated by drawing four sets of 16 random items, determining the predicted audience coverage achieved by each set, and computing from these figures an estimated average of the predicted audience coverage provided by randomly selected items.

The computed average, 79.5 percent, falls below the predicted audience coverage achieved through the application of empirical guidelines.

A test of the apparent significance of the difference between the proportions of audience coverage indicated by random and empirical means was conducted, with the estimated random coverage of 79.5 percent as the standard against which the 85.0 percent coverage provided by the clusters was compared.

Since the binomial distribution approaches a normal curve when N is large, a z test of proportions is appropriate. In this test,

$$z = \frac{p_s - p_u}{\sqrt{p_u q_u / N}}$$

where p_s is the proportion being tested and p_u is the standard proportion and N is the sample size.

The computation of the z score for the proportion of audience coverage provided by the clusters follows:

$$z = \frac{.850 - .795}{\sqrt{(.795)(.205)/280}} = \frac{.055}{.024} = 2.29$$

For a one-tailed test, this score is apparently significant at the .0110 level, so the null hypothesis of no difference between

these proportions can apparently be rejected in favor of the hypothesis that the proportion achieved by empirical means is greater than the proportion achieved by chance.

An optimal mix of headlines was identified as a 13-item mix with 92.5 percent predicted audience coverage. Beyond 13 headlines, the addition of each new headline provides, at the most, a fraction of 1 percent audience coverage.

With the predicted audience coverage of the optimal mix as the standard proportion, p_u , the z score for the audience coverage achieved by the factors was calculated as follows:

$$z = \frac{.857 - .925}{(.925)(.075)/280} = \frac{-.068}{.0157} = 4.3229$$

For a one-tailed test, this score is apparently significant beyond the .0001 level, so the null hypothesis of no difference between these proportions can apparently be rejected in favor of the hypothesis that the proportion achieved by empirical means is less than the proportion achieved by the optimal mix.

Table 18 lists the various sets of headlines tested and the predicted audience coverage achieved by each.

The slight difference between the predicted audience coverage of content from the clusters and the predicted coverage of content from the factors is not sufficient to suggest that factor analysis is a more useful empirical classification technique. Hypothesis 2, which suggests the two empirical classification techniques are equally useful, was therefore confirmed.

To test the apparent significance of the difference between

TABLE 18. The Predicted Audience Coverage Achieved by Selected Sets of Headlines^a

Set of Headlines	Percent Predicted Audience Coverage
Highest-loading items, one from each factor	85.7
Random items, one from each factor	85.0
Highest-merging items, one from each cluster (selected from the highest-merging pair by a toss of a coin)	85.0
Random items, one from each cluster	84.3
Average of 4 sets of 16 items selected at random from the list of 93 headlines	79.5
Optimal mix of 13 items	92.5

^aThe predicted audience coverage of all 93 headlines is 95.0 percent.

these proportions, the predicted audience coverage achieved by items representing the factors was designated as the standard proportion, p_u , against which the predicted audience coverage achieved by content from the clusters, p_s , was compared.

The z score for p_s was calculated as follows:

$$z = \frac{.850 - .856}{\sqrt{(.856)(.144)/280}} = -.2857$$

In a two-tailed test, this score has an apparent significance level of about .1940, so the null hypothesis of no differences between these proportions apparently cannot be rejected.

V. RESULTS OF THE DISCRIMINANT ANALYSES

In general, both demographic and life-style variables are able to discriminate among levels of interest in the categories of content identified by the factor analysis. Hypothesis 3, which suggests that both kinds of background variables are able to distinguish among persons interested in different kinds of news, was therefore confirmed.

Summary tables (Tables 19-34), produced by the SPSS DISCRIMINANT program, present the variables that best discriminate among the levels of interest in the various reader-interest categories.

Those variables that produced an apparently significant change in Rao's V when entered in the analyses are included in the following profiles of persons interested in the different categories of news.

Category 1, "International; Negotiations; Important Decisions"

Overall, interest in this category is moderate. Increased interest, primarily from low to moderate, is found as socioeconomic scores go higher. Especially likely to indicate low interest are persons with socioeconomic scores of 0 to 29.

High ratings for this kind of news are most associated with persons who reported visiting an art gallery or museum, or attending a sporting event, and who are not members of a service organization.

Category 2, "Economic, Governing Conflicts, Problems"

Interest in this category is also generally moderate. Older persons with some college are most likely to express interest in this kind of news.

Also especially likely to indicate interest are persons who

TABLE 19. Summary Table from the Discriminant Analysis of Levels of Interest in Category 1^a

ACTION		VARS IN	WILKS' LAMBDA	SIG.	RAO'S V	SIG.	CHANGE IN V	SIG.	LABEL
STEP	ENTERED REMOVED								
1	B2	1	0.911148	0.0000	24.67	0.0000	24.67	0.0000	SES
2	L10	2	0.866711	0.0000	38.90	0.0000	14.23	0.0008	ART GALLERY OR MUSEUM
3	L2	3	0.845979	0.0000	45.12	0.0000	6.220	0.0446	ATTENDED SPORTS
4	L4	4	0.824277	0.0000	52.07	0.0000	6.947	0.0310	SERVICE ORGZN
5	B5	5	0.807814	0.0000	57.70	0.0000	5.635	0.0597	SEX
6	L19	6	0.792497	0.0000	63.41	0.0000	5.704	0.0577	NATIONAL NEWS
7	L17	7	0.782278	0.0000	67.07	0.0000	3.662	0.1602	READ NEWS MAGAZINE
8	L14	8	0.772657	0.0000	70.62	0.0000	3.551	0.1694	ENGAGED IN SPORTS
9	L11	9	0.763231	0.0000	74.34	0.0000	3.719	0.1557	TAKEN LESSONS IN ARTS
10	B4	10	0.755506	0.0000	77.28	0.0000	2.943	0.2296	EDUCATION
11	L18	11	0.747965	0.0000	80.09	0.0000	2.804	0.2460	LOCAL TV NEWS
12	L3	12	0.740119	0.0000	83.02	0.0000	2.932	0.2308	ENTERTAINED IN HOME
13	B3	13	0.733652	0.0000	85.74	0.0000	2.721	0.2566	AGE
14	L1	14	0.726661	0.0000	88.64	0.0000	2.898	0.2348	VOLUNTEER WORK

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL : CORRELATION	FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.24496	69.92	69.92	0.4435776	0	0.7266609	78.706	28	0.0000
2*	0.10538	30.08	100.00	0.3087662	1	0.9046635	24.697	13	0.0253

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 20. Summary Table from the Discriminant Analysis of Levels of Interest in Category 2^a

STEP	ACTION ENTERED	VAR IN REMOVED	WILKS' LAMBDA	SIG.	RAD'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B3		0.917324	0.0000	23.07	0.0000	23.07	0.0000	AGE
2	B4		0.842333	0.0000	45.92	0.0000	22.85	0.0000	EDUCATION
3	SCOPE		0.814508	0.0000	55.56	0.0000	9.635	0.0081	SCOPE OF ACTIVITIES
4	L15		0.791353	0.0000	63.83	0.0000	8.279	0.0159	VISITED NEIGHBORS
5	L2		0.770322	0.0000	71.45	0.0000	7.615	0.0222	ATTENDED SPORTS
6	L17		0.754261	0.0000	77.55	0.0000	6.102	0.0473	READ NEWS MAGAZINE
7	B2		0.740000	0.0000	83.25	0.0000	5.699	0.0579	SEX
8	L4		0.727236	0.0000	88.45	0.0000	5.204	0.0741	SERVICE ORGZN
9	L8		0.714868	0.0000	93.72	0.0000	5.270	0.0717	CONCERT OR PLAY
10	L10		0.701934	0.0000	99.34	0.0000	5.610	0.0605	ART GALLERY OR MUSEUM
11	L5		0.688872	0.0000	105.3	0.0000	5.946	0.0512	POLITICAL INVOLVEMENT
12	L1		0.673871	0.0000	112.3	0.0000	7.005	0.0301	VOLUNTEER WORK
13	L7		0.664595	0.0000	116.6	0.0000	4.324	0.1151	MOVIES
14	L16		0.657300	0.0000	120.2	0.0000	3.554	0.1692	VISITED FRIENDS

CANONICAL DISCRIMINANT FUNCTIONS				
FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION
1*	0.29031	61.85	61.85	0.4743332
2*	0.17908	38.15	100.00	0.3897177

* MARKS THE	2	CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.
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	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.6572999	104.69	28	0.0000
2*	0.8481201	41.101	13	0.0001

^aSignificance levels reported indicate apparent significance.

TABLE 21. Summary Table from the Discriminant Analysis of Levels of Interest in Category 3^a

STEP	ACTION ENTERED	VAR IN	WILKS' LAMBDA	SIG.	ROOTS V	SIG.	CHANGE IN V	SIG.	LABEL
1	B4	1	0.911467	0.0000	24.77	0.0000	24.77	0.0000	EDUCATION
2	B3	2	0.881527	0.0000	33.59	0.0000	8.818	0.0122	AGE
3	L13	3	0.863587	0.0000	39.44	0.0000	5.857	0.0535	COLLEGE COURSE
4	L3	4	0.846109	0.0000	44.86	0.0000	5.414	0.0667	ENTERTAINED IN HOME
5	L20	5	0.828197	0.0000	50.91	0.0000	6.047	0.0486	READ NEWSPAPER
6	L4	6	0.815649	0.0000	55.04	0.0000	4.133	0.1266	SERVICE ORGZN
7	L7	7	0.806456	0.0000	58.37	0.0000	3.332	0.1890	MOVIES
8	L14	8	0.799434	0.0000	60.88	0.0000	2.506	0.2856	ENGAGED IN SPORTS
9	B5	9	0.792471	0.0000	63.28	0.0000	2.406	0.3003	SEX
10	L1	10	0.785792	0.0000	65.71	0.0000	2.428	0.2970	VOLUNTEER WORK

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	BEFORE FUNCTION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.16988	65.93	65.93	0.3810678	0	1	0.7857923	60.386	20	0.0000
2*	0.08780	34.07	100.00	0.2841057			0.9192840	21.082	9	0.0123

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 22. Summary Table from the Discriminant Analysis of Levels of Interest in Category 4^a

STEP	ACTION ENTERED REMOVED	VARS IN	WILKS' LAMBDA	SIG.	RAO'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B3	1	0.910440	0.0000	25.28	0.0000	25.28	0.0000	AGE
2	L16	2	0.871391	0.0000	36.80	0.0000	11.52	0.0031	VISITED FRIENDS
3	L5	3	0.847285	0.0000	44.83	0.0000	8.029	0.0181	POLITICAL INVOLVEMENT
4	L10	4	0.825522	0.0000	52.24	0.0000	7.406	0.0246	ART GALLERY OR MUSEUM
5	L4	5	0.807476	0.0000	58.80	0.0000	6.563	0.0376	SERVICE ORGN
6	B2	6	0.787299	0.0000	66.25	0.0000	7.446	0.0242	SES
7	L19	7	0.771136	0.0000	72.52	0.0000	6.273	0.0434	NATIONAL NEWS
8	B4	8	0.758361	0.0000	77.25	0.0000	4.727	0.0941	EDUCATION
9	L8	9	0.748506	0.0000	81.27	0.0000	4.019	0.1341	CUNCERT OR PLAY
10	L2	10	0.740985	0.0000	84.24	0.0000	2.977	0.2258	ATTENDED SPORTS
11	L9	11	0.734048	0.0000	87.09	0.0000	2.850	0.2405	PURCHASED BOOKS
12	L6	12	0.726058	0.0000	90.47	0.0000	3.373	0.1852	HOME PROJECT
13	L13	13	0.716853	0.0000	94.22	0.0000	3.752	0.1532	COLLEGE COURSE

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION : AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.25561	69.72	69.72	0.4511892	0	83.554	26	0.0000
2*	0.11101	30.28	100.00	0.3160531	1	26.422	12	0.0094

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 23. Summary Table from the Discriminant Analysis of Levels of Interest in Category 5^a

STEP	ACTION ENTERED	VARS IN	WILKS' LAMBDA	SIG.	RAO'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B4	1	0.927316	0.0001	19.91	0.0000	19.91	0.0000	EDUCATION
2	B1	2	0.870281	0.0000	37.16	0.0000	17.25	0.0002	MARITAL STATUS
3	L20	3	0.835256	0.0000	49.13	0.0000	11.97	0.0025	READ NEWSPAPER
4	B5	4	0.808723	0.0000	58.88	0.0000	9.750	0.0076	SEX
5	L2	5	0.782760	0.0000	68.56	0.0000	9.683	0.0079	ATTENDED SPORTS
6	L6	6	0.760631	0.0000	76.30	0.0000	7.740	0.0209	HOME PROJECT
7	L9	7	0.743698	0.0000	83.47	0.0000	7.168	0.0278	PURCHASED BOOKS
8	L5	8	0.725550	0.0000	90.33	0.0000	6.864	0.0323	POLITICAL INVOLVEMENT
9	L4	9	0.702018	0.0000	100.4	0.0000	10.07	0.0065	SERVICE ORGZN
10	L15	10	0.685516	0.0000	107.5	0.0000	7.146	0.0281	VISITED NEIGHBORS
11	L8	11	0.674113	0.0000	112.7	0.0000	5.133	0.0768	CONCERT OR PLAY
12	L7	12	0.667546	0.0000	115.9	0.0000	3.262	0.1957	MOVIES
13	B3	13	0.659875	0.0000	119.3	0.0000	3.333	0.1889	AGE
14	L17	14	0.653319	0.0000	122.7	0.0000	3.387	0.1838	READ NEWS MAGAZINE

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION : AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.34439	71.31	71.31	0.5061324	0.6533193	105.36	28	0.0000
2*	0.13854	28.69	100.00	0.3488294	0.8783181	32.112	13	0.0023

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 24. Summary Table from the Discriminant Analysis of Levels of Interest in Category 6^a

STEP	ACTION ENTERED REMOVED	VAR IN	WILKS' LAMBDA	SIG.	RAD'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B1	1	0.924936	0.0000	20.86	0.0000	20.86	0.0000	MARITAL STATUS
2	B5	2	0.868978	0.0000	38.58	0.0000	17.72	0.0001	SEX
3	B4	3	0.820567	0.0000	55.36	0.0000	16.78	0.0002	EDUCATION
4	L20	4	0.781025	0.0000	70.40	0.0000	15.04	0.0005	READ NEWSPAPER
5	L10	5	0.760054	0.0000	78.66	0.0000	8.256	0.0161	ART GALLERY OR MUSEUM
6	L8	6	0.744287	0.0000	85.09	0.0000	6.435	0.0401	CONCERT OR PLAY
7	L19	7	0.729893	0.0000	90.41	0.0000	5.313	0.0702	NATIONAL NEWS
8	L14	8	0.714780	0.0000	96.26	0.0000	5.852	0.0536	ENGAGED IN SPORTS
9	L2	9	0.701529	0.0000	101.5	0.0000	5.266	0.0719	ATTENDED SPORTS
10	L15	10	0.692315	0.0000	105.7	0.0000	4.147	0.1257	VISITED NEIGHBORS
11	L9	11	0.682868	0.0000	110.0	0.0000	4.344	0.1139	PURCHASED BOOKS
12	L6	12	0.674671	0.0000	113.5	0.0000	3.508	0.1731	HOME PROJECT
13	L1	13	0.668154	0.0000	116.6	0.0000	3.066	0.2159	VOLUNTEER WORK
14	L17	14	0.662192	0.0000	119.6	0.0000	3.048	0.2178	READ NEWS MAGAZINE
15	L7	15	0.656292	0.0000	122.3	0.0000	2.645	0.2665	MOVIES
16		L9	0.661569	0.0000	119.7	0.0000	-2.565	0.2773	PURCHASED BOOKS
17	B3	15	0.655699	0.0000	122.8	0.0000	3.049	0.2178	AGE

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	BEFORE FUNCTION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.33702	70.55	70.55	0.5020641	0	1	0.6556988	105.51	30	0.0000
2*	0.14066	29.45	100.00	0.3511655			0.8766828	32.902	14	0.0030

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 25. Summary Table from the Discriminant Analysis of Levels of Interest in Category 7^a

STEP	ACTION ENTERED	VAR'S IN	WILKS' LAMBDA	SIG.	RAU'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	L20	1	0.926399	0.0001	20.18	0.0000	20.18	0.0000	READ NEWSPAPER
2	U5	2	0.866791	0.0000	38.76	0.0000	18.58	0.0001	SEX
3	B2	3	0.834474	0.0000	50.01	0.0000	11.25	0.0036	SES
4	L4	4	0.809477	0.0000	58.14	0.0000	8.130	0.0172	SERVICE URGZN
5	L3	5	0.789600	0.0000	65.50	0.0000	7.360	0.0252	ENTERTAINED IN HOME
6	B1	6	0.776895	0.0000	70.54	0.0000	5.037	0.0806	MARITAL STATUS
7	L15	7	0.765441	0.0000	75.13	0.0000	4.595	0.1005	VISITED NEIGHBORS
8	L17	8	0.752327	0.0000	80.57	0.0000	5.434	0.0661	READ NEWS MAGAZINE
9	B4	9	0.741064	0.0000	84.60	0.0000	4.035	0.1330	EDUCATION
10	L11	10	0.731656	0.0000	88.61	0.0000	4.011	0.1346	TAKEN LESSONS IN ARTS
11	L2	11	0.723933	0.0000	91.79	0.0000	3.176	0.2044	ATTENDED SPORTS
12	L14	12	0.714522	0.0000	95.36	0.0000	3.573	0.1675	ENGAGED IN SPORTS
13	L19	13	0.708558	0.0000	97.69	0.0000	2.335	0.3112	NATIONAL NEWS

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION : AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	U.F.	SIGNIFICANCE	
1*	0.29377	76.38	76.38	0.4765107	0	0.7085581	85.442	26	0.0000
2*	0.09086	23.62	100.00	0.2886032	1	0.9167082	21.568	12	0.0427

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 26. Summary Table from the Discriminant Analysis of Levels of Interest in Category 8^a

STEP	ACTION ENTERED	VARS IN	WILKS' LAMBDA	SIG.	KAP'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	L20	1	0.950407	0.0016	13.20	0.0014	13.20	0.0014	READ NEWSPAPER
2	B5	2	0.907786	0.0001	25.64	0.0000	12.44	0.0020	SEX
3	L8	3	0.866493	0.0000	38.51	0.0000	12.87	0.0016	CONCENT OR PLAY
4	L15	4	0.837497	0.0000	48.48	0.0000	9.967	0.0069	VISITED NEIGHBORS
5	L9	5	0.816974	0.0000	55.93	0.0000	7.459	0.0240	PURCHASED BOOKS
6	L2	6	0.799364	0.0000	62.66	0.0000	6.726	0.0346	ATTENDED SPORTS
7	L11	7	0.780393	0.0000	68.95	0.0000	6.286	0.0432	TAKEN LESSONS IN ARTS
8	L5	8	0.766382	0.0000	74.14	0.0000	5.188	0.0747	POLITICAL INVOLVEMENT
9	B1	9	0.755017	0.0000	78.63	0.0000	4.497	0.1056	MARITAL STATUS
10	L6	10	0.743940	0.0000	82.64	0.0000	4.003	0.1351	HOME PROJECT
11	B4	11	0.734602	0.0000	86.24	0.0000	3.606	0.1648	EDUCATION
12	L4	12	0.727594	0.0000	89.32	0.0000	3.077	0.2147	SERVICE ORGZN
13	L16	13	0.721408	0.0000	92.03	0.0000	2.711	0.2578	VISITED FRIENDS

CANONICAL DISCRIMINANT FUNCTIONS						
FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	WILKS' LAMBDA	CHI-SQUARED
1*	0.28508	78.37	78.37	0.4709981	0.7214076	80.658
2*	0.07867	21.63	100.00	0.2700601	0.9270675	18.705

* MARKS THE	2	CANONICAL DISCRIMINANT FUNCTION(S) IC BE USED IN THE REMAINING ANALYSIS.	D.F.	SIGNIFICANCE
			26	C-GCCC
			12	0.0959

^aSignificance levels reported indicate apparent significance.

TABLE 27. Summary Table from the Discriminant Analysis of Levels of Interest in Category 9^a

STEP	ACTION ENTERED	VAR IN	WILKS' LAMBDA	SIG.	RAO'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B5	1	0.851350	0.0000	44.00	0.0000	44.00	0.0000	SEX
2	L10	2	0.836384	0.0000	49.30	0.0000	5.296	0.0708	ART GALLERY OR MUSEUM
3	L15	3	0.824753	0.0000	53.49	0.0000	4.190	0.1231	VISITED NEIGHBOURS
4	SCOPE	4	0.813218	0.0000	57.07	0.0000	3.580	0.1669	SCOPE OF ACTIVITIES
5	L20	5	0.805549	0.0000	59.55	0.0000	2.887	0.2362	REAL NEWSPAPER
6	L7	6	0.797121	0.0000	62.89	0.0000	2.538	0.2301	MOVIES
7	L3	7	0.788512	0.0000	65.78	0.0000	2.891	0.2356	ENTERTAINED IN HOME
8	B4	8	0.779602	0.0000	68.56	0.0000	3.180	0.2039	EDUCATION
9	L8	9	0.772343	0.0000	71.55	0.0000	2.591	0.2737	CONCERT OR PLAY

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	: AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	U.F.	SIGNIFICANCE
1*	0.23862	84.04	84.04	0.4389159	: 0	0.7723426	64.065	18	C.CCCC
2*	0.04531	15.96	100.00	0.2082410	: 1	0.9566357	10.994	8	0.2020

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 28. Summary Table from the Discriminant Analysis of Levels of Interest in Category 10^a

STEP	ACTION ENTERED	VAR IN	WILKS' LAMBDA	SIG.	RAO'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B1	1	0.943263	0.0005	15.46	0.0004	15.46	0.0004	MARITAL STATUS
2	B5	2	0.904278	0.0000	27.19	0.0000	11.73	0.0028	SEX
3	L7	3	0.884311	0.0000	33.50	0.0000	6.312	0.0426	MOVIES
4	B4	4	0.866368	0.0000	39.02	0.0000	5.513	0.0635	EDUCATION
5	L15	5	0.855264	0.0000	42.66	0.0000	3.639	0.1621	VISITED NEIGHBORS
6	L14	6	0.841594	0.0000	46.99	0.0000	4.330	0.1148	ENGAGED IN SPORTS
7	L1	7	0.828435	0.0000	51.37	0.0000	4.386	0.1116	VOLUNTEER WORK
8	L20	8	0.818267	0.0000	54.74	0.0000	3.369	0.1855	READ NEWSPAPER
9	L5	9	0.809418	0.0000	57.72	0.0000	2.981	0.2253	POLITICAL INVOLVEMENT
10	B2	10	0.801979	0.0000	60.35	0.0000	2.634	0.2680	SES
11		9	0.807376	0.0000	58.46	0.0000	-1.895	0.3877	EDUCATION
12	L16	10	0.800712	0.0000	60.82	0.0000	2.357	0.3077	VISITED FRIENDS
13	SCOPE	11	0.792648	0.0000	63.64	0.0000	2.823	0.2438	SCOPE OF ACTIVITIES
14	B4	12	0.784217	0.0000	66.66	0.0000	3.020	0.2209	EDUCATION

CANONICAL DISCRIMINANT FUNCTIONS					
FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL : CORRELATION : FUNCTION	AFTER WILKS' LAMBDA
1*	0.16195	62.44	62.44	0.3733295	0.7842167
2*	0.09743	37.56	100.00	0.2979637	0.9112176
* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.					

	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	61.132	24	0.0000
2*	23.383	11	0.0156

^aSignificance levels reported indicate apparent significance.

TABLE 29. Summary Table from the Discriminant Analysis of Levels of Interest in Category 11^a

STEP	ACTION ENTERED	VAR IN	WILKS' LAMBDA	SIG.	RAU'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B1	1	0.931662	0.0001	18.63	0.0001	18.63	0.0001	MARITAL STATUS
2	B2	2	0.898856	0.0000	28.14	0.0000	9.505	0.0086	SES
3	L10	3	0.872283	0.0000	36.56	0.0000	8.429	0.0148	ART GALLERY OR MUSEUM
4	B5	4	0.846138	0.0000	45.23	0.0000	8.662	0.0132	SEX
5	B3	5	0.820127	0.0000	54.36	0.0000	9.138	0.0104	AGE
6	L2	6	0.792971	0.0000	63.36	0.0000	8.994	0.0111	ATTENDED SPORTS
7	L15	7	0.780879	0.0000	67.84	0.0000	4.485	0.1062	VISITED NEIGHBORS
8	L3	8	0.770512	0.0000	71.50	0.0000	3.656	0.1608	ENTERTAINED IN HOME
9	L14	9	0.758454	0.0000	75.93	0.0000	4.431	0.1091	ENGAGED IN SPORTS
10	L11	10	0.746310	0.0000	80.57	0.0000	4.636	0.0985	TAKEN LESSONS IN ARTS
11	L6	11	0.735886	0.0000	84.63	0.0000	4.069	0.1307	HONE PROJECT
12	L5	12	0.728466	0.0000	87.54	0.0000	2.901	0.2344	POLITICAL INVOLVEMENT

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	: AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.21201	61.52	61.52	0.4182376	: 0	0.7284658	78.728	24	0.0000
2*	0.13262	38.48	100.00	0.3421898	: 1	0.8829062	30.947	11	0.0011

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 30. Summary Table from the Discriminant Analysis of Levels of Interest in Category 12^a

STEP	ACTION ENTERED REMOVED	VAR IN	WILKS' LAMBDA	SIG.	RAO'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B5	1	0.923585	0.0000	21.26	0.0000	21.26	0.0000	SEX
2	L3	2	0.871949	0.0000	37.30	0.0000	16.04	0.0003	ENTERTAINED IN HOME
3	B1	3	0.848856	0.0000	45.03	0.0000	7.725	0.0210	MARITAL STATUS
4	B2	4	0.828797	0.0000	51.54	0.0000	6.519	0.0384	SES
5	L16	5	0.812022	0.0000	57.72	0.0000	6.173	0.0457	VISITED FRIENDS
6	L10	6	0.802748	0.0000	61.04	0.0000	3.327	0.1895	ART GALLERY OR MUSEUM
7	L15	7	0.794183	0.0000	64.36	0.0000	3.312	0.1909	VISITED NEIGHBORS
8	B3	8	0.784783	0.0000	67.72	0.0000	3.364	0.1860	AGE
9	L4	9	0.778149	0.0000	70.24	0.0000	2.522	0.2834	SERVICE ORGZN

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	: AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.21968	80.38	80.38	0.4243992	: 0	0.7781494	63.462	18	0.0000
2*	0.05363	19.62	100.00	0.2256203	: 1	0.9490955	13.218	8	0.1046

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 31. Summary Table from the Discriminant Analysis of Levels of Interest in Category 13^a

STEP	ACTION ENTERED	VAR IN	WILKS' LAMBDA	SIG.	RAD'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B3	1	0.941529	0.0004	16.02	0.0003	16.02	0.0003	AGE
2	B5	2	0.905526	0.0000	26.91	0.0000	10.89	0.0043	SEX
3	B4	3	0.880010	0.0000	34.55	0.0000	7.637	0.0220	EDUCATION
4	L2	4	0.863831	0.0000	39.49	0.0000	4.944	0.0844	ATTENDED SPORTS
5	L6	5	0.845795	0.0000	45.40	0.0000	5.907	0.0522	HOME PROJECT
6	L11	6	0.829583	0.0000	50.72	0.0000	5.319	0.0700	TAKEN LESSONS IN ARTS
7	L8	7	0.818205	0.0000	54.76	0.0000	4.043	0.1325	CONCERT OR PLAY
8	SCOPE	8	0.806250	0.0000	59.10	0.0000	4.342	0.1141	SCOPE OF ACTIVITIES
9	L15	9	0.794077	0.0000	63.34	0.0000	4.238	0.1202	VISITED NEIGHBORS
10	L7	10	0.783417	0.0000	67.21	0.0000	3.866	0.1447	MOVIES
11	L10	11	0.776163	0.0000	69.89	0.0000	2.679	0.2619	ART GALLERY OR MUSEUM
12	L20	12	0.768832	0.0000	72.72	0.0000	2.829	0.2430	READ NEWSPAPER

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	: AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.17301	61.39	61.39	0.3840508	: 0	0.7688320	66.378	24	0.0000
2*	0.10883	38.61	100.00	0.3132883	: 1	0.9018505	26.085	11	0.0063

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

significance levels reported indicate apparent significance.

TABLE 32. Summary Table from the Discriminant Analysis of Levels of Interest in Category 14^a

STEP	ACTION ENTERED	REMOVED	VARS IN	WILKS' LAMBDA	SIG.	RAO'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	L10		1	0.879836	0.0000	34.83	0.0000	34.83	0.0000	ART GALLERY OR MUSEUM
2	B5		2	0.830862	0.0000	51.85	0.0000	17.02	0.0002	SEX
3	B4		3	0.788923	0.0000	67.65	0.0000	15.81	0.0004	EDUCATION
4	L1		4	0.749322	0.0000	83.47	0.0000	15.82	0.0004	VOLUNTEER WORK
5	L14		5	0.716572	0.0000	95.47	0.0000	12.00	0.0025	ENGAGED IN SPORTS
6	L17		6	0.688106	0.0000	107.2	0.0000	11.71	0.0029	READ NEWS MAGAZINE
7	L19		7	0.674025	0.0000	113.2	0.0000	6.032	0.0490	NATIONAL NEWS
8	B3		8	0.665062	0.0000	117.7	0.0000	4.460	0.1075	AGE
9	L8		9	0.656275	0.0000	121.7	0.0000	4.022	0.1339	CONCERT OR PLAY
10	L5		10	0.649965	0.0000	124.7	0.0000	3.003	0.2228	POLITICAL INVOLVEMENT

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL : CORRELATION : FUNCTION	AFTER WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.34576	70.71	70.71	0.5068794	0	107.92	20	0.0000
2*	0.14325	29.29	100.00	0.3539796	1	33.536	9	0.0001

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

Significance levels reported indicate apparent significance.

TABLE 33. Summary Table from the Discriminant Analysis of Levels of Interest in Category 15^a

STEP	ACTION ENTERED	VARS IN	WILKS' LAMBDA	SIG.	RAO'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B5	1	0.945676	0.0008	14.59	0.0007	14.59	0.0007	SEX
2	L20	2	0.900116	0.0000	28.07	0.0000	13.48	0.0012	READ NEWSPAPER
3	B2	3	0.876011	0.0000	35.79	0.0000	7.722	0.0210	SES
4	L8	4	0.858320	0.0000	41.55	0.0000	5.754	0.0563	CONCERT OR PLAY
5	L12	5	0.840189	0.0000	47.58	0.0000	6.028	0.0491	PERFORMED
6	L1	6	0.825418	0.0000	52.87	0.0000	5.289	0.0710	VOLUNTEER WORK
7	L2	7	0.809031	0.0000	58.98	0.0000	6.113	0.0471	ATTENDED SPORTS
8	L5	8	0.797122	0.0000	63.24	0.0000	4.258	0.1189	POLITICAL INVOLVEMENT
9	L13	9	0.787130	0.0000	67.18	0.0000	3.546	0.1390	COLLEGE COURSE
10	L16	10	0.777926	0.0000	70.70	0.0000	3.515	0.1724	VISITED FRIENDS
11	L3	11	0.765749	0.0000	75.16	0.0000	4.462	0.1074	ENTERTAINED IN HOME
12	L6	12	0.751355	0.0000	80.41	0.0000	5.254	0.0723	HONE PROJECT

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION : AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.26183	82.70	82.70	0.4555231	0.7513549	71.040	24	0.0000
2*	0.05476	17.30	100.00	0.2278522	0.9480834	13.248	11	0.2774

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

TABLE 34. Summary Table from the Discriminant Analysis of Levels of Interest in Category 16^a

STEP	ACTION ENTERED	VAR IN	WILKS' LAMBDA	SIG.	RAU'S V	SIG.	CHANGE IN V	SIG.	LABEL
1	B4	1	0.889270	0.0000	31.75	0.0000	31.75	0.0000	EDUCATION
2	L9	2	0.850772	0.0000	44.20	0.0000	12.45	0.0020	PURCHASED BOOKS
3	L5	3	0.823562	0.0000	53.24	0.0000	9.034	0.0109	POLITICAL INVOLVEMENT
4	L10	4	0.807852	0.0000	58.87	0.0000	5.629	0.0599	ART GALLERY OR MUSEUM
5	B2	5	0.794414	0.0000	64.02	0.0000	5.154	0.0760	SES
6	L8	6	0.783566	0.0000	68.04	0.0000	4.020	0.1340	CONCERT OR PLAY
7	B1	7	0.776255	0.0000	70.63	0.0000	2.586	0.2744	MARITAL STATUS
8	L7	8	0.768529	0.0000	73.69	0.0000	3.063	0.2162	MOVIES
9	L1	9	0.761998	0.0000	76.13	0.0000	2.439	0.2954	VOLUNTEER WORK

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	BEFORE FUNCTION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.24145	80.87	80.87	0.4410130	:	0	0.7619976	68.225	18	0.0000
2*	0.05710	19.13	100.00	0.2324124	:	1	0.9459845	13.938	8	0.0834

* MARKS THE 2 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

^aSignificance levels reported indicate apparent significance.

participate in a wide range of leisure activities, and those who reported attending a sporting event or reading a news magazine.

"Visiting neighbors or relatives" is also an apparently significant discriminating variable, but no direction of interest differences can be observed in the crosstabulation tables.

Category 3, "Scandal In, or Protests Against, Governments"

Older persons with a college degree who reported reading the newspaper are most likely to be highly interested in this kind of news. Once again, overall interest in the category is moderate.

Category 4, "More Routine Reports of Government, Economic Activities"

Generally, interest in this category is low to moderate. Increased interest, primarily from low to moderate, is found among persons over 50, while those under 50, and particularly persons under 30, are likely to indicate low interest.

Increased interest, from low to moderate or high, is also found among persons who: (1) reported watching national news on TV; (2) have high socioeconomic scores; (3) worked in a political campaign or for a candidate or issue; (4) are not members of a service organization; (5) have attended an art gallery or museum recently; and (6) have not recently visited friends other than neighbors or relatives.

Category 5, "Routine Reports of Accidents (Usually Fatal), Crime and Criminal Proceedings"

Overall interest in this category is moderate. A number of background variables discriminate among the levels of interest in this kind of news.

Persons most likely to express high interest are those who:

(1) have a high school education or less; (2) are married; (3) reported reading a newspaper; (4) are women; (5) reported attending a sporting event; (6) have not purchased books lately; (7) are not members of a service organization; and (8) reported visiting neighbors or relatives.

Increased interest, from low to moderate, is observed among persons who have participated in a home improvement project, and those who have worked in a political campaign, or for a candidate or issue.

Category 6, "Rescue from Life-threatening Situations; Help for Those in Distress"

Interest in this category is generally moderate to high. Persons most likely to be highly interested in this news are those who are married, are women, have a high school education or less, and reported newspaper readership.

Those interested in this category are also not likely to have visited an art gallery or museum, or to have been to a concert or play recently.

Category 7, "Disasters; More Dramatic Reports of Accidents, Crime, and Other Life-threatening Situations"

High to moderate interest is found, overall, for this category of news. Persons most likely to express high interest in this category are those who reported reading a newspaper, women, persons with lower levels of socioeconomic status, and persons who entertain in their homes.

Category 8, "Murder, Attempted Murder; Criminal Proceedings"

Generally, interest is moderate for this kind of news. Again, persons who reported reading a newspaper and women are among those most likely to have high interest in this category. Also expressing high interest are those who have visited neighbors or relatives or attended a sporting event. Readers of this kind of news are not likely to have been to a concert or play recently, or to have taken lessons in art, or to have purchased books.

Category 9, "Self-improvement"

Overall, there is moderate interest in this category, and just one variable, sex, is an apparently significant discriminator of interest. Women are more likely than men to express high interest in these items.

Category 10, "Children, Parenting, Budgeting (Family Concerns)"

Interest in this kind of news is generally moderate to high. Marital status, followed by sex, best discriminate among levels of interest in this category. Married women are most likely to have high interest.

Movie attendance is also apparently significant as a discriminating variable for this category. Persons who recently viewed a movie are more likely than those who have not to express high interest.

Category 11, "Concern About Food Costs, Supply, and Costs to the Consumer in General"

Overall moderate interest is found for the content in this category. Married persons with a middle-level socioeconomic status

are most likely to be highly interested in this kind of news. Also likely to be highly interested are women, older persons, and those who have visited an art gallery or museum recently.

Attendance at a sporting event is also an apparently significant discriminating activity, but no clear direction of differences is indicated by the crosstabulation tables.

Category 12. "Information (New) About Leading Medical Problems"

High interest, overall, is found for the items in this category. Those most likely to have high interest are women, married persons, persons with middle-level socioeconomic status, and persons who have entertained in their homes or have visited friends recently.

Category 13, "Issues Related to the Elderly"

In general, there is moderate to high interest in this category. Older persons, women, and those with some college are most likely to express high interest in this kind of news.

Category 14, "Cultural, Educational Interests"

Moderate interest is found for this group of items. Persons who have visited an art gallery or museum recently are very likely to be highly interested in this kind of news. Women, persons with higher levels of education, and those who reported watching national network news are also likely to be highly interested in this content.

Increased interest, from low to moderate, is found among persons who have done volunteer work, or who reported reading a news magazine.

Engaging in sports is also an apparently significant discriminating activity, but no direction of differences is indicated in the

crosstabulation tables.

Category 15, "Sports"

Interest is generally low for this category. Men are most likely to be interested in this kind of news. Increased interest, from low to moderate or high, is found among persons with socioeconomic scores of 50 or higher, and among those who reported attending a sporting event.

Category 16, "Science: the Earth and Universe"

Moderate to high interest is found, overall, for these items. Persons with higher levels of education who have purchased books recently are most likely to be highly interested in this news.

Tables which crosstabulate the significant discriminating variables with levels of interest in the categories are found in Appendix D.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study produced two empirical classifications of newspaper content based on reader-interest ratings of 93 editorial items.

The 0 to 100 title-rating technique was employed to measure interest in the items. Since this technique has been validated as a predictor of readership, the empirical categories of news developed represent content that will likely be read by various segments of the population measured.

Incremental analyses determined that the predicted audience coverage achieved by various mixes of content from the empirical categories ranges from 84.3 percent to 85.7 percent. Eighty-five percent predicted audience coverage is apparently significantly better than the average 79.5 percent coverage achieved by random selections of items.

An optimal mix of headlines, however, provides 92.5 percent predicted audience coverage, which is apparently significantly better than the predicted coverage achieved by the empirical mixes.

Factor analysis procedures were applied to the data to develop one of the empirical classifications. Initially, six stable factors were extracted. Next, the long and complex factors were in turn factor analyzed to achieve a finer breakdown of the classification.

Ultimately, 16 final factors of reader interest were identified. The method of re-factoring long initial factors was justified by

incremental analyses which found that subsets of items within a long factor attract different readers rather than the same people.

A further justification for re-factoring factors is the interpretability of the new factors produced.

Complete linkage cluster analysis was used to develop the other empirical classification. As in the factor analysis, 16 reader-interest categories were identified.

Compared to the factor analysis, complete linkage cluster analysis proved to be a much more straightforward procedure. A review of the distances reported for the clusters, and an examination of the cluster map provided sufficient information for the identification of the interpretable clusters in the data set.

Although the categories of news developed by the two methods correspond in many ways, the composition of the 16 factors is not the same as the composition of the 16 clusters.

The predicted audience coverage provided by representative content from the factors (highest-loading items, one from each factor) and the predicted coverage provided by representative content from the clusters (highest-merging items, one from each cluster) are almost identical (85.7 percent and 85.0 percent, respectively).

It was also determined that random mixes of content representing the factors and random mixes from the clusters provide nearly the same predicted coverage as the mixes of top-loading or high-merging items.

Demographic and life-style characteristics of the readers were found to be related to levels of interest in the various categories

of news developed by the factor analysis. Overall, the five demographic variables proved to be the dominant discriminators. Leisure-activity variables most related to reader interests are the media exposure items, particularly newspaper readership.

I. CONCLUSIONS

Various conclusions are evident from the results of this research.

The superiority of the empirical guidelines for the selection of editorial items over the random selection of items indicates the validity of the empirical classification of reader interests for identifying the interests of a wide audience.

The validity of empirical classification is also evidenced by the interpretability of the reader-interest categories produced. Overall, these categories are highly interpretable in terms of the apparent substance of the headlines belonging to them.

With an empirical classification of reader interests, then, a newspaper editor could achieve mixes of content likely to reach readers now being missed. Furthermore, the background characteristics associated with interest in the various empirical categories of news would be of interest to advertisers as well as to editors.

In terms of the methodology for the empirical classification, it is concluded that the complete linkage cluster analysis procedure is preferred over the factor analysis procedures applied and compared in this study.

It has been observed that the complete linkage cluster analysis

is more straightforward and easier to apply than the factor analysis procedures. Since the results of this study indicate no apparent difference between the predicted audience coverage achieved by content representing the factors and the predicted coverage provided by content representing the clusters, there is no objective reason to believe the more rigorous and complex factor procedures are necessary to reveal reader-defined categories of news.

Future research will have to determine whether the categories developed by the cluster analysis or those produced by the factor analysis are closer to actual, replicable categories of reader interest.

The testing of the re-factoring procedure in this study suggests that when factor analysis is desired, for this kind of data or similar data, and the number of variables is fairly large, the method of re-factoring long initial factors yields a final set of concise, interpretable factors which cannot be achieved by initial analyses of various numbers of factors.

Some of the research efforts which might follow from this research include:

1. The categories developed could be strengthened, verified or rejected by future studies measuring interest in more and/or different headlines. As noted, this kind of research could also indicate the relative strength of categories produced by the cluster analysis and those yielded by factor analysis.

2. Reader-interest categories could be identified from data gathered from a random sample, so that results could be generalized to an entire newspaper audience. In practice, periodic replications would then be necessary to maintain a workable editorial position.

The generalizability of the findings of the present study is limited by (1) the nonrandom sample of subjects, (2) the range of the headline list, and (3) the time period in which respondents were interviewed.

3. The methods indicated by this research could be applied as well to TV viewing preferences.

4. The relationship of more and/or different background variables with interest in different kinds of news could be investigated.

5. The methodology could be used to investigate the agenda-setting hypothesis by focusing on the relationship between the empirical categories of news and reports of media exposure. Uses and gratifications researchers could also employ this methodology and further investigate the relationship between the empirical reader-interest categories and the life style, needs and gratifications reported by respondents.

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LIST OF REFERENCES

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APPENDICES

APPENDIX A

INTERVIEW MATERIALS

College of Communications

THE UNIVERSITY OF TENNESSEE, KNOXVILLE, TENNESSEE 37916

Graduate Studies and
Communications Research Center
(615) 974-6851

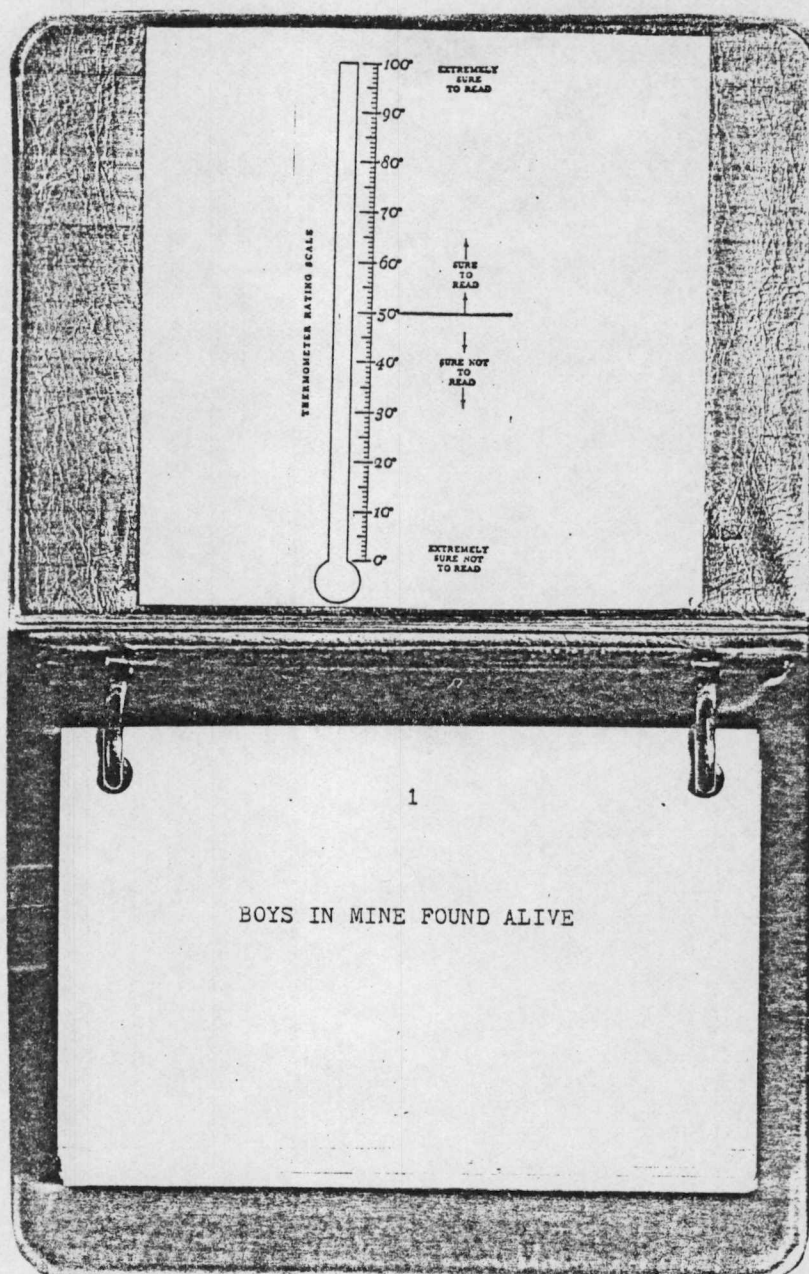
July 23, 1980

This survey is authorized by The University of Tennessee.
Participation is voluntary, and completion of the questionnaire
constitutes informed consent.

Ellen M. Bennett
(Project Director)

Ellen M. Bennett

Room 98, Communications
974-6651



READER INTEREST SURVEY--SPRING 1980

(INTRODUCTION)	INTERVIEW NO. CARD NO.	__ __ __ (C1,3) 1 (C4)
"Hello. My name is _____ and I'm from the University's Communications Research Center. We're conducting a survey to find out what kinds of articles people like to read in the newspapers.		
(PRESENT BOOKLET)		
This booklet contains a variety of actual newspaper headlines. I would like you to look at the headlines and tell me how interested you would be in reading each of the stories.		
(POINT OUT SCALE ON INSIDE COVER OF BOOKLET)		
Will you show me on this scale just how you feel about reading each one? If you are <u>positive</u> you would <u>not</u> like to read it, give it a score of zero; if you are positive you <u>would</u> like to read it, give it a score of 100. If you're not positive, give it any score from 1 to 99, depending on how interested you are in reading it. OK?		
Now turn to the first headline. How interested would you be in reading this article? (CONTINUE THROUGH THE LIST OF HEADLINES; WRITE SCORES IN RIGHT-HAND COLUMN)		
(R1) BOYS IN MINE FOUND ALIVE	__ __ (C5,6)	
(R2) RIVALRY PLAGUES SENATE FOREIGN RELATIONS PANEL	__ __ (C7,8)	
(R3) SURVEY SHOWS OUTLOOK FOR FOOD PRICES	__ __ (C9,10)	
(R4) TEACHERS OK SALARY SCALE	__ __ (C11,12)	
(R5) 100 HURT IN TRAIN SMASHUP	__ __ (C13,14)	
(R6) MOSCOW EMBASSY ENVOY QUILTS	__ __ (C15,16)	
(R7) BABY SITTER RESCUES 4 SMALL COUSINS FROM BLAZE	__ __ (C17,18)	

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(R8) NEW CANCER DRUG TESTED	— — (C19, 20)
(R9) A.L. WINS 5 TO 3 IN BATTLE OF HOMERS	— — (C21, 22)
(R10) NOTED NOVELISTS OFFER NEW BOOKS	— — (C23, 24)
(R11) BONN AND PARIS UNABLE TO ALIGN DEFENSE POLICIES	— — (C25, 26)
(R12) MIDEAST TALKS: MORE OF THE SAME	— — (C27, 28)
(R13) WORLD FOOD OUTLOOK IMPROVES	— — (C29, 30)
(R14) STATE SENATE VOTES PROBE OF RELIEF COSTS	— — (C31, 32)
(R15) NURSE INJURED AS SHE FIGHTS OFF INTRUDER	— — (C33, 34)
(R16) CAMPAIGN ISSUES	— — (C35, 36)
(R17) NEW HOPE FOR RETARDED CHILDREN	— — (C37, 38)
(R18) SENATE CITES 4 NEWSMEN FOR CONTEMPT	— — (C39, 40)
(R19) SPACE SIGNALS SAID TO HINT LIFE AFAR	— — (C41, 42)
(R20) CONCERT CELEBRATES COMPOSER'S BIRTH	— — (C43, 44)
(R21) 50,000 MARCH IN NEW DELHI TO PROTEST FOOD CRISIS	— — (C45, 46)
(R22) 2 POLICEMEN SAVE LIFE OF BABY	— — (C47, 48)
(R23) BROKERAGE FIRMS FARING MODESTLY	— — (C49, 50)
(R24) SUPREME COURT ENDS HISTORIC SESSION	— — (C51, 52)
(R25) NEIGHBORS HELP JENKINS FAMILY	— — (C53, 54)
(R26) AUSTRALIA DRIFTED 3,400 MILES OVER THE AGES, SCIENTISTS THINK	— — (C55, 56)

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(R27) U.S. TEEN MAKES HISTORY AT WIMBLEDON	__ __ (C57,58)
(R28) ART EXHIBIT RECALLS TURN OF THE CENTURY	__ __ (C59,60)
(R29) POWER STRUGGLE IN JAPAN BEGINS	__ __ (C61,62)
(R30) TIME FOR MIDDLE EAST PEACE IS NOW	__ __ (C63,64)
(R31) ABDUCTED GIRL'S BODY FOUND IN FLORIDA	__ __ (C65,66)
(R32) TWISTERS LASH 6 STATES; 1 KILLED	__ __ (C67,68)
(R33) TEN TIPS ON MANAGING YOUR TIME	__ __ (C69,70)
(R34) PHYSICIAN'S CONVICTION OVERTURNED	__ __ (C71,72)
(R35) AREA FOOD SHOPPERS PAY ABOUT 2 1/2 % MORE	__ __ (C73,74)
(R36) 17 JUDGES INDICTED IN PHILADELPHIA	__ __ (C75,76)
(R37) BIRTH RATE FOR TEENS INCREASES	__ __ (C77,78)
(R38) SOVIETS AND CHINA SEEM TO MOVE TOWARD TALKS	__ __ (C79,80)
	INTERVIEW NO. __ __ (C1,3)
	CARD NO. <u>2</u> (C4)
(R39) SMUGGLERS' RING BROKEN IN BRITAIN	__ __ (C5,6)
(R40) COUPLE SURVIVE 3 DAYS IN SNOWBOUND CAR	__ __ (C7,8)
(R41) WITTY, PERPLEXING NOVEL ESTABLISHES AUTHOR	__ __ (C9,10)
(R42) FOSTER PARENTS: WHERE CARING MAKES THE SYSTEM WORK	__ __ (C11,12)
(R43) HOUSE STARTS DEBATE TODAY ON FARM BILL	__ __ (C13,14)
(R44) CHOOSE CLOTHES THAT MAKE YOU LOOK YOUR BEST	__ __ (C15,16)

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Before we go on with more headlines, I'd like to ask you a few questions about some of your leisure-time activities. In the past four months, have you...		CIRCLE RESPONSES BELOW	
		YES	NO
(L1)	done volunteer work for a hospital or service organization?	1	2 (C17)
(L2)	attended a sporting event?	1	2 (C18)
(L3)	entertained people in your home?	1	2 (C19)
(L4)	been a member of a service organization?	1	2 (C20)
(L5)	worked in a political campaign or for a candidate or an issue?	1	2 (C21)
(L6)	worked on a home improvement or repair project?	1	2 (C22)
(L7)	been to the movies?	1	2 (C23)
(L8)	been to a concert or play?	1	2 (C24)
(L9)	purchased one or more books?	1	2 (C25)
(L10)	visited an art gallery or museum?	1	2 (C26)
(L11)	taken lessons in art, music, dance or theater?	1	2 (C27)
(L12)	performed in a musical or dramatic production?	1	2 (C28)
(L13)	taken a college course?	1	2 (C29)
In the past <u>week</u> , have you...			
(L14)	engaged in outdoor sports?	1	2 (C30)
(L15)	visited neighbors or relatives?	1	2 (C31)
(L16)	visited friends other than neighbors or relatives?	1	2 (C32)
(L17)	read one or more news magazines?	1	2 (C33)
<u>Yesterday</u> , did you...			
(L18)	watch any 30-minute <u>local</u> TV news show in the evening?	1	2 (C34)
(L19)	watch any <u>national network</u> TV news show in the evening?	1	2 (C35)
(L20)	read a newspaper?	1	2 (C36)

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O.K. Let's go back to the headlines now. How interested would you be in reading this next article?	
(R45) DOCTOR ASSAILS METHODS IN PSYCHIATRY	__ __ (C37,38)
(R46) RAMS OVERCOME PACKERS BY 27-17	__ __ (C39,40)
(R47) THE HUNGRY PERSON'S DIET	__ __ (C41,42)
(R48) 10 DIE IN WEEKEND TRAFFIC ACCIDENTS	__ __ (C43,44)
(R49) MISTRIAL CALLED IN MURDER CASE	__ __ (C45,46)
(R50) STOPGAP AGREEMENT AVERTS POLICE STRIKE	__ __ (C47,48)
(R51) 3 DIE IN NEW RIOTING IN SUDANESE CAPITAL	__ __ (C49,50)
(R52) PROFOUND CHANGE IN COMMUNIST BLOC SEEN	__ __ (C51,52)
(R53) MARKET SURGES, THEN SLIPS BACK	__ __ (C53,54)
(R54) HOSPITALS FULL; NURSING SHORTAGE SEVERE	__ __ (C55,56)
(R55) HURRICANE TOLL NOW EXCEEDS 200	__ __ (C57,58)
(R56) THE ART OF BEING A STEPPARENT TODAY	__ __ (C59,60)
(R57) FIRST CONCERT IN A SERIES OF MOZART	__ __ (C61,62)
(R58) U.S. SWEEPS 5 PAN AM SWIM GOLD MEDALS	__ __ (C63,64)
(R59) STUDY ALTERS VIEW OF GENE STRUCTURE	__ __ (C65,66)
(R60) IRKED CONSUMERS CUTTING CORNERS	__ __ (C67,68)
(R61) FIVE NATIONS AGREE TO TAKE REFUGEES	__ __ (C69,70)

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(R62) WOMAN KILLED IN PLUNGE	— — (C71,72)
(R63) THE TESTS THAT CHEAT OUR CHILDREN	— — (C73,74)
(R64) KEEPING FIT SHOULD BE FUN	— — (C75,76)
(R65) A NEW ARMADA SAILS OFF SOUTHERN SPAIN	— — (C77,78)
(R66) AMERICANS QUESTION ARMS PACT	— — (C79,80)
	INTERVIEW NO. — — (C1,3)
	CARD NO. 3 (C4)
(R67) CANADIENS BEAT RANGERS FOR STANLEY CUP	— — (C5,6)
(R68) GIVE CHILDREN MORE RESPONSIBILITY	— — (C7,8)
(R69) NEW REPORTS ON HIGH BLOOD PRESSURE	— — (C9,10)
(R70) KIDNAP-MURDER SUSPECT CHARGED	— — (C11,12)
(R71) WAYS TO GET OUT--AND STAY OUT--OF DEBT	— — (C13,14)
(R72) HOME STRESSED AS AID TO EDUCATION	— — (C15,16)
(R73) SCOUTS RESCUED FROM SNOWSTORM	— — (C17,18)
(R74) PERSONAL FINANCE: CHILDREN AND BUDGETING	— — (C19,20)
(R75) PEDESTRIAN, 69, KILLED AS AUTO SKIDS OFF ROAD	— — (C21,22)
(R76) HOW TO BE A SMART SHOPPER	— — (C23,24)
(R77) BEHAVIOR OF INFANTS AND APES IS LINKED	— — (C25,26)
(R78) GOVERNORS AGREE TAXES WILL HAVE TO GO HIGHER	— — (C27,28)
(R79) AFRICAN PRESIDENTS GATHER IN ETHIOPIA	— — (C29,30)

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(R80) AMERICA'S OLDER CITIZENS	__ __ (C31,32)
(R81) BUSINESS OPPOSES CITY TAX PROGRAM	__ __ (C33,34)
(R82) MAYOR AND U.S. ATTORNEY CLASH OVER VOTE FRAUDS	__ __ (C35,36)
(R83) HEART ATTACK: SUDDEN DEATH FOR YOUNGER VICTIMS	__ __ (C37,38)
(R84) BOY WOUNDED IN GUN MISHAP	__ __ (C39,40)
(R85) HUNGARIAN ATHLETE DEFECTS; ASKS U.S. ASYLUM	__ __ (C41,42)
(R86) SOCIAL SECURITY REVISION URGED	__ __ (C43,44)
(R87) THE MYTH OF THE PERFECT PARENT	__ __ (C45,46)
(R88) CONGRESSMAN PLEADS GUILTY TO TAX EVASION	__ __ (C47,48)
(R89) MOTHER AND 6 CHILDREN DIE IN FARM HOME FIRE	__ __ (C49,50)
(R90) 2 ESCAPE THRU JAIL WINDOW; 1 RECAPTURED	__ __ (C51,52)
(R91) SIAMESE TWINS SEPARATED	__ __ (C53,54)
(R92) 85 WILL TEE OFF IN MASTERS TODAY	__ __ (C55,56)
(R93) FEEL BETTER ABOUT YOURSELF	__ __ (C57,58)
Now I have just a few more questions to help us in analyzing the data.	
(B1) Do you happen to be single or married? (CIRCLE ONE) <u>Single (1)</u> <u>Married (2)</u> <u>Other or NA (9)</u>	__ __ (C59)
(B2) What is the specific job or occupation of the principal wage earner in your household? _____	__ __ (C60,61)

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(B3) In which of these categories does your age happen to fall? (READ, AND CIRCLE ONE) <u>18-24 (1)</u> <u>25-29 (2)</u> <u>30-39 (3)</u> <u>40-49 (4)</u> <u>50-59 (5)</u> <u>60 or older (6)</u> <u>Refused (9)</u>	____ (C62)
(B4) What is the highest grade you completed in school? (DO NOT READ, CIRCLE ONE) <u>0-8 grade (1)</u> <u>9 to 11 grade (2)</u> <u>HS grad. (3)</u> <u>1 to 3 yrs. college (4)</u> <u>College grad. (5)</u> <u>More than 4 yrs. college (6)</u> <u>Other (7)</u> <u>NA (9)</u>	____ (C63)
(B5) (RESPONDENT'S SEX: DO NOT ASK, CIRCLE ONE) <u>Woman (1)</u> <u>Man (2)</u>	____ (C64)

That's all. Thank you very much for your responses and your time. (IF NECESSARY, SAY: Your replies will be strictly confidential.)

APPENDIX B

SELECTED COMPUTER PROGRAMS

The following job cards generated the first data file, DAT1:

```
//TODISK JOB (XXXXX,NNNNN,BINS),BENNETT
//S1 EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=A
//SYSIN DD DUMMY
//SYSUT2 DD UNIT=ONLINE,DISP=(NEW,CATLG),DSN=JXXXXX.DAT1,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=2400),SPACE=(TRK,(50,10),RLSE)
//SYSUT1 DD *
```

The following program created the second data file, DAT2, in which the matrix of headlines and observations was turned around for the SAS CLUSTER procedure:

```
//TURNIT JOB (XXXXX,NNNNN,BINS,R-128K),BENNETT
//S1 EXEC FORTGCLG,REGION=128K
//FORT.SYSIN DD *
    DIMENSION H(93,280)
    DO 10 J=1,280
        READ(9,100) (H(I,J),I=1,93)
100    FORMAT(4X,38A2/4X,6A2,20X,22A2/4X,27A2)
10    CONTINUE
        DO 20 I=1,93
            WRITE(10,200) (H(I,J),J=1,280),I
200    FORMAT(200A2,80A2,1X,I2)
20    CONTINUE
        STOP
    END
//GO.FT09F001 DD DSN=JXXXXX.DAT1,DISP=SHR
//GO.FT10F001 DD DSN=JXXXXX.DAT2,DISP=(NEW,CATLG),
// DCB=(RECFM=FB,LRECL=600,BLKSIZE=6000),
// UNIT=ONLINE,SPACE=(TRK,(50,10),RLSE)
```

APPENDIX C

HEADLINE CORRELATION MATRIX

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
H1	1.00000									
H2	-0.02136	1.00000								
H3	0.25933	0.30558	1.00000							
H4	0.16518	0.28551	0.35604	1.00000						
H5	0.21754	0.21754	-0.07414	0.07414	1.00000					
H6	0.22557	0.22557	0.09356	0.09356	0.09356	1.00000				
H7	0.43155	0.43155	0.04532	0.04532	0.04532	0.04532	1.00000			
H8	0.26721	0.26721	0.14104	0.14104	0.14104	0.14104	0.14104	1.00000		
H9	0.00149	0.00149	0.08876	0.08876	0.08876	0.08876	0.08876	0.08876	1.00000	
H10	0.01707	0.01707	0.15201	0.15201	0.15201	0.15201	0.15201	0.15201	0.15201	1.00000
H11	-0.14520	0.56412	0.17124	0.17124	0.17124	0.17124	0.17124	0.17124	0.17124	0.17124
H12	-0.00800	0.54358	0.27470	0.27470	0.27470	0.27470	0.27470	0.27470	0.27470	0.27470
H13	0.24638	0.28840	0.49745	0.49745	0.49745	0.49745	0.49745	0.49745	0.49745	0.49745
H14	0.09167	0.37824	0.46555	0.46555	0.46555	0.46555	0.46555	0.46555	0.46555	0.46555
H15	0.30325	-0.04635	0.15510	0.15510	0.15510	0.15510	0.15510	0.15510	0.15510	0.15510
H16	0.01312	0.43073	0.28714	0.28714	0.28714	0.28714	0.28714	0.28714	0.28714	0.28714
H17	0.31331	0.00944	0.28486	0.28486	0.28486	0.28486	0.28486	0.28486	0.28486	0.28486
H18	0.07391	0.32291	0.25465	0.25465	0.25465	0.25465	0.25465	0.25465	0.25465	0.25465
H19	0.10307	0.19006	-0.00594	0.08562	0.09526	0.22711	-0.02962	0.14265	0.08461	0.22110
H20	0.01020	0.16417	0.14514	0.03483	-0.09546	0.33830	-0.01126	0.15018	0.11283	0.35821
H21	0.02024	0.27165	0.25132	0.12202	0.11599	0.44168	0.09560	0.14552	0.03026	0.33259
H22	0.39463	-0.07820	0.27534	0.12202	0.35633	-0.04180	0.55037	0.33331	0.03026	-0.06260
H23	-0.01634	0.36240	0.20851	0.21676	-0.03402	0.26559	-0.01763	0.07204	0.18185	0.14768
H24	-0.16330	0.38654	0.18334	0.14521	-0.03148	0.44349	-0.09958	0.06634	0.23344	0.33418
H25	0.29484	0.07677	0.37398	0.18615	0.25430	0.04547	0.49339	0.28548	0.10474	0.25047
H26	0.08200	0.09294	0.10424	0.08091	0.10683	0.25387	0.03800	0.23342	0.04315	0.23807
H27	0.21869	0.15473	0.19664	0.19050	0.17299	0.26461	0.24023	0.14548	0.31120	0.23807
H28	-0.07360	0.18954	0.10141	0.05745	-0.11232	0.18741	-0.12560	0.11878	0.16590	0.52753
H29	-0.06625	0.41730	0.16555	0.11615	-0.02812	0.47700	-0.12193	0.11878	0.10987	0.30560
H30	-0.06465	0.43526	0.27825	0.21038	-0.02508	0.34804	0.05234	0.18475	0.10987	0.21272
H31	0.35501	-0.14972	0.22727	0.07165	0.42744	-0.08087	0.44903	0.28312	0.04436	-0.10211
H32	0.38507	0.00656	0.32522	0.23707	0.42934	0.04317	0.45838	0.23481	-0.06132	-0.04484
H33	0.16567	0.13367	0.32367	0.12843	-0.02642	0.01996	0.08767	0.29318	0.07608	0.14561
H34	0.21127	0.22182	0.22727	0.23125	0.23341	0.19924	0.29318	0.29270	0.15631	0.15631
H35	0.09508	0.22574	0.55370	0.33742	0.11062	0.13240	0.19267	0.36428	0.02648	0.14160
H36	0.08809	0.24881	0.18682	0.13211	0.23105	0.32666	0.19595	0.15634	-0.03393	0.15918
H37	0.10826	0.00499	0.26182	0.15602	0.12710	0.09162	0.28233	0.16824	-0.03393	0.15918
H38	-0.04736	0.44839	0.24427	0.17198	0.03890	0.48559	-0.04541	0.15341	0.12268	0.24744
H39	0.09210	0.17611	0.10505	0.09451	0.12434	0.37287	0.15902	0.07746	0.18463	0.21870
H40	0.34299	-0.07677	0.23196	0.11811	0.38910	0.03191	0.48810	0.24427	-0.01617	-0.04459
H41	0.02181	0.18538	0.09740	0.00604	-0.03168	0.19187	0.01759	0.02506	0.01066	0.64760
H42	0.18371	0.12052	0.32446	0.23155	0.19479	0.08362	0.40567	0.27871	-0.03029	0.25501

	H1	H2	H3	H4	H5	H6	H7	H8	M9	H10
H43	0.02047	0.38913	0.32402	0.23736	-0.00159	0.28953	0.04080	0.20814	0.13266	0.16643
H44	-0.05921	-0.05921	0.29595	0.08634	0.12871	-0.15677	0.29730	0.33119	-0.08439	0.10857
H45	0.21324	0.20419	0.20519	0.05467	0.03047	0.19888	0.05049	0.28030	-0.05791	0.33521
H46	0.02083	0.25921	0.09174	0.18113	0.09015	0.21023	-0.01851	-0.06199	0.65971	-0.03524
H47	0.11236	0.02984	0.23631	0.11591	0.09539	0.01450	0.15558	0.20836	0.01935	0.11518
H48	0.32567	-0.02784	0.27582	0.17452	0.46614	0.00514	0.47423	0.23380	0.01907	-0.05159
H49	0.24102	-0.01830	0.15877	0.10542	0.34529	0.03537	0.35906	0.33350	0.05645	-0.00806
H50	0.19281	0.24057	0.26565	0.32435	0.21431	0.24433	0.12923	0.33350	0.05645	-0.00806
H51	0.04398	0.23458	0.15271	0.20152	0.23768	0.30452	0.10419	0.15913	0.15913	0.08444
H52	-0.11655	0.45746	0.15271	0.15708	-0.01374	0.47568	-0.12709	0.07055	0.07481	0.24524
H53	-0.07655	0.3010	0.34076	0.28275	-0.00804	0.33633	0.00647	0.13929	0.15879	0.27102
H54	0.12757	0.15749	0.35071	0.20682	0.16288	0.08428	0.20692	0.28371	-0.02146	0.18179
H55	0.31017	0.03155	0.25480	0.18525	0.50077	0.08081	0.42326	0.20976	0.05567	-0.00763
H56	0.15379	0.07195	0.19157	0.12838	0.13526	0.05421	0.24586	0.23533	0.01820	0.17177
H57	-0.04583	0.14280	0.07553	0.10076	-0.07902	0.28321	-0.12579	0.08653	0.03952	0.41176
H58	0.18841	0.18689	0.21744	0.28327	0.10694	0.22732	0.18225	0.20214	0.34360	0.16975
H59	0.04356	0.28965	0.21251	0.19200	0.03195	0.23222	0.01187	0.31726	0.02902	0.37675
H60	0.14542	0.22395	0.43821	0.26506	0.06066	0.13232	0.11918	0.30462	0.03895	0.22237
H61	0.12760	0.36346	0.27024	0.29693	0.12790	0.33630	0.10726	0.22504	0.09862	0.24836
H62	0.42796	-0.10654	0.21562	0.14646	0.52212	-0.02355	0.52226	0.22117	0.00503	-0.12608
H63	0.21248	0.14527	0.29707	0.31535	0.10596	0.06661	0.28342	0.26180	0.03118	0.09615
H64	0.25518	0.01159	0.25454	0.10580	0.15899	0.02830	0.28283	0.25671	0.01339	0.05023
H65	-0.10303	0.20171	0.10768	0.05461	-0.08637	0.39825	-0.11083	0.06711	0.21230	0.23353
H66	-0.02444	0.46808	0.25502	0.22788	0.02616	0.46140	-0.06858	0.11862	0.16437	0.22470
H67	-0.01188	0.26342	0.19096	0.23551	0.03185	0.25261	-0.01259	0.00927	0.57321	0.11221
H68	0.23052	0.38299	0.32209	0.26519	0.18084	0.11346	0.41862	0.27488	-0.06093	0.10626
H69	0.19019	0.11054	0.42437	0.14564	0.10949	0.11069	0.20942	0.50568	-0.06190	0.11431
H70	0.33587	-0.01078	0.24568	0.11762	0.40871	0.03162	0.43234	0.35753	0.04766	-0.06959
H71	0.23890	-0.03720	0.26556	0.06336	0.06382	-0.05554	0.22036	0.24549	-0.06381	-0.02009
H72	0.17782	0.15068	0.35286	0.28443	0.06564	0.13123	0.27369	0.28547	0.03822	0.23457
H73	0.47203	-0.03906	0.16223	0.19002	0.36028	-0.02468	0.52504	0.20090	0.09770	-0.07250
H74	0.21956	0.09800	0.35685	0.04913	0.04913	0.02303	0.19352	0.24811	0.01637	0.06568
H75	0.33447	-0.07252	0.19011	0.13249	0.45333	-0.03860	0.44585	0.23255	0.02481	-0.18108
H76	0.22015	-0.01046	0.40252	0.20787	0.05843	-0.01051	0.19807	0.28715	-0.11294	0.11783
H77	0.07914	-0.01666	0.05866	0.11627	0.16352	0.06352	0.10612	0.16828	-0.11383	0.19141
H78	0.04543	0.21756	0.42456	0.22580	0.09072	0.28103	0.03548	0.22579	0.03963	0.06551
H79	-0.11249	0.33336	0.16469	0.15113	-0.00243	0.46451	-0.11583	0.06846	0.15687	0.32816
H80	0.21169	0.17714	0.35570	0.17171	0.02044	0.23171	0.13372	0.36417	-0.06407	0.25654
H81	0.04242	0.31258	0.31550	0.33500	0.04310	0.26545	0.02056	0.18590	0.06719	0.10827
H82	0.06781	0.27703	0.34590	0.30689	0.13196	0.35950	0.03561	0.17142	0.20335	0.09136
H83	0.23232	-0.04142	0.30555	0.07455	0.23820	0.02558	0.31339	0.50021	-0.08453	0.04552
H84	0.34241	-0.05543	0.25022	0.11522	-0.42933	-0.05320	0.43677	0.28659	0.02221	-0.08007
H85	0.11675	0.26489	0.15309	0.15453	0.09975	0.39600	0.11344	0.16276	0.21568	0.34448
H86	0.15873	0.26047	0.41224	0.21471	0.04580	0.31345	0.09985	0.37336	-0.01224	0.17477
H87	0.19282	0.03386	0.24733	0.12710	0.06090	0.04224	0.17464	0.26078	-0.10274	0.14607

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
H88	0.14616	0.25153	0.35306	0.20594	0.13781	0.30818	0.12747	0.26858	0.12043	0.18368
H89	0.37041	-0.12333	0.19903	0.06747	0.49306	-0.07271	0.53231	0.28850	C.00098	-0.21030
H90	0.34650	-0.09367	0.16634	0.06500	0.43410	0.00711	0.36838	0.18220	0.11497	-0.17302
H91	0.36498	-0.17664	0.22507	0.08237	0.42727	-0.04264	0.45905	0.36708	-0.04100	0.02635
H92	0.08681	0.24153	C.15687	0.22696	0.08890	0.31891	0.08179	0.02288	0.53469	0.05866
H93	0.31801	0.08229	0.24222	0.16381	C.18496	0.00478	0.25678	0.35620	-0.06472	0.13334
	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20
H1	-0.14520	-0.09800	0.24638	0.09167	0.30325	0.01312	0.31331	0.07391	0.10307	0.01020
H2	0.56412	0.54358	0.28640	0.37824	-0.04635	0.43073	0.00944	0.32291	C.19006	0.16417
H3	0.17124	0.27470	0.49745	0.46555	0.15510	0.28714	0.28486	0.25465	-0.00594	0.14914
H4	0.18386	0.28588	0.23214	0.25047	0.13077	0.21688	0.27485	0.24653	0.08562	0.03463
H5	-0.04573	-0.03554	0.05600	0.03524	0.43356	-0.05587	0.29400	0.09393	0.09526	-0.09546
H6	0.57723	0.44180	0.21628	0.30678	-0.01777	0.38125	0.08486	0.38101	C.22711	0.33820
H7	-0.19410	-0.01210	0.14104	0.12391	0.35984	-0.05468	0.38526	0.05449	-0.02962	-0.01126
H8	0.08278	0.15201	C.36501	0.28344	0.34129	0.13440	0.52906	0.15360	0.14265	0.15018
H9	0.16942	0.08268	0.02557	0.13762	0.01354	0.13009	-0.04090	0.08936	0.08461	0.11283
H10	0.49185	0.25379	0.26721	0.17765	-0.07581	0.20115	-0.09197	C.29845	0.22110	0.35831
H11	1.00000	0.58735	C.28253	0.44504	-0.03442	0.44052	0.04395	0.41566	C.24142	0.28530
H12	0.58735	1.00000	0.46753	0.41546	0.03169	0.48062	0.10171	0.25362	0.19682	0.29508
H13	0.28253	C.46753	1.00000	0.52756	0.29489	0.30563	0.38627	0.23569	C.10524	C.15019
H14	0.44504	0.41546	0.29489	1.00000	0.27905	0.46738	0.26027	0.40271	0.00707	0.09812
H15	-0.03442	0.03169	0.27905	0.27505	1.00000	0.11130	0.41057	0.17356	0.07542	-0.10144
H16	C.44052	0.48062	0.20553	0.46738	1.00000	0.11130	0.17783	0.24104	0.15319	0.16059
H17	0.04395	0.10171	0.38627	0.26027	C.41057	1.00000	0.25242	1.00000	C.35014	0.27870
H18	0.41566	0.25362	C.23589	0.40271	0.17356	0.34104	0.16428	0.35014	1.00000	0.33567
H19	0.24142	0.19682	C.10524	0.00707	0.07542	0.15319	0.03376	0.27870	0.33967	1.00000
H20	0.28530	C.29508	0.15019	0.09812	-0.10144	0.16059	0.03376	0.33967	0.31249	0.01056
H21	0.46639	0.38211	0.42519	0.37295	0.15706	0.30361	0.14993	0.38048	-0.03850	0.20760
H22	-0.17322	-0.03069	0.27693	0.18351	C.56777	-0.04203	0.46568	0.13423	0.09553	0.23529
H23	0.38365	0.34987	C.22059	0.39168	0.03638	0.28441	-0.02339	0.23592	C.03932	0.01266
H24	0.50251	0.37572	0.22615	0.34608	-0.02433	0.34142	0.06543	0.38546	0.25143	0.31571
H25	0.03477	C.09232	0.36356	0.34180	0.38510	0.17241	0.37836	0.15834	-0.03932	0.31571
H26	0.20075	0.14711	0.15636	0.07523	C.06433	0.15158	0.27417	0.26842	0.51785	0.24212
H27	0.29326	0.14223	C.28012	0.18785	0.14222	0.19000	0.25155	0.27225	0.24212	0.26172
H28	0.29858	0.20606	C.23017	0.12117	-0.08926	0.06986	0.09980	0.18104	C.18511	0.48742
H29	0.54675	0.44866	C.31326	0.27335	-0.01744	0.35351	0.08899	0.33424	0.26885	0.32189
H30	0.48601	0.56509	0.35250	0.41226	0.04163	0.40485	0.12601	0.27759	C.18325	0.20558
H31	-0.06477	0.02019	0.25355	0.22416	0.62213	0.08482	0.07514	0.07514	-0.09217	-0.09217
H32	0.07350	C.08327	0.25278	0.23573	0.44134	0.09755	0.29525	0.13727	C.04626	-0.10170
H33	-0.03200	0.16322	0.32226	0.22096	0.16730	0.21559	0.19543	0.18224	0.27244	0.19745

	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20
H34	0.17348	0.27055	0.39173	0.36400	0.39734	0.22154	0.3286C	0.32666	0.11419	0.06A21
H35	0.17999	0.28206	0.49507	0.4316C	C.21058	0.17802	0.28822	0.06767	0.06767	0.14E61
H36	0.26506	0.24412	0.24211	0.2749C	0.18751	0.26356	0.19961	0.22376	0.22376	0.10778
H37	0.06599	0.11020	C.28568	0.16776	0.33543	0.08613	0.34656	0.41549	0.13672	0.13E2C
H38	0.52777	0.49633	0.37532	0.37694	0.00698	0.40260	0.18104	0.37339	0.29589	0.28146
H39	0.32136	0.28225	0.19701	0.27C82	0.16958	0.18673	C.13293	C.28474	C.30445	0.25910
H40	-0.14137	0.02178	0.24323	0.1210C	0.48813	0.03560	0.40812	0.14152	0.03560	0.05554
H41	0.25975	0.17386	0.13465	0.08393	-0.06033	0.13229	0.03872	0.30459	0.25684	0.40741
H42	0.09808	0.14265	C.38312	0.28C92	0.26939	0.03398	0.48419	0.19701	C.00157	0.121C7
H43	0.39737	0.36738	C.34562	0.54575	0.14613	0.42055	0.19027	0.29688	-0.01202	0.17827
H44	-0.17567	-0.01810	0.28235	0.18C98	0.33061	0.02358	0.25713	0.10276	-0.00762	0.06419
H45	0.23602	0.18306	0.27387	0.28255	0.11265	0.17459	0.23601	0.31716	0.16266	0.30759
H46	0.22761	0.17335	C.26191	0.18273	0.01572	0.25211	-0.06562	0.09247	C.02429	0.10653
H47	0.02690	0.08722	0.72C18	0.20592	0.23731	0.12949	0.13527	0.20650	-0.01605	0.16628
H48	-0.02882	0.03485	0.11631	0.20637	0.42237	0.05346	0.21951	0.02280	-0.18316	-0.04239
H49	C.02002	0.10945	C.15C67	0.22214	0.50404	0.15000	0.29849	0.15059	-0.06485	-0.031C0
H50	0.23517	0.27633	0.26514	0.29482	0.11312	0.26033	0.17423	0.32714	0.02562	0.10672
H51	0.33687	0.31101	C.23649	0.18286	0.18287	0.18678	0.12284	0.32759	C.15327	C.22761
H52	0.56523	0.42886	0.24113	0.31582	-0.01856	0.41866	0.10825	0.41015	0.36931	0.14542
H53	0.42434	0.40589	C.34276	0.45455	0.08307	0.41455	0.14731	0.35051	C.20768	0.17718
H54	0.13581	0.15508	C.25823	0.27C81	0.25103	0.08681	0.26118	0.29184	0.03710	0.106C2
H55	0.02786	0.02160	0.23036	0.15571	C.416C5	0.05463	0.20673	0.13862	0.08959	0.01633
H56	0.03454	C.11445	C.29C55	0.25360	0.24019	0.01022	0.31041	0.17762	-0.00224	0.1025C
H57	0.31643	0.19765	C.08784	0.1015C	-0.10680	0.14443	0.04867	0.27726	0.27139	0.59041
H58	0.21147	0.17691	C.25242	0.24519	0.12068	0.20565	0.24768	0.24528	C.17565	0.15F20
H59	0.29836	0.26646	0.26631	0.22477	0.02993	0.21572	0.25259	0.38325	0.42712	C.33511
H60	0.22440	C.23026	0.35605	0.42191	0.13825	0.20376	0.24808	0.38501	C.20396	0.15824
H61	0.32571	C.32090	0.46C92	0.34762	0.05103	0.25343	0.25950	0.35853	0.21420	0.19552
H62	-0.15898	-0.08039	0.17570	0.15E14	0.58115	0.06446	0.28355	0.06297	-0.05146	-0.06019
H63	0.05803	C.17100	C.36452	0.28282	0.17430	0.05059	0.34926	0.22521	0.15733	0.12E55
H64	-0.09073	0.02572	0.21557	0.20454	C.30689	0.08462	0.26665	0.16409	0.12675	0.10678
H65	0.43635	0.27915	0.12755	0.23535	-0.12505	0.22657	0.0267C	0.25239	C.38103	0.37715
H66	0.55186	0.46751	0.24666	0.4126C	-0.01315	0.46588	0.15897	0.37279	0.32752	C.16C3C
H67	0.28917	0.25808	0.10302	0.15C09	-0.01134	0.19877	0.05763	0.18750	0.13397	C.21926
H68	0.08581	0.14540	C.26578	0.29E11	0.24630	0.01884	0.43411	0.22143	0.04526	0.02155
H69	0.10247	0.14700	C.36441	0.40494	0.24128	0.15783	0.42075	0.29575	0.05630	0.12148
H70	-0.07588	0.06415	C.26569	0.27175	0.55712	0.15929	0.37730	0.08532	-0.09407	-0.04E66
H71	-0.07596	0.01441	0.20872	0.21195	C.25383	0.07874	0.30171	0.20182	C.10061	0.15523
H72	0.17916	0.21273	C.36515	0.36E45	0.18683	0.16297	0.43222	0.31105	0.13511	0.19119
H73	-0.08005	0.02161	0.20300	0.11C5C	C.44033	0.05330	0.34274	0.11204	0.07192	-0.00C17
H74	0.19465	0.19465	0.30433	0.36C08	0.17062	0.17082	0.32281	0.25760	C.03607	0.15558
H75	-0.09123	-0.02540	0.05E37	0.1254E	0.48425	0.04041	0.28686	0.01409	-0.08147	-0.05258
H76	-0.02626	0.16314	0.42533	0.24E4E	C.26777	0.09161	0.31254	0.14580	C.00081	0.10364
H77	0.04359	C.11444	C.20C85	-0.03163	0.21799	0.01746	0.21337	0.28561	0.31746	0.24525
H78	0.25011	0.27792	0.38445	0.46C55	0.07242	0.41472	0.25318	0.31445	0.12039	0.15312

	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20
H79	0.52125	0.45199	0.28619	0.30520	-0.03314	0.36130	0.04101	0.26679	0.23216	0.31475
H80	0.23634	0.26709	0.43568	0.35810	0.14555	0.15456	0.35305	0.26557	0.02228	0.26403
H81	0.24238	0.38295	0.34759	0.43214	0.00945	0.34175	0.14989	0.26455	-0.01706	0.12028
H82	0.31101	0.31602	0.33795	0.47411	0.16647	0.42597	0.27119	0.33447	0.09691	0.04056
H83	-0.03566	0.05005	0.28496	0.28067	0.31669	0.03065	0.44668	0.24390	0.09605	0.10745
H84	-0.031755	-0.04565	0.16268	0.20328	0.50059	0.03554	0.30619	0.01287	-0.13577	-0.09529
H85	0.34182	0.31564	0.24077	0.21137	0.10306	0.28511	0.09347	0.37326	0.28198	0.31601
H86	0.29582	0.29314	0.42591	0.51021	0.10505	0.28296	0.27937	0.31673	0.11221	0.16122
H87	-0.00086	0.16850	0.32815	0.24067	0.21737	-0.00247	0.27789	0.23125	0.08593	0.13447
H88	0.26036	0.25547	0.32747	0.49545	0.25458	0.40377	0.21281	0.45186	0.20775	0.16616
H89	-0.19037	-0.10817	0.09432	0.09273	0.51007	-0.01297	0.30904	-0.04461	-0.16120	-0.15141
H90	-0.12612	-0.10234	0.09539	0.10356	0.45617	0.07784	0.19127	0.02633	0.08633	0.00527
H91	-0.16498	-0.08909	0.20121	0.05394	0.49865	-0.05373	0.36055	0.08508	0.07979	0.17352
H92	0.27208	0.17097	0.08737	0.19562	0.07541	0.25950	0.07982	0.22796	0.07979	0.17352
H93	0.00530	0.13592	0.32868	0.24584	0.35042	0.15714	0.40034	0.20747	0.12974	0.19429
	H21	H22	H23	H24	H25	H26	H27	H28	H29	H30
H1	0.02024	0.39463	-0.01634	-0.16330	0.29484	0.08200	0.21869	-0.07360	-0.06625	-0.06645
H2	0.27165	-0.07820	0.36240	0.38654	0.07677	0.09254	0.15473	0.18954	0.41730	0.43526
H3	0.25132	0.27534	0.20851	0.18334	0.37398	0.10424	0.19664	0.10141	0.16555	0.27825
H4	0.17161	0.12302	0.21676	0.14521	0.18619	0.08091	0.19050	0.05745	0.11819	0.21028
H5	0.11599	0.35633	-0.05402	-0.03148	0.25430	0.10683	0.17259	-0.11232	-0.02812	-0.02508
H6	0.44168	-0.04180	0.26559	0.44349	0.04547	0.25387	0.26461	0.18741	0.47700	0.34804
H7	0.00560	0.55037	-0.01783	-0.09558	0.49339	0.03600	0.24023	-0.12560	-0.12193	0.05234
H8	0.14552	0.33331	0.07204	0.04634	0.28548	0.23342	0.14948	0.13745	0.11878	0.18475
H9	0.14254	0.30266	0.18185	0.23344	0.10474	0.04315	0.31120	0.01203	0.16590	0.10547
H10	0.33299	-0.06260	0.14768	0.33418	0.07730	0.25047	0.23807	0.52753	0.30580	0.21272
H11	0.46635	-0.17322	0.38365	0.50251	0.03477	0.20075	0.20326	0.29858	0.54675	0.46601
H12	0.34211	-0.03069	0.24587	0.37572	0.09232	0.14711	0.14223	0.20606	0.44866	0.56509
H13	0.42519	0.27693	0.22059	0.22615	0.36356	0.15636	0.28012	0.23017	0.31326	0.35200
H14	0.37295	0.18351	0.39168	0.34008	0.34180	0.07523	0.18785	0.12117	0.27339	0.41326
H15	0.15706	0.54777	0.03638	-0.02433	0.38510	0.04433	0.14222	-0.08526	-0.01744	0.04163
H16	0.30361	-0.04203	0.34441	0.34142	0.17241	0.15158	0.19000	0.06586	0.35391	0.40465
H17	0.14993	0.46568	-0.02339	0.06543	0.37836	0.27417	0.25155	0.08859	0.08859	0.12601
H18	0.38048	0.13423	0.23552	0.38546	0.15834	0.26842	0.27225	0.18104	0.33424	0.27759
H19	0.24923	-0.03850	0.09553	0.25143	-0.03932	0.51785	0.24216	0.18511	0.26885	0.18325
H20	0.31349	-0.01056	0.21539	0.21266	0.31971	0.31971	0.26172	0.48742	0.32189	0.20558
H21	1.07000	0.14370	0.31815	0.42206	0.21721	0.35358	0.28442	0.28825	0.43651	0.43361
H22	0.14370	1.00000	0.07029	-0.08528	0.58515	0.06321	0.16605	-0.03172	-0.08950	0.01409
H23	0.31815	0.07029	1.00000	0.36547	0.11539	0.07383	0.15980	0.25547	0.38061	0.30652
H24	0.42206	-0.08528	0.36987	1.00000	0.10846	0.25009	0.26665	0.30524	0.46805	0.39760

	H21	H22	H23	H24	H25	H26	H27	H28	H29	H30
H25	0.21721	0.58515	0.11539	0.10646	1.00000	0.08262	0.30074	0.06361	-0.03811	C.12856
H26	0.35398	0.06321	0.07383	0.25009	0.08262	1.00000	0.35730	0.40172	0.29706	0.18649
H27	0.28442	0.16605	C.15580	0.26665	0.30074	0.35730	1.00000	0.24390	0.29496	0.24250
H28	0.28825	-0.03172	0.25547	0.30524	0.03611	0.40172	0.24390	1.00000	0.43082	0.45631
H29	0.43651	-0.08950	C.38061	0.46805	-0.03811	0.29706	0.29496	0.43082	1.00000	0.45631
H30	0.43361	0.01409	0.30852	0.39160	0.12856	0.18649	0.24290	0.24212	C.49631	1.00000
H31	0.11542	C.50528	0.00547	-0.08341	0.42587	0.07209	0.23872	-0.00900	-C.05504	0.10419
H32	0.20092	0.45827	0.02518	-0.02074	0.45479	0.07259	0.19565	-0.04896	-0.02915	0.15272
H33	0.13744	C.21085	0.14821	0.12732	0.22429	0.23559	0.16249	0.13466	C.09208	C.15078
H34	0.28722	0.39689	0.16449	0.22785	C.36005	0.09982	0.31337	0.11132	C.15678	0.19837
H35	0.30594	0.33177	0.24628	0.27532	C.33290	0.09284	0.25105	0.14178	0.14178	0.34583
H36	0.38225	C.19033	C.13591	0.38575	0.25113	0.23754	0.36578	0.12067	C.30151	0.29111
H37	0.33495	0.31043	0.08826	0.15694	0.33950	0.15369	0.22833	0.07801	0.04704	0.16625
H38	0.47682	-0.01211	0.24234	0.43787	0.07398	0.35308	0.28568	0.24533	C.58997	0.52374
H39	0.42382	0.09302	-0.04557	0.35585	0.16023	0.31691	0.29683	0.33193	0.38159	0.25521
H40	0.16223	0.55690	-0.06866	0.09607	0.37471	0.14341	C.30560	0.03498	0.03602	0.13145
H41	0.23598	-0.00453	0.22287	0.26151	0.05432	0.32540	0.26671	0.50697	0.25982	0.10356
H42	0.45730	0.45730	0.09580	0.16714	0.49349	0.18855	0.26547	0.26565	0.11845	0.16751
H43	0.29411	0.09551	C.50579	0.32102	0.18397	0.00813	0.24074	0.21643	0.32792	0.35816
H44	-0.00244	0.31695	0.04751	-0.05018	0.29668	0.06478	0.13217	0.06204	-0.04127	0.04316
H45	0.28683	0.07830	0.14581	0.23465	0.16382	0.31752	0.21605	0.37245	C.33599	0.18615
H46	0.11540	-0.01355	C.30148	0.23325	0.01114	0.04532	0.26555	0.07432	0.24666	0.17849
H47	C.15728	0.24015	0.14115	0.06971	0.20445	0.12202	0.19169	0.14669	0.07776	0.12740
H48	0.01068	0.41145	C.09036	-0.18318	0.40611	-0.10663	0.16240	-0.07226	-0.03990	0.02552
H49	0.13955	0.40978	C.02580	0.02565	0.35428	0.10065	0.21085	0.05592	0.02738	0.14111
H50	0.29463	C.12846	0.23435	0.27195	0.18076	0.12399	0.20850	0.19501	C.30185	0.26162
H51	0.35379	0.10478	0.29693	0.19445	C.18181	0.07301	0.17169	0.12572	0.28920	0.29402
H52	0.45450	-0.13534	C.25459	0.44525	-0.03616	0.33835	0.17935	C.21317	C.52654	C.43012
H53	0.37570	0.01932	C.45241	0.39529	0.11579	0.16670	0.23897	0.19284	C.40827	0.39735
H54	0.30209	0.34524	0.19770	0.13275	C.34945	0.12150	0.24945	0.17359	0.14910	0.16373
H55	0.17404	0.33588	C.03449	-0.02130	0.30455	0.04961	0.20340	-0.02443	0.07128	0.11071
H56	0.33156	-0.04037	0.16525	0.13585	0.31664	0.09517	0.18129	0.16552	C.15824	0.03328
H57	0.33156	0.04037	C.21369	0.28556	-0.04478	0.28074	0.24945	0.57182	0.29158	0.14155
H58	0.22674	0.19519	0.22754	0.23522	0.16831	0.20476	0.55610	0.18287	C.22863	0.24500
H59	0.35456	0.01755	0.19380	0.35146	0.02945	0.51459	0.27263	0.37499	C.38484	0.26263
H60	0.33128	0.17400	0.27520	0.32492	0.26018	0.25498	0.32826	0.23800	0.24670	0.28460
H61	0.40300	0.10659	0.25967	0.29221	C.23057	0.28222	0.32980	0.31659	0.44568	0.34761
H62	0.06390	C.45670	-C.03459	-0.17154	0.38732	0.03086	0.20622	-0.12771	-0.07891	0.01378
H63	0.22129	0.23428	0.10833	0.12571	C.28015	0.15126	0.31650	0.12074	0.18934	0.23665
H64	0.12916	0.33408	0.12503	0.01523	0.24519	0.14929	0.28997	0.07676	C.08928	0.08155
H65	0.35225	-0.10590	C.20157	0.33582	-0.00429	0.38074	0.30812	0.29207	0.49000	0.34133
H66	0.40302	-0.05123	0.32357	0.49537	0.05542	0.27353	0.27476	0.20181	C.55380	C.48342
H67	0.21414	-0.01139	C.29310	0.28291	0.07093	0.14129	0.39192	0.14158	0.29205	0.29205
H68	0.25678	0.32553	C.08529	0.14508	0.33434	0.11643	0.21835	0.08229	C.08706	0.21760
H69	0.23910	C.32023	C.15635	0.12138	0.26259	0.18726	0.14654	0.13132	0.19430	0.16763

	H21	H22	H23	H24	H25	H26	H27	H28	H29	H30
H70	0.12055	0.47700	0.01370	0.00337	0.41863	0.04865	0.21634	-0.02783	0.03531	0.14118
H71	0.12964	0.29375	0.14752	0.01411	0.15541	0.14016	0.20411	0.04856	0.05059	0.06660
H72	0.27546	0.24423	0.19718	0.27632	0.31303	0.19112	0.30339	0.24501	0.20552	0.25381
H73	0.09692	0.50168	0.04538	-0.12877	0.41183	0.04003	0.30993	-0.04454	0.02605	0.08837
H74	0.14458	0.26192	0.20169	0.17261	0.27134	0.12057	0.25087	0.09379	0.13735	0.17658
H75	-0.00198	0.44262	0.07502	-0.14708	0.41692	0.02159	0.12941	-0.09436	-0.13261	-0.01816
H76	0.17600	0.25140	0.09335	0.07710	0.27993	0.11946	0.20260	0.17050	0.09889	0.06668
H77	0.28522	0.16612	0.03029	0.08797	0.05945	0.36070	0.19643	0.25572	0.14665	0.03191
H78	0.34440	0.10732	0.21445	0.30583	0.12471	0.22650	0.17271	0.14212	0.33177	0.32023
H79	0.49246	-0.16764	0.25570	0.41133	-0.03333	0.29289	0.20688	0.26880	0.33177	0.39770
H80	0.27062	0.27290	0.14004	0.16595	0.29514	0.13078	0.27960	0.31341	0.47030	0.39170
H81	0.22602	0.08666	0.39078	0.33532	0.20111	0.02216	0.11398	0.24305	0.29889	0.21521
H82	0.31842	0.09556	0.31149	0.43348	0.17374	0.17252	0.27952	0.15510	0.30281	0.25872
H83	0.18398	0.41761	0.07266	0.08763	0.31819	0.22967	0.25783	0.12151	0.33114	0.36346
H84	0.12496	0.56490	0.08177	-0.11438	0.40558	0.04583	0.14018	-0.03871	0.16265	0.15884
H85	0.45313	0.05458	0.18066	0.36575	0.11357	0.29934	0.39109	0.24465	-0.08253	0.04514
H86	0.31541	0.19815	0.23056	0.24425	0.22613	0.20526	0.22250	0.19457	0.42948	0.29040
H87	0.27702	0.28217	0.14862	0.13001	0.24195	0.28851	0.22600	0.24538	0.30357	0.33743
H88	0.39862	0.27068	0.30686	0.33112	0.26602	0.22619	0.32529	0.10220	0.14087	0.11456
H89	0.02547	0.56666	0.03371	-0.14513	0.44560	-0.03347	0.12922	-0.13517	0.25780	0.29050
H90	0.07504	0.36853	0.07320	-0.05550	0.36831	0.04850	0.18740	-0.14407	-0.11351	0.01543
H91	0.12750	0.43610	-0.08538	-0.07576	0.25958	0.24255	0.23031	-0.10171	-0.02506	0.02414
H92	0.17245	0.08114	0.31697	0.20955	0.12559	0.16820	0.38945	0.08594	-0.03525	-0.03549
H93	0.10996	0.29885	0.10282	-0.00493	0.23328	0.08642	0.22048	0.15625	0.15842	0.20713
									0.08845	0.09564
	H31	H32	H33	H34	H35	H36	H37	H38	H39	H40
H1	0.35501	0.38507	0.16567	0.20127	0.09508	0.08809	0.10826	-0.04736	0.09210	0.34259
H2	-0.14972	0.00656	0.13367	0.22182	0.22574	0.24881	0.00499	0.44829	0.17611	-0.07677
H3	0.22727	0.32522	0.32367	0.32727	0.55370	0.18682	0.26182	0.24427	0.10905	0.23156
H4	0.07165	0.23707	0.12843	0.23029	0.33742	0.13211	0.15802	0.17198	0.09451	0.11811
H5	0.44744	0.42934	-0.02642	0.23341	0.11062	0.23105	0.12710	0.03890	0.12434	0.38510
H6	-0.08087	0.04317	0.01596	0.19524	0.13240	0.32666	0.09162	0.48559	0.37287	0.03151
H7	0.44503	0.45838	0.08767	0.29318	0.19267	0.19595	0.28233	-0.04541	0.15902	0.03151
H8	0.28312	0.24049	0.23481	0.25270	0.36428	0.15634	0.16824	0.15341	0.07746	0.48810
H9	0.04436	-0.04212	-0.06132	0.07608	0.02648	0.16241	-0.03393	0.12268	0.18463	-0.01617
H10	-0.10271	-0.04484	0.14561	0.19455	0.15631	0.14160	-0.05918	0.24744	0.21870	-0.04459
H11	-0.06477	0.00350	-0.03200	0.17348	0.17999	0.26506	0.06555	0.52777	0.32136	-0.14137
H12	0.02019	0.08327	0.16322	0.27055	0.24412	0.24412	0.11020	0.49633	0.28225	0.02178
H13	0.25355	0.25278	0.32226	0.39172	0.49507	0.24211	0.28568	0.37532	0.19701	0.24323
H14	0.22416	0.23973	0.22096	0.36400	0.43166	0.27490	0.16776	0.37694	0.27082	0.12100
H15	0.62213	0.44134	0.16730	0.39734	0.21058	0.18751	0.33543	0.00698	0.16998	0.48813

	H31	H32	H33	H34	H35	H36	H37	H38	H39	H40
H16	0.08482	0.09755	0.21559	0.22194	0.17802	0.26396	0.08613	0.40280	C.18673	C.03560
H17	0.36195	0.29525	0.19543	0.32460	0.31673	0.19961	0.34696	0.18104	C.13293	C.40812
H18	0.07514	C.13727	0.18224	0.32666	0.28822	0.41549	0.23485	0.37339	0.28474	0.14152
H19	-0.00928	C.04626	C.27244	0.11415	0.08767	0.22376	0.13672	0.29589	0.30445	0.03560
H20	-0.09287	-0.10170	0.19745	0.06421	0.14861	0.10778	0.13826	0.28146	C.25910	0.05554
H21	0.11542	C.20092	C.13744	0.28722	0.30994	0.38225	0.33495	0.47682	C.42382	0.16223
H22	0.50528	0.45827	0.21085	0.39685	0.33177	0.19333	0.31043	-0.01211	0.09302	0.55666
H23	0.00947	C.02518	0.14821	0.16445	0.24628	0.13551	0.08826	0.24334	C.26057	-0.04866
H24	-0.08341	-0.02074	0.12573	0.22785	0.27533	0.38979	0.15894	0.43787	0.35385	-0.05667
H25	0.42587	0.45470	0.22249	0.36005	0.33290	0.25113	0.33950	0.37398	C.16023	0.37471
H26	0.07209	0.07259	C.23559	0.09582	0.09284	0.23754	0.15389	0.35208	0.31691	0.14341
H27	0.23872	0.19565	0.16249	0.31537	C.25109	0.36578	0.22833	0.28568	0.29683	0.30560
H28	-0.09700	-0.04896	0.13466	0.11132	0.18847	0.12067	0.07801	0.24533	C.33193	0.03458
H29	-0.05504	-0.02915	0.09208	0.15678	0.14178	0.30151	0.04704	0.58997	0.38159	0.03662
H30	0.15272	C.10419	0.15078	0.19837	0.34583	0.29111	0.16625	0.52274	C.25521	0.13345
H31	1.00000	0.63025	0.13204	0.35563	0.17884	0.17884	0.28012	-0.02754	C.11503	0.55270
H32	0.63025	1.00000	0.17845	0.42475	0.29517	0.30792	0.25866	0.06185	C.26897	0.50073
H33	0.13204	0.17845	1.00000	0.37893	0.35296	0.13541	0.28043	0.10438	C.15693	0.20057
H34	0.35563	0.42479	0.37893	1.00000	0.44620	0.45304	0.40314	0.16320	C.34680	0.38444
H35	0.19952	C.28517	0.25296	0.44620	0.31537	0.31537	0.29951	0.27243	C.22957	0.22052
H36	0.17884	0.30792	0.13541	0.45304	0.31537	1.00000	0.29951	0.41646	0.40648	0.21855
H37	0.28012	0.25868	0.28043	0.40314	0.44620	0.31537	1.00000	0.39365	C.33525	0.31369
H38	-0.02754	0.06185	0.10438	0.16320	0.27243	0.41646	0.29951	1.00000	0.10348	0.10248
H39	0.11503	0.20057	0.15693	0.34680	0.22957	0.40648	0.33525	0.31369	C.22209	1.00000
H40	0.55270	0.50073	C.20057	0.38444	0.22052	0.21899	0.31369	0.10348	C.22209	1.00000
H41	-0.06896	-0.02297	0.17143	0.13451	C.11208	0.13312	0.16871	0.23808	0.28557	0.08926
H42	0.39516	0.33653	0.29858	0.42152	0.39768	0.17386	0.44762	0.21388	C.21802	0.46164
H43	0.11092	0.12653	0.11118	0.35151	C.31613	0.19562	0.10966	0.33452	0.23364	C.12809
H44	0.36568	0.26423	0.48190	0.36376	0.29957	0.01878	0.25953	-0.11523	C.00892	0.27774
H45	0.01276	C.01869	C.21056	0.19282	0.24382	0.17479	0.23448	0.40386	C.29334	0.14843
H46	0.04029	0.03569	-0.06432	0.14527	0.07907	0.20081	-0.07960	0.13689	C.24564	0.02864
H47	0.23281	C.21360	0.28757	0.29386	0.21829	0.07255	0.23207	C.02062	C.09568	0.22180
H48	0.53230	0.49927	0.01082	0.34131	0.22013	0.13415	0.25631	0.00391	0.07349	0.42874
H49	0.51024	0.44925	0.11661	0.50162	0.24772	0.31463	0.25631	C.00391	C.22619	C.48366
H50	0.11694	0.29509	C.06662	0.35884	0.30792	0.34334	0.18737	0.32234	C.25784	0.17153
H51	0.17800	0.19919	0.04005	0.29508	0.08261	0.22647	0.22056	0.09561	C.34645	0.18710
H52	-0.11579	0.03718	C.09770	0.13513	0.18099	0.29437	0.14434	0.40386	C.36797	0.03578
H53	0.06347	0.14299	0.18283	0.28636	0.37644	0.24764	0.17373	0.40877	C.29727	0.03009
H54	0.27719	0.32691	0.26189	0.49042	0.43579	0.21430	0.36140	0.20765	0.18956	0.34146
H55	0.49749	0.58266	0.12136	0.32558	0.24960	0.28378	0.24643	0.11335	0.23986	0.48643
H56	0.14576	0.18731	0.23319	0.36780	0.27528	0.15834	0.32311	0.12513	C.13112	0.29557
H57	-0.15477	-0.09182	0.12528	0.11005	0.08804	0.17094	0.10997	0.28493	C.32543	0.03468
H58	0.18473	0.23470	0.12257	0.35555	0.26738	0.30254	0.18948	0.20231	C.33230	0.19477
H59	-0.03196	0.05413	0.32116	0.25231	0.29878	0.21410	0.15613	0.40476	0.23501	0.12100
H60	0.02518	0.13724	0.36732	0.37616	0.51023	0.28369	0.32636	0.34142	0.20452	0.14661

	H31	H32	H33	H34	H35	H36	H37	H38	H39	H40
H61	0.06502	0.24255	0.16478	0.30566	0.32693	0.41150	0.24495	0.53119	0.33719	0.19120
H62	0.66791	0.58864	0.14092	0.35571	0.18697	0.22288	0.26257	-0.03624	0.13523	0.58282
H63	0.17933	0.21198	0.32173	0.32191	0.33360	0.20131	0.34951	0.21431	0.14646	0.31442
H64	0.28658	0.24185	0.47650	0.3647	0.32687	0.16114	0.34706	0.12433	0.21148	0.25559
H65	-0.14883	-0.07793	0.14563	0.07662	0.16018	0.22202	0.05575	0.42240	0.36510	0.02325
H66	-0.02712	0.07316	0.05077	0.23729	0.26343	0.35443	0.06287	0.64168	0.34082	0.04475
H67	0.07538	0.02497	0.03731	0.21065	0.17359	0.25449	0.03576	0.23910	0.26248	0.06062
H68	0.22199	0.27112	0.30508	0.40666	0.32489	0.16868	0.37751	0.15699	0.20896	0.38546
H69	0.16616	0.26750	0.38263	0.36225	0.45055	0.16831	0.19409	0.23512	0.14477	0.28640
H70	0.58682	0.47350	0.14387	0.45696	0.33231	0.26035	0.30286	0.09503	0.26109	0.55574
H71	0.22671	0.22605	0.45052	0.27285	0.31134	0.09212	0.30003	0.09521	0.14853	0.31234
H72	0.13144	0.21084	0.34652	0.38011	0.41400	0.19823	0.33117	0.29757	0.26638	0.29927
H73	0.48020	0.47466	0.14465	0.27692	0.14685	0.15197	0.29079	0.05549	0.17516	0.56454
H74	0.17308	0.16838	0.39252	0.36586	0.36479	0.15163	0.23096	0.12195	0.15957	0.24349
H75	0.50535	0.44900	0.00105	0.33772	0.15505	0.19663	0.22180	-0.07150	0.12418	0.42667
H76	0.24595	0.23979	0.50915	0.37532	0.44881	0.04025	0.35291	0.07085	0.09396	0.24353
H77	0.11448	0.14804	0.33720	0.23790	0.20922	0.11465	0.30303	0.09322	0.26337	0.29583
H78	0.13723	0.18795	0.17748	0.24848	0.42649	0.24339	0.16130	0.40924	0.21390	0.19721
H79	-0.04803	-0.03216	0.06561	0.13604	0.14375	0.23937	0.06736	0.42383	0.29310	-0.01270
H80	0.12756	0.18097	0.21590	0.33333	0.33801	0.17495	0.23590	0.26331	0.16283	0.25245
H81	0.02547	0.16227	0.17999	0.30702	0.39915	0.20425	0.05685	0.25009	0.20092	0.10219
H82	0.13205	0.19860	0.13495	0.42121	0.42338	0.40707	0.21238	0.39424	0.39878	0.22432
H83	0.37835	0.34665	0.21534	0.38284	0.37973	0.24851	0.30188	0.14879	0.20222	0.39558
H84	0.55249	0.48167	0.11717	0.38104	0.23086	0.18277	0.22395	-0.07025	0.15506	0.51770
H85	0.15191	0.20596	0.20589	0.38174	0.24025	0.36156	0.26975	0.40432	0.46452	0.22751
H86	0.13518	0.18367	0.21061	0.36676	0.38454	0.23188	0.20829	0.38408	0.22530	0.16266
H87	0.13573	0.11672	0.36825	0.26052	0.35349	0.11828	0.20829	0.38408	0.22530	0.16266
H88	0.25668	0.32917	0.27623	0.49012	0.35349	0.11828	0.20829	0.38408	0.22530	0.16266
H89	0.58874	0.48023	0.04827	0.34531	0.22628	0.44856	0.27129	0.32730	0.15393	0.23764
H90	0.47020	0.47807	0.13179	0.31267	0.08954	0.18954	0.19493	-0.08587	0.36212	0.24442
H91	0.48744	0.26249	0.13179	0.31267	0.08954	0.18954	0.23734	-0.03457	0.10622	0.53157
H92	0.13307	0.10754	-0.06043	0.32774	0.19264	0.20172	0.29620	-0.05157	0.20953	0.48156
H93	0.24042	0.18803	0.48525	0.36661	0.31987	0.22988	0.04648	0.21951	0.22574	0.06674
						0.09732	0.33517	0.07774	0.09107	0.29721

	H41	H42	H43	H44	H45	H46	H47	H48	H49	H50
H1	0.02181	0.18371	0.02647	0.30573	0.05647	0.02083	0.11236	0.32567	0.24102	0.10281
H2	0.18538	0.12052	0.05513	-0.05521	0.21324	0.25921	0.02984	-0.02784	-0.01830	0.24057
H3	0.09740	0.32446	0.32402	0.29595	0.20419	0.09774	0.23831	0.27982	0.15877	0.26565
H4	0.00604	0.23155	0.23736	0.08436	0.05467	0.18113	0.11591	0.17692	0.10543	0.32425
H5	-0.03168	0.19479	-0.00159	0.12871	0.03047	0.09015	0.09539	0.46614	0.34529	0.21431
H6	0.19187	0.08362	0.28553	-0.15477	0.19888	0.21023	0.01450	0.00514	0.03537	0.24423
H7	0.01759	0.40567	0.04080	0.29730	0.05049	-0.01861	0.15558	0.47423	0.35906	0.12923
H8	0.02506	0.27871	0.20814	0.33115	0.28030	-0.06199	0.20836	0.23280	0.33350	0.15444
H9	0.01066	-0.03029	0.13266	-0.08435	-0.05791	0.65571	0.01935	0.01507	0.05645	0.15913
H10	0.64780	0.25501	0.16443	0.10697	0.33621	-0.03524	0.11918	-0.09159	-0.00806	0.08444
H11	0.25975	0.09808	0.39737	-0.17567	0.23602	0.22761	0.02690	-0.02882	0.02002	0.23517
H12	0.17386	0.14265	0.36738	-0.01810	0.18306	0.17335	0.08722	-0.03485	0.10945	0.27633
H13	0.13465	0.38312	0.34562	0.28335	0.27387	0.02618	0.22018	0.11631	0.19067	0.2614
H14	0.08393	0.28092	0.54575	0.18698	0.28255	0.18273	0.20592	0.20637	0.22214	0.29483
H15	-0.06033	0.26935	0.14613	0.33661	0.11265	0.01572	0.23731	0.42237	0.50404	0.11312
H16	0.13229	0.03398	0.42055	0.02598	0.25211	0.12945	0.13527	0.05346	0.15009	0.26033
H17	0.03872	0.48419	0.19027	0.25713	0.23601	-0.06562	0.13527	0.21951	0.29849	0.17423
H18	0.30459	0.19701	0.29688	0.10476	0.31716	0.05247	0.20650	-0.02289	0.15059	0.32714
H19	0.25684	0.00157	-0.01202	-0.00762	0.16266	0.02429	-0.01605	-0.18316	-0.06485	0.02562
H20	0.47741	0.12107	0.17827	0.06415	0.30799	0.10653	0.16628	-0.04239	-0.03100	0.10672
H21	0.23598	0.30557	0.29411	-0.00244	0.28883	0.11540	0.16728	0.01608	0.13955	0.29463
H22	-0.00453	0.45730	0.09551	0.31495	0.07830	-0.01355	0.24015	0.41145	0.40978	0.12846
H23	0.22287	0.09980	0.50979	0.04751	0.14581	0.30148	0.14115	0.09036	0.02980	0.23435
H24	0.26151	0.16714	0.32102	-0.05018	0.23465	0.23029	0.06971	-0.18218	0.02969	0.27155
H25	0.05432	0.49349	0.18397	0.29668	0.16382	0.01114	0.20445	0.40411	0.35428	0.18076
H26	0.32540	0.18855	0.00813	0.06478	0.31752	0.04532	0.12202	-0.10663	0.10065	0.12359
H27	0.26671	0.26547	0.24074	0.13217	0.21609	0.36555	0.19169	0.16260	0.21085	0.20850
H28	0.50697	0.26565	0.21643	0.06204	0.37249	0.07432	0.14665	-0.07226	0.05592	0.19901
H29	0.25982	0.11845	0.32792	-0.04127	0.33599	0.24666	0.07776	-0.03590	0.02738	0.30185
H30	0.10356	0.16791	0.35816	0.04216	0.18615	0.17889	0.12760	0.02582	0.02738	0.26162
H31	-0.06896	0.30916	0.11052	0.36568	0.01276	0.08029	0.23281	0.53230	0.14111	0.11654
H32	-0.02297	0.33653	0.12653	0.26423	0.01869	0.03569	0.21360	0.49527	0.51024	0.29509
H33	0.17143	0.29858	0.11118	0.48190	0.21066	-0.06432	0.38797	0.01082	0.44929	0.06062
H34	0.13851	0.42152	0.32151	0.36276	0.19283	0.14527	0.29386	0.34131	0.50163	0.35884
H35	0.11208	0.39768	0.29557	0.24382	0.07907	0.07907	0.21829	0.22013	0.24772	0.30782
H36	0.13312	0.17386	0.19562	0.01678	0.17479	0.20081	0.12255	0.13415	0.31463	0.34334
H37	0.16871	0.44762	0.10566	0.25593	0.23448	-0.07560	0.23267	0.15334	0.25631	0.18737
H38	0.23808	0.21388	0.33452	-0.11523	0.40386	-0.07560	0.23267	0.15334	0.25631	0.18737
H39	0.29557	0.21802	0.23364	0.07692	0.29334	0.24564	0.02068	-0.09561	0.00391	0.22324
H40	0.08526	0.46184	0.12809	0.27774	0.14843	0.02884	0.22180	0.07359	0.00391	0.22324
H41	1.00000	0.30430	0.16662	0.12005	0.41102	-0.04444	0.14716	0.42749	0.22619	0.25784
H42	0.30430	1.00000	0.37620	0.37620	0.34865	-0.05719	0.31092	-0.06865	0.10572	0.14454
H43	0.16662	0.24949	1.00000	0.13407	0.34865	-0.05719	0.31092	-0.06865	0.10572	0.14454
H44	0.12005	0.37620	0.13407	1.00000	0.29155	-0.24592	0.17533	0.22266	0.22475	0.35158
H45	0.41102	0.34865	0.13407	0.16449	1.00000	-0.14281	0.52035	-0.27273	0.28885	0.06420
				0.16449		-0.03566	0.20472	-0.01855	0.14129	0.25369

	H41	H42	H43	H44	H45	H46	H47	H48	H49	H50
H46	-0.04444	-0.05719	0.24592	-0.14281	-0.03566	1.00000	0.06875	0.14753	0.06528	0.27555
H47	0.14716	0.31092	C.17533	0.52039	0.20472	0.06875	1.00000	0.25784	0.25247	0.16535
H48	-0.06865	0.24859	0.22266	0.27272	-0.01855	0.14753	0.25784	1.00000	0.56570	0.25258
H49	0.10572	C.29159	0.22475	0.28885	0.14129	0.06528	0.25247	0.56570	1.00000	0.37175
H50	0.14454	0.29593	0.35198	0.06420	0.25389	0.27555	0.16939	0.25258	0.37175	1.00000
H51	0.15663	0.19899	0.28946	0.04338	C.24177	0.14902	0.14817	0.25355	0.19404	0.35800
H52	0.26115	0.14491	C.31221	-0.16443	0.38316	0.12639	0.02519	-0.10190	-0.01869	0.33457
H53	0.15778	0.22217	0.50447	0.09435	0.32603	0.25327	0.22093	0.06506	0.08870	0.30021
H54	0.14794	C.43303	0.32474	0.25483	0.29589	0.06659	0.29298	0.33454	C.33983	0.33454
H55	-0.00709	0.24209	0.24209	0.12565	C.10618	0.14377	0.15872	0.54425	C.36983	C.25420
H56	0.20587	0.50293	0.25799	0.26055	0.26451	-0.11161	0.23660	0.26124	C.32770	0.34077
H57	0.44336	C.19170	0.25621	-0.03546	0.40884	0.06487	0.15645	-0.10698	-0.01473	0.21062
H58	0.19141	0.26969	0.26572	0.10559	0.14135	0.51050	0.25705	0.13652	C.34043	0.34043
H59	0.33120	C.29557	C.20455	0.14771	0.48458	0.11727	0.18675	-0.07505	0.26344	0.34525
H60	0.17534	0.36737	0.32517	0.23562	0.32314	0.11727	0.30967	0.08312	0.10136	0.32343
H61	0.24509	C.35952	C.31569	0.11743	0.37053	0.20659	0.17006	0.09846	C.14504	C.46374
H62	-0.03898	0.28155	C.08528	0.30572	0.03242	0.08767	0.20264	0.67977	0.53496	0.15515
H63	0.06953	0.43507	0.19835	0.27605	C.32839	0.04841	0.24433	C.19082	C.23972	0.32755
H64	0.14692	C.35918	0.06154	0.54685	0.23112	0.01470	0.44461	-0.26143	0.19086	0.12682
H65	0.21336	0.78306	0.28464	-0.12761	C.27387	0.22300	-0.01265	-0.09969	-0.03501	0.25406
H66	0.19222	0.09754	0.43560	-0.08641	0.28018	0.23831	-0.01752	-0.01247	C.08013	0.37045
H67	0.06951	0.07920	0.35970	-0.04114	0.05467	0.65385	0.10536	-0.06560	0.06830	0.26034
H68	0.12807	0.56910	0.20772	0.31484	0.25055	-0.02901	0.25979	0.27017	C.26507	0.24266
H69	0.13213	0.40395	0.31715	0.40065	0.36673	-0.00577	0.35577	0.27446	0.22027	0.23014
H70	-0.01047	0.39530	0.21403	0.28595	0.18109	0.15567	0.20248	0.58433	0.65674	0.24077
H71	0.06885	0.35414	0.16880	0.43611	0.18715	0.02550	0.31337	0.15995	0.15162	0.08371
H72	0.20695	0.52611	0.33510	0.29425	0.31112	0.05389	0.28535	0.14185	C.15816	0.32400
H73	-0.03504	0.38545	C.08526	0.26115	0.05952	0.12355	0.23725	0.41345	0.36595	0.20447
H74	0.11426	0.37811	0.28335	0.33517	0.21080	0.07347	0.32063	0.16332	0.22905	0.28355
H75	-0.04160	0.25600	0.11007	0.26714	0.01382	0.09072	0.22181	0.68328	0.54132	0.26207
H76	0.14817	0.41505	0.16036	0.58065	0.01382	-0.08008	0.48110	0.18053	0.18040	C.17375
H77	0.29296	0.30595	-0.01283	0.26426	0.28229	-0.13747	C.30202	0.04423	0.18789	0.12252
H78	0.12586	C.25744	0.35100	0.14267	0.26126	0.20728	0.15858	0.13324	C.18878	0.35159
H79	0.31059	0.07123	0.35510	-0.02544	0.28811	0.19474	0.10781	-0.01255	0.07835	0.31538
H80	0.29498	0.47235	0.33057	0.28269	0.45215	-0.00709	0.30290	0.14245	C.18840	C.28043
H81	0.13394	0.24932	0.42757	0.17222	0.23166	0.22783	0.19476	0.15902	0.19070	0.46672
H82	0.09680	C.47507	C.47507	0.07764	0.23272	0.32233	C.14350	0.11737	C.32246	0.47622
H83	0.13883	C.47016	C.19401	0.41134	0.24516	-0.02501	0.29954	0.32201	0.33972	0.17516
H84	-0.00015	0.37459	0.14604	0.32817	0.03766	0.11845	C.24001	C.65559	0.55040	0.21532
H85	0.32949	0.28523	0.21716	0.08265	0.39252	0.31552	0.24815	0.04578	0.21874	0.37954
H86	0.13590	0.35155	0.35274	0.23580	0.37173	0.11613	0.27605	0.14547	C.21110	0.30418
H87	0.30043	0.53033	0.16575	0.38495	0.39474	-0.11747	C.23559	0.08658	C.26135	0.26769
H88	0.27740	0.27922	0.28078	0.26543	0.32479	0.22071	0.22071	0.21142	0.37734	0.38245
H89	-0.12378	C.32479	0.13851	0.29512	-0.01360	0.07506	0.19893	0.68277	C.54420	0.21205
H90	-0.04958	0.21560	0.07087	0.27385	0.04040	0.20825	0.22573	0.53774	C.51749	0.17567

	H41	H42	H43	H44	H45	H46	H47	H48	H49	H50
H91	0.12567	0.33411	-0.01196	0.42759	0.16865	0.01281	0.30347	0.46363	0.44700	0.16128
H92	0.11306	0.08288	C.26592	-0.01667	0.04138	0.55985	0.16135	0.15380	0.12254	0.26466
H93	0.22767	0.40902	0.17771	0.52175	0.23356	0.01123	0.48377	0.24481	0.24600	0.19245
	H51	H52	H53	H54	H55	H56	H57	H58	H59	H60
H1	0.04398	-C.11655	-0.00655	0.12757	0.31017	0.15379	-0.04583	0.18641	0.04356	0.14542
H2	0.23458	0.45746	0.43010	0.15745	0.03155	0.07195	0.14280	0.18689	0.28965	0.22335
H3	0.15271	0.21260	0.34076	0.35071	0.25480	0.19157	0.07293	0.21744	0.21251	0.43821
H4	0.20152	C.15708	C.28279	0.20082	0.18525	0.12838	0.10076	0.28327	C.19200	0.26566
H5	0.23768	-0.01374	-0.00894	0.16288	C.50077	0.13526	-0.07902	0.10694	0.03195	0.06066
H6	0.30452	0.47568	0.23633	0.08428	0.08081	0.05421	0.28321	0.22732	C.23222	0.13722
H7	0.17419	-0.12709	0.00647	0.20452	0.42326	0.24566	-0.12579	0.18225	0.01187	0.11518
H8	0.05061	C.07055	C.13929	0.28371	0.20976	0.23933	0.08653	0.20214	C.31726	0.30462
H9	0.10520	C.07481	0.15879	-0.02146	0.05567	0.01820	0.03952	0.34360	0.02902	0.03855
H10	0.14887	0.26534	0.27102	0.18175	-C.00763	0.17177	0.41176	C.16575	C.37875	0.22237
H11	0.33887	0.56523	0.42434	0.13581	0.02786	0.03454	0.31643	0.21147	0.29836	0.22640
H12	0.31101	0.42886	0.40589	0.15508	C.02160	0.11445	0.19765	0.17691	0.26646	0.23026
H13	0.23649	C.24113	0.24276	0.35823	0.23036	0.29055	0.08784	0.25242	C.26831	0.35055
H14	0.18286	0.31583	0.45455	0.27081	C.15971	0.25360	0.10150	0.24919	0.22477	0.42151
H15	0.18287	-C.01856	0.08307	0.25103	0.41605	0.24019	-0.10680	C.12068	C.02993	0.13625
H16	0.18678	0.41866	0.41455	0.08681	0.05463	0.01022	0.14443	0.20565	0.21572	0.20376
H17	0.12284	C.17825	0.14731	0.26118	0.20673	0.31041	0.04867	0.24768	C.25259	C.24808
H18	0.18399	0.41015	0.35051	0.29184	C.13862	0.17762	0.27326	0.24528	0.38225	0.38501
H19	0.15327	0.36931	0.20768	0.03710	0.08959	-0.00224	0.27135	0.17565	0.42712	0.20366
H20	0.22781	0.19942	C.17718	0.10602	0.01633	0.10296	0.59041	0.15820	C.33911	0.19834
H21	0.35379	0.45450	0.37570	0.30205	0.17404	0.13075	0.33156	0.22674	0.35496	0.33128
H22	0.10478	-0.13534	0.01932	0.34524	0.33588	0.32618	-0.04057	0.19519	C.01755	0.17410
H23	0.29693	0.25459	0.45241	0.19770	C.03049	0.16925	0.21369	0.22754	0.19380	0.27520
H24	0.19445	0.44525	0.39529	0.13279	-0.02130	0.13985	0.28956	0.23522	0.35146	0.32432
H25	0.18181	-0.03616	C.11579	0.34545	0.30455	0.16664	-0.04478	0.16831	C.02945	C.26018
H26	0.07301	0.33835	0.16670	0.12150	0.04961	0.09517	0.28074	0.20476	0.51459	0.25468
H27	0.17169	0.17935	C.23697	0.24945	0.20340	0.18129	0.24948	0.56110	C.27263	0.32826
H28	0.12572	0.21517	0.19264	0.17355	-0.02443	0.16952	0.57182	0.18270	0.37849	0.23800
H29	0.28520	0.52654	C.40627	0.14510	0.07128	0.15824	0.29158	0.22663	C.38684	0.24670
H30	0.29402	0.43912	0.39735	0.16373	C.11071	0.03328	0.14155	0.24500	0.26263	0.28460
H31	0.17800	-0.11579	0.06347	0.27119	0.49749	0.14976	-0.15477	0.18473	-C.03196	0.02518
H32	0.19519	0.03718	0.14259	0.32491	0.58266	0.18731	-0.08182	0.23470	0.05413	0.13724
H33	0.04605	0.09770	0.18283	0.26189	0.12736	0.23319	0.12528	0.12257	0.32116	0.36722
H34	0.29508	0.13913	C.28636	0.49042	0.32598	0.36780	0.11005	0.35859	0.25331	0.37616
H35	0.08261	0.18099	0.37644	0.43575	0.24960	0.27528	0.08804	0.26738	0.29878	0.51023
H36	0.22647	0.29437	0.24764	0.21430	0.28378	0.15834	0.17094	0.30294	C.21410	0.28369

	H51	H52	H53	H54	H55	H56	H57	H58	H59	H60
H37	0.22056	0.14434	0.17373	0.3614C	0.24643	0.32311	0.10997	0.18948	0.15613	0.32526
H38	0.22680	0.65739	0.40877	0.20765	0.11335	0.12513	0.28493	0.20231	C.40476	0.34142
H39	0.34645	0.34797	0.29127	0.18456	0.23986	0.13112	0.32543	0.33230	0.23501	0.20452
H40	0.19710	0.03578	0.03000	0.34146	0.48643	0.29557	0.03688	0.19477	C.12100	0.14661
H41	0.16663	0.26115	0.16778	0.14194	-C.00709	0.20587	0.44336	0.19141	C.33120	0.17524
H42	0.19899	0.14491	0.22217	0.43203	0.24209	0.50253	0.19170	0.26569	0.29557	0.36737
H43	0.28546	0.31221	C.50447	0.32674	0.25759	0.50253	0.25621	0.26572	0.20459	0.32517
H44	0.04338	-0.16443	0.09835	0.25463	0.20235	0.26055	-0.03948	0.10559	0.14771	0.23963
H45	0.24177	0.38316	0.32603	0.29589	0.10618	0.26451	0.04884	0.14135	C.48458	0.32314
H46	0.14902	0.12639	0.25227	0.06455	0.14377	-0.01161	0.06487	0.51090	0.06562	0.11727
H47	0.14817	0.02519	0.22093	0.29298	0.15872	0.23660	0.15645	0.25705	C.18675	0.30967
H48	0.25355	-C.10190	C.65C6	0.33521	0.54425	0.26134	-0.10898	0.13652	-C.07505	0.08312
H49	0.19404	-0.01860	0.08870	0.33582	0.36983	0.32770	-0.01473	0.21742	0.06344	0.10126
H50	0.35580	0.33457	0.30C21	0.33484	0.25420	0.34077	0.21062	0.24C43	C.34525	0.32343
H51	1.00000	0.41094	0.29135	0.23684	0.28035	0.20330	0.22191	0.21712	0.07808	0.04115
H52	0.14C94	1.00000	0.47255	0.17532	0.09050	0.06563	0.27108	0.19573	C.46783	0.33137
H53	0.29135	C.47255	1.00000	0.35511	0.15028	0.07719	0.18513	0.27496	0.34326	0.42313
H54	0.23084	0.17532	0.35511	1.00000	0.47286	0.43139	0.14584	0.26255	0.25458	0.40415
H55	0.28C35	0.09050	C.15C28	0.47286	1.00000	0.23419	-0.02927	0.19174	0.02365	0.14757
H56	0.27330	0.06563	0.07719	0.43135	0.23419	1.00000	0.24057	0.11423	0.20852	0.11757
H57	0.27191	C.271C8	0.18513	0.14584	-0.02927	0.24057	1.00000	0.18C96	C.37733	0.23239
H58	0.21712	0.19573	0.27496	0.26255	0.19174	0.11423	0.18096	1.00000	0.30400	C.34115
H59	0.07808	0.46783	0.34326	0.25458	0.02365	0.20852	0.37733	0.30400	1.00000	0.50452
H60	0.04715	0.33137	C.42313	0.40415	C.16797	0.23239	0.24059	0.33475	C.50452	1.00000
H61	0.29489	0.43521	0.42879	0.35765	0.25457	0.21582	0.24529	0.42481	C.40366	0.49660
H62	0.15157	-0.07191	C.05443	0.31644	0.62443	0.24309	-0.13931	0.15746	-C.01844	0.15415
H63	0.14821	0.12085	0.23527	0.40662	C.22075	0.40597	0.13809	0.29629	0.29445	0.40349
H64	0.10570	C.02878	0.24182	0.37114	0.27072	0.23653	0.10370	0.27354	C.22292	0.31571
H65	0.29287	0.48672	0.36820	0.20501	0.01449	0.09717	0.39126	0.27672	0.40941	0.25665
H66	0.35095	0.65036	0.56140	0.18305	C.12138	0.07264	0.211C9	0.31C38	0.36845	0.34358
H67	0.25825	C.19074	C.32758	0.17246	0.13790	0.09800	0.22262	0.47443	0.10758	0.19453
H68	0.19789	0.12443	0.18479	0.35117	0.23241	0.45258	C.12051	0.16777	0.24972	0.36040
H69	0.10101	C.20888	C.30879	0.40592	0.25858	0.28804	C.11652	0.21594	0.34243	0.44716
H70	0.20186	0.16658	0.16658	0.35544	0.46583	0.33569	-0.04024	0.23C41	0.08154	0.19005
H71	0.24249	C.05954	C.24228	0.28C12	0.18483	0.26377	0.12560	0.22708	C.26102	0.40230
H72	0.16522	0.22694	0.36653	0.39C86	0.23922	0.39556	0.22675	0.32520	0.40390	0.53228
H73	0.17176	-0.11638	0.32031	0.32031	0.49317	0.20033	-0.01265	C.27C89	C.04866	0.20659
H74	0.14236	0.07835	0.28512	0.37552	0.14972	0.44082	0.20371	0.26617	-C.30581	0.07276
H75	0.17554	-0.12342	0.03832	0.34C03	0.44527	0.27683	-0.02048	0.12859	-C.04559	0.49136
H76	0.08496	0.04999	0.25754	0.37320	0.16456	0.31702	0.09413	0.14400	0.26674	0.46502
H77	0.16250	0.22847	0.06799	0.27C3C	0.17923	0.24737	0.35382	0.06773	0.41933	0.19803
H78	0.14444	C.37502	0.44543	0.27056	0.18347	0.12367	0.11466	0.28666	C.30130	0.34070
H79	0.45978	0.52120	0.33451	0.15C55	0.04811	0.11711	0.36649	0.17255	0.32606	0.20739
H80	0.23142	0.22775	0.29912	0.39403	0.16328	0.28812	0.27120	C.28560	0.29466	0.45430
H81	0.22660	0.28021	C.48508	0.33667	0.13205	0.19474	0.17933	0.26541	0.28686	0.42555

	H51	H52	H53	H54	H55	H56	H57	H58	H59	H60
H82	0.21266	0.39833	0.49546	0.27396	0.15958	0.22267	0.16412	0.24693	0.29652	0.47151
H83	0.09950	0.39134	0.20254	0.37300	0.30010	0.27566	0.05542	0.26211	0.24373	0.34849
H84	0.21616	-0.09517	0.05595	0.34411	0.46678	0.32356	-0.05943	0.18122	-0.05074	0.13939
H85	0.35462	0.43315	0.37564	0.28648	0.23064	0.20666	0.32676	0.47301	0.44688	0.28772
H86	0.12051	0.28531	0.41767	0.39150	0.17352	0.20262	0.16242	0.28019	0.34830	0.49053
H87	0.07130	0.10404	0.16881	0.36692	0.08067	0.44321	0.19357	0.15221	0.39108	0.41727
H88	0.27485	0.31930	0.37816	0.35378	0.25613	0.24307	0.21172	0.36784	0.34205	0.40246
H89	0.19287	-0.11665	0.03162	0.29636	0.51139	0.26448	-0.13320	0.14552	-0.07774	0.09646
H90	0.26410	-0.09343	0.06244	0.30561	0.46064	0.20164	-0.03285	0.20387	-0.05178	0.03266
H91	0.10746	-0.01801	-0.00125	0.32331	0.47733	0.19547	0.11174	0.23489	0.17704	0.11232
H92	0.16817	0.10227	0.25396	0.08641	0.13952	0.13019	0.13542	0.42549	0.10365	0.10247
H93	0.15130	0.01664	0.19233	0.34233	0.24436	0.32910	0.14048	0.21349	0.25831	0.35062
	H61	H62	H63	H64	H65	H66	H67	H68	H69	H70
H1	0.12760	0.42796	0.21249	0.25518	-0.10303	-0.02444	-0.01188	0.23052	0.19019	0.33557
H2	0.36346	-0.10654	0.14527	0.01155	0.20171	0.46808	0.26342	0.08299	0.11054	-0.01078
H3	0.27024	0.21962	0.29707	0.25494	0.10768	0.25502	0.19096	0.32205	0.42437	0.24568
H4	0.29693	0.14048	0.21535	0.10580	0.05661	0.22788	0.23957	0.26519	0.14564	0.11762
H5	0.12790	0.52212	0.10596	0.15655	-0.08637	0.02616	0.03185	0.18084	0.10949	0.40671
H6	0.33630	-0.02399	0.06661	0.02630	0.39825	0.46140	0.25261	0.11346	0.11069	0.03162
H7	0.10726	0.52226	0.28242	0.28283	-0.11083	-0.06858	-0.01259	0.11259	0.20942	0.43234
H8	0.22504	0.22117	0.26180	0.25671	0.06711	0.11862	0.00927	0.27488	0.30568	0.35753
H9	0.09802	0.00503	0.03118	0.01239	0.21230	0.16437	0.57321	-0.06093	-0.06190	0.04766
H10	0.24836	-0.12608	0.09615	0.09023	0.23353	0.22470	0.11221	0.10626	0.11431	-0.06959
H11	0.32571	-0.15858	0.05803	-0.09073	0.43635	0.55186	0.28917	0.06581	0.10247	-0.00958
H12	0.32090	-0.08039	0.17100	0.02172	0.27915	0.46751	0.25808	0.06578	0.14700	-0.00415
H13	0.46092	0.17970	0.36452	0.21557	0.12755	0.34666	0.10302	0.26578	0.36441	0.26569
H14	0.34763	0.15814	0.28282	0.20454	0.23535	0.41260	0.15009	0.29611	0.40894	0.27175
H15	0.05103	0.58115	0.17430	0.30685	-0.12505	-0.01315	-0.01134	0.24630	0.24128	0.53712
H16	0.25343	0.06446	0.05099	0.08462	0.22657	0.46588	0.19877	0.01884	0.24128	0.53712
H17	0.25950	0.28355	0.34522	0.26665	0.02670	0.15857	0.05763	0.43411	0.42079	0.15529
H18	0.35853	0.06297	0.22521	0.16409	0.25239	0.37279	0.18790	0.22143	0.29575	0.08932
H19	0.21420	-0.05146	0.15733	0.12775	0.38103	0.32752	0.13397	0.04526	0.05630	-0.09407
H20	0.19952	-0.06019	0.12695	0.10678	0.37715	0.18036	0.21926	0.03195	0.12168	-0.04686
H21	0.43300	0.06390	0.23129	0.12516	0.36225	0.40302	0.21414	0.25678	0.23910	0.12055
H22	0.10659	0.45670	0.23428	0.33606	-0.10550	-0.05123	-0.01139	0.32553	0.32023	0.47700
H23	0.25567	-0.03499	0.10633	0.12503	0.30157	0.32357	0.29310	0.08529	0.15635	0.01370
H24	0.29221	-0.17196	0.12571	0.03523	0.33983	0.49537	0.28291	0.14908	0.12138	0.00337
H25	0.23057	0.38732	0.28015	0.24519	-0.00429	0.05542	0.07093	0.23434	0.26259	0.41863
H26	0.28222	0.03086	0.15126	0.14525	0.38074	0.27353	0.14129	0.11643	0.18726	0.04865
H27	0.32980	0.20622	0.31650	0.28597	0.30812	0.27476	0.39192	0.21635	0.14654	0.21634

	H61	H62	H63	H64	H65	H66	H67	H68	H69	H70
H28										
H29	0.31659	-0.12871	0.12074	0.07676	0.29207	0.20161	0.14158	0.08229	0.13132	-0.02753
H30	0.44568	-0.07891	0.18934	0.08528	0.49000	0.55380	0.23610	0.08706	C.19430	0.03521
H31	0.34761	0.01378	C.23665	0.08155	0.34133	0.48342	0.29305	0.21760	0.16763	0.14118
H32	0.06902	0.66791	0.17933	0.28658	-0.14883	-0.02712	0.07538	0.22199	0.16616	0.58662
H33	0.24255	0.58884	0.21198	0.24185	-0.07793	0.07316	0.02497	0.27112	0.26750	0.47250
H34	0.16478	0.14092	0.26479	0.47650	0.14963	0.05077	0.03731	0.30508	0.38263	0.14367
H35	0.39566	0.35971	0.32173	0.36047	0.07662	0.23729	0.21065	0.40666	C.36229	0.45656
H36	0.32693	0.18697	0.33360	0.32667	0.16018	0.26343	0.17359	0.32443	0.45055	0.33221
H37	0.41150	0.22288	0.20101	0.16114	0.22202	0.35443	0.25445	0.16868	C.16831	0.26035
H38	0.24495	0.26257	C.34551	0.34706	0.05575	0.06287	0.03576	0.37151	C.19409	0.30266
H39	0.53719	-0.03624	0.21431	0.12433	C.42240	0.64168	0.23910	0.13659	0.23312	0.09503
H40	0.33719	0.13523	0.14646	0.21148	0.36510	0.34082	0.26248	0.20696	C.14477	0.26105
H41	0.19120	0.58282	0.21442	0.29055	0.02325	0.04475	0.06062	0.38546	0.28640	0.55574
H42	0.24509	-0.03858	0.06953	0.14692	0.23336	0.19222	0.06951	0.12607	C.13213	-0.01047
H43	0.35952	0.28155	0.43507	0.35518	0.08306	0.09734	0.06920	0.56910	0.40395	0.39520
H44	0.31969	0.08928	0.19835	0.06154	0.28464	0.43560	0.35970	0.20772	0.31715	0.21403
H45	0.11743	C.30973	C.27605	0.54685	-0.12761	-0.08661	-0.04714	0.31484	C.40069	0.28555
H46	0.37053	0.03242	0.32839	0.23112	0.27087	0.28018	0.05461	0.25055	0.36673	0.18109
H47	0.20659	0.08707	0.04841	0.01470	0.22300	0.23831	0.65385	-0.00577	-C.00577	0.15567
H48	0.17006	0.20264	C.24433	0.44461	-0.01269	-0.01752	0.10536	0.25979	0.35577	0.20248
H49	0.09846	C.67977	0.19082	0.26743	-0.09969	-0.01267	0.06560	0.27017	C.27466	0.58433
H50	0.14504	0.53496	0.23572	0.19086	-0.03501	0.08013	0.06830	0.28507	0.22027	0.65674
H51	0.46374	0.19975	0.32755	0.12682	0.23406	0.37069	0.26034	0.24266	C.23014	0.24077
H52	0.29489	0.15157	C.14821	0.10570	0.28287	0.35095	0.25825	0.19789	C.10101	C.20166
H53	0.43521	-0.07191	0.12085	0.02678	0.48672	0.65036	0.19074	0.12443	0.20888	0.00975
H54	0.42879	0.05443	0.23527	0.24182	0.36820	0.54140	0.32758	0.18479	C.30879	0.16658
H55	0.35765	0.31644	0.40663	0.37114	C.20501	0.18305	0.17346	0.35117	0.40992	0.35544
H56	0.25457	0.62443	C.22075	0.27072	0.01449	0.12138	0.13790	0.23241	C.25858	0.46563
H57	0.21982	0.24309	0.40597	0.23452	0.09717	0.07264	0.09804	0.45298	0.28804	0.33569
H58	0.24529	-0.13931	0.13809	0.10370	0.39126	0.21109	0.22262	C.12051	0.11652	-0.04024
H59	0.42481	C.15746	C.29629	0.27254	0.27672	0.31038	0.47443	0.16777	C.23041	0.23041
H60	0.40366	-0.01844	0.29445	0.22292	0.40941	0.36845	0.10758	0.24972	C.34243	0.08154
H61	0.49680	0.15415	0.40389	0.31571	0.25669	0.34358	0.19693	0.36040	C.44576	0.19005
H62	1.00000	0.15327	C.37182	0.23400	0.24440	-0.49262	0.23014	0.23427	C.34123	0.22302
H63	0.15327	1.00000	0.24975	0.21902	-0.14649	-0.03624	0.02606	0.27567	C.21498	0.64409
H64	0.37782	0.24975	1.00000	0.43435	0.13395	0.20134	0.08530	0.62617	0.38471	0.30555
H65	0.23400	0.31902	0.43835	1.00000	0.10110	0.08018	0.06530	0.40453	0.44523	0.30555
H66	0.44400	-0.14649	0.13355	0.10110	1.00000	0.53787	0.33585	0.02848	0.12362	-0.06279
H67	0.49282	-0.03624	0.20134	0.08018	0.33797	1.00000	0.30947	0.09895	0.25371	0.10405
H68	0.21927	0.27967	0.62617	0.06530	0.33585	0.30947	1.00000	0.10467	C.06608	0.13136
H69	0.34123	0.21498	0.38471	0.44523	0.02848	0.09995	0.10467	1.00000	0.49528	0.37248
H70	0.22302	C.64409	0.30555	0.31465	-0.06279	0.25571	0.06608	0.49528	1.00000	0.38130
H71	0.17215	0.23677	0.35621	0.50467	0.07458	0.10405	0.13136	0.37248	0.38130	1.00000
H72	0.39738	0.15601	C.58511	0.46665	0.18518	0.06453	0.09563	0.38125	0.46233	0.31763
						0.29286	0.18334	0.58466	0.49900	0.28277

H73	H61	H62	H63	H64	H65	H66	H67	H68	H69	H70
H74	0.22797	0.55016	0.33204	0.38576	0.00136	0.07062	0.11363	0.27340	0.20422	0.48952
H75	0.28816	0.27029	0.59878	0.43011	0.09923	0.16911	0.18996	0.52112	0.46620	0.37000
H76	0.10213	0.64986	0.22257	0.28331	-0.08302	-0.06506	0.07782	0.26813	0.24003	0.56574
H77	0.23368	0.19086	0.40732	0.50031	0.00428	0.05603	0.05603	0.42527	0.51917	0.30753
H78	0.16382	0.15311	0.30530	0.29522	0.12244	0.02872	-0.04737	0.31268	0.29269	0.15224
H79	0.44862	0.16757	0.27291	0.22405	0.22525	0.49250	0.21702	0.22146	0.45606	0.26358
H80	0.30713	-0.02627	0.58195	-0.01413	0.43370	0.52937	0.28751	0.06708	0.12500	0.01662
H81	0.41661	0.16610	0.41059	0.31524	0.19259	0.26152	0.11109	0.37804	0.45061	0.23141
H82	0.47439	0.10366	0.33212	0.20616	0.20146	0.43017	0.22654	0.24649	0.27996	0.23579
H83	0.43608	0.15842	0.25368	0.17140	0.25104	0.52243	0.33400	0.25389	0.32328	0.38468
H84	0.28515	0.38660	0.42575	0.42078	0.03116	0.17270	0.02806	0.42133	0.59139	0.42157
H85	0.09271	0.65732	0.27323	0.30485	-0.09167	-0.01566	0.08084	0.39121	0.30575	0.65305
H86	0.45150	0.16911	0.25215	0.25483	0.32404	0.38979	0.32731	0.25598	0.28759	0.28315
H87	0.42749	0.16078	0.23427	0.24372	0.19467	0.35504	0.13588	0.35979	0.53913	0.28041
H88	0.25547	0.15064	0.55090	0.41845	0.11316	0.05634	-0.02018	0.56457	0.50075	0.29054
H89	0.35029	0.27320	0.31200	0.29164	0.27159	0.40504	0.21557	0.25411	0.40350	0.38259
H90	0.10971	0.66619	0.22041	0.26580	-0.14962	-0.05344	0.06434	0.32366	0.21732	0.67464
H91	0.11868	0.59692	0.21505	0.28771	0.01590	0.00676	0.13787	0.23505	0.18379	0.55125
H92	0.19694	0.57837	0.20500	0.40635	-0.04055	-0.05155	0.02307	0.31407	0.38347	0.45420
H93	0.15165	0.15679	0.66124	0.09584	0.28029	0.20865	0.56788	0.05423	0.03380	0.13558
	0.23249	0.28141	0.38331	0.53281	0.01259	0.08610	0.04658	0.43773	0.50109	0.34464

H1	H71	H72	H73	H74	H75	H76	H77	H78	H79	H80
H2	0.23890	0.17782	0.47203	0.20556	0.33447	0.22015	0.07914	0.04543	-0.11249	0.21169
H3	-0.03720	0.15068	-0.03506	0.09600	-0.07252	-0.01046	-0.01666	0.21756	0.33336	0.19714
H4	0.26996	0.35386	0.16623	0.35685	0.19011	0.40252	0.05866	0.42456	0.16469	0.35770
H5	0.06336	0.28643	0.19002	0.18971	0.13249	0.20787	0.11827	0.22580	0.15713	0.17171
H6	0.06382	0.06564	0.36028	0.04513	0.45333	0.05843	0.11501	0.09072	-0.00243	0.02044
H7	-0.05554	0.13123	-0.02468	0.02303	-0.03860	-0.01051	0.06352	0.28103	0.46451	0.23173
H8	0.22036	0.27369	0.52504	0.19352	0.44589	0.19807	0.10612	0.03548	-0.11583	0.13212
H9	0.24549	0.28947	0.20090	0.24111	0.23355	0.28715	0.16828	0.22579	0.06846	0.36411
H10	-0.06381	0.03822	0.09770	0.01637	0.02481	-0.11294	-0.11382	0.03563	0.15687	-0.06407
H11	-0.07209	0.23457	-0.07290	0.06566	-0.18108	0.11783	0.19141	0.06951	0.32816	0.25654
H12	-0.07596	0.17916	-0.08705	0.08260	-0.09123	-0.02826	0.04359	0.25011	0.52125	0.23624
H13	0.01441	0.21273	0.02161	0.19465	-0.02540	0.16314	0.11444	0.27792	0.45199	0.26709
H14	0.20872	0.36915	0.20200	0.30433	0.05837	0.42533	0.20085	0.38445	0.28619	0.43569
H15	0.21795	0.36845	0.11050	0.12948	0.12948	0.24846	-0.03163	0.46055	0.30920	0.35810
H16	0.25383	0.18683	0.44033	0.17106	0.48425	0.26777	0.21759	0.07242	-0.03314	0.14555
H17	0.07874	0.16297	0.09330	0.17082	0.04041	0.09161	0.01746	0.41472	0.36130	0.15456
H18	0.30171	0.43222	0.34274	0.32281	0.28666	0.31254	0.01738	0.25318	0.04101	0.35305
	0.20182	0.31105	0.11204	0.25760	0.01409	0.14980	0.28561	0.31445	0.26879	0.26557

	H71	H72	H73	H74	H75	H76	H77	H78	H79	H80
H19	0.10061	0.13511	0.07192	0.03607	-0.08147	0.00083	0.31766	0.12039	0.23216	0.02228
H20	0.15523	0.19119	-0.00017	0.15598	-0.05298	0.10364	0.24535	0.15312	0.31475	0.26463
H21	0.12964	0.27546	0.09692	0.14458	-0.00198	0.17600	0.28522	0.34440	0.49246	0.27062
H22	0.29375	0.24423	0.50168	0.26192	0.44262	0.25140	0.16612	0.10732	-0.16764	0.27259
H23	0.14792	0.19718	0.04538	0.20165	0.07502	0.09935	0.03029	0.21645	0.25970	0.14764
H24	0.01411	0.27632	-0.12877	0.17261	-0.14708	0.07710	0.08797	0.39583	0.41133	0.16955
H25	0.15541	0.31303	0.11183	0.27134	0.41692	0.27993	0.05945	0.12471	-0.03333	0.29514
H26	0.14016	0.19112	0.04003	0.12057	0.02199	0.11546	0.36070	0.22650	0.29289	0.13018
H27	0.20411	0.30339	0.20593	0.25087	0.12941	0.20260	0.19643	0.17727	0.20688	0.27560
H28	0.04856	0.24501	-0.04494	0.09375	-0.09436	0.17050	0.25572	0.14212	0.26880	0.31341
H29	0.05059	0.20552	-0.02605	0.13735	-0.13261	0.05889	0.14465	0.31177	0.47030	0.29889
H30	0.06060	0.25381	0.08437	0.17058	-0.01616	0.06098	0.03191	0.32023	0.39770	0.21551
H31	0.22671	0.13144	0.48020	0.17308	0.50535	0.24555	0.11448	0.13723	-0.04803	0.12756
H32	0.22605	0.21084	0.47466	0.16838	0.44900	0.23379	0.14804	0.18795	-0.03216	0.18057
H33	0.45052	0.34652	0.14465	0.39252	0.00105	0.50515	0.33720	0.17749	0.26561	0.21550
H34	0.27285	0.38011	0.27892	0.36586	0.33772	0.37332	0.23790	0.24848	0.13604	0.33323
H35	0.31134	0.41400	0.14855	0.36475	0.15505	0.44881	0.20922	0.42649	0.14375	0.33811
H36	0.09212	0.19823	0.15197	0.19163	0.19663	0.04025	0.11465	0.24339	0.23937	0.17455
H37	0.30003	0.33117	0.29079	0.23096	0.22180	0.35291	0.30303	0.16130	0.06736	0.23550
H38	0.09921	0.29757	0.05949	0.12195	-0.07150	0.07065	0.09322	0.40524	0.42383	0.26331
H39	0.14893	0.26638	0.17516	0.15557	0.12418	0.09356	0.26327	0.21350	0.29310	0.16282
H40	0.31234	0.29927	0.56494	0.24345	0.42667	0.24353	0.29583	0.19721	-0.01270	0.25245
H41	0.06885	0.20695	-0.03504	0.11426	-0.04160	0.14817	0.29296	0.12586	0.31059	0.29458
H42	0.35414	0.52611	0.38545	0.37811	0.25600	0.41505	0.30595	0.27706	0.07123	0.47235
H43	0.16880	0.33910	0.08526	0.28235	0.11007	0.16036	-0.01283	0.35744	0.35510	0.33062
H44	0.43611	0.29425	0.26115	0.33517	0.26714	0.58069	0.26426	0.14267	-0.02544	0.28249
H45	0.13715	0.31112	0.05552	0.21080	0.01382	0.24264	0.28229	0.26126	0.29811	0.45215
H46	0.02550	0.05389	0.12335	0.07347	0.09072	-0.08008	-0.13747	0.20728	0.19474	-0.00769
H47	0.31337	0.28535	0.23725	0.32062	0.22181	0.48110	0.30202	0.15858	0.10781	0.30250
H48	0.16095	0.14185	0.41345	0.16232	0.68328	0.18053	0.04423	0.13324	-0.01255	0.14255
H49	0.15162	0.15816	0.36555	0.22505	0.54132	0.18040	0.18789	0.18878	0.07835	0.18850
H50	0.08371	0.32400	0.20487	0.28255	0.26207	0.17375	0.12252	0.39199	0.31538	0.28043
H51	0.05349	0.16522	0.17176	0.14336	0.17554	0.08456	0.16250	0.14444	0.45978	0.23142
H52	0.22594	0.02694	-0.01245	0.07435	-0.12342	0.04559	0.22847	0.37502	0.52120	0.22775
H53	0.24228	0.36893	0.11638	0.28912	0.03832	0.25754	0.06795	0.44543	0.33451	0.29912
H54	0.28012	0.39088	0.22031	0.37552	0.34003	0.37320	0.27030	0.27056	0.15055	0.39403
H55	0.14483	0.23922	0.49317	0.14572	0.44527	0.16456	0.17923	0.18347	0.04811	0.16328
H56	0.26377	0.39996	0.20033	0.44082	0.27683	0.31702	0.24737	0.12267	0.11711	0.28812
H57	0.12560	0.22675	-0.01265	0.20571	-0.02048	0.09413	0.35382	0.11466	0.36649	0.27120
H58	0.22708	0.32520	0.27089	0.26617	0.12859	0.14400	0.06773	0.28466	0.17255	0.28560
H59	0.26102	0.40390	0.04666	0.30581	-0.04559	0.26674	0.41933	0.30130	0.32606	0.29446
H60	0.40230	0.53228	0.20699	0.49136	0.07276	0.46503	0.19803	0.34070	0.20739	0.45430
H61	0.17215	0.39738	0.22797	0.28116	0.10213	0.23368	0.16382	0.44862	0.30713	0.41661
H62	0.23677	0.15601	0.55016	0.20025	0.64966	0.19066	0.15311	0.16757	-0.02627	0.16610
H63	0.35821	0.58911	0.33204	0.49678	0.22257	0.40732	0.30530	0.27291	0.08195	0.41059

	H71	H72	H73	H74	H75	H76	H77	H78	H79	H80
H64	0.50467	0.46665	0.38976	0.43011	0.28338	0.50031	0.29523	0.22409	-0.01413	0.31524
H65	0.07458	0.18518	0.00136	0.09523	-0.08302	0.00428	0.12244	0.22525	0.44370	0.19259
H66	0.06453	0.29286	0.07662	0.16511	-0.06906	0.05500	0.02872	0.49290	0.52937	0.26152
H67	0.09563	0.18334	0.11363	0.18596	0.07782	0.05603	-0.04737	0.21722	0.28751	0.11169
H68	0.38725	0.58466	0.27340	0.52112	0.26813	0.42527	0.31268	0.22746	0.06708	0.37864
H69	0.46233	0.49900	0.20422	0.46420	0.24003	0.51517	0.29265	0.45606	0.12500	0.45661
H70	0.31763	0.28277	0.48552	0.37000	0.56574	0.30753	0.15224	0.26258	0.01668	0.23141
H71	1.00000	0.52862	0.31466	0.55440	0.14819	0.52874	0.28606	0.21034	-0.08425	0.24018
H72	0.52862	1.00000	0.36558	0.62805	0.12768	0.48080	0.25850	0.30764	0.11849	0.43517
H73	0.31466	0.36558	1.00000	0.28536	0.54886	0.22631	0.15415	0.10709	-0.08149	0.15726
H74	0.55440	0.62805	0.28536	1.00000	0.24503	0.51588	0.25567	0.24159	0.07730	0.36157
H75	0.14819	0.52874	0.54886	0.24503	1.00000	0.18604	0.12490	0.12123	-0.06905	0.13122
H76	0.52874	0.62805	0.22631	0.51588	0.18604	1.00000	0.31752	0.24597	0.06142	0.43547
H77	0.24503	0.25567	0.15415	0.25567	0.12400	0.31752	1.00000	0.16366	0.22069	0.22513
H78	0.10709	0.30764	0.10709	0.24159	0.12123	0.24503	0.16366	1.00000	0.37408	0.33117
H79	-0.08149	0.11849	-0.08149	0.07730	-0.06905	0.06142	0.22069	0.37408	1.00000	0.28543
H80	0.15726	0.43517	0.15726	0.36157	0.13122	0.43547	0.22513	0.33117	0.28963	1.00000
H81	0.11501	0.38082	0.12637	0.34584	0.17607	0.32307	0.03925	0.55111	0.33691	0.47354
H82	0.13476	0.34313	0.14294	0.34564	0.20308	0.22988	0.08747	0.51357	0.36470	0.36153
H83	0.43567	0.42733	0.26649	0.38106	0.23945	0.44350	0.31803	0.42223	0.05674	0.41082
H84	0.25749	0.21409	0.46381	0.26496	0.60699	0.24320	0.12415	0.20018	-0.05646	0.17771
H85	0.11630	0.29113	0.17292	0.21021	0.00858	0.17864	0.30522	0.31176	0.40569	0.30574
H86	0.30109	0.41184	0.08553	0.35245	0.09201	0.37035	0.14872	0.53131	0.24190	0.57560
H87	0.43498	0.49287	0.22202	0.52378	0.17883	0.52539	0.43785	0.26190	0.08153	0.42416
H88	0.30909	0.33499	0.28353	0.34567	0.21878	0.23027	0.20931	0.45601	0.29695	0.31371
H89	0.16884	0.11224	0.54376	0.22414	0.70844	0.16833	0.06678	0.15060	-0.11140	0.10240
H90	0.27131	0.11521	0.49240	0.26662	0.63588	0.17223	0.11743	0.18459	-0.02592	0.08868
H91	0.31508	0.19217	0.41492	0.21512	0.52547	0.30691	0.42866	0.19269	-0.01228	0.19841
H92	-0.03804	0.11877	0.16521	0.06174	0.16232	-0.00150	-0.02235	0.21597	0.23341	0.05232
H93	0.46455	0.45260	0.31009	0.48741	0.28981	0.59313	0.34817	0.20251	0.02630	0.41801
	H81	H82	H83	H84	H85	H86	H87	H88	H89	H90
H1	0.04242	0.06781	0.23232	0.34241	0.11675	0.15873	0.19282	0.14616	0.37041	0.34650
H2	0.33407	0.27703	-0.04342	-0.05542	0.26489	0.26047	0.03386	0.25153	-0.12333	-0.09367
H3	0.31294	0.34590	0.30555	0.25022	0.15309	0.41224	0.24733	0.35206	0.19903	0.16634
H4	0.33290	0.30089	0.07655	0.11522	0.15453	0.21471	0.12710	0.20994	0.06747	0.06500
H5	0.04310	0.13196	0.23820	0.42532	0.09975	0.04580	0.06090	0.13781	0.49306	0.43410
H6	0.26545	0.35950	0.02558	-0.05320	0.39600	0.31349	0.04224	0.30818	-0.07271	0.00711
H7	0.02056	0.03561	0.31339	0.43477	0.11344	0.09589	0.17464	0.12747	0.53231	0.36834
H8	0.18590	0.17142	0.50021	0.28655	0.16376	0.37326	0.26078	0.26858	0.28850	0.18220
H9	0.06719	0.20335	-0.08453	0.02221	0.21568	-0.01224	-0.10274	0.12043	0.00098	0.11457

	H81	H82	H83	H84	H85	H86	H87	H88	H89	H90
H10	0.17827	0.09136	0.04552	-0.08007	0.34448	0.17477	0.14807	0.18268	-0.21030	-0.17262
H11	0.26238	0.31101	-0.03566	-0.13755	0.34182	0.29962	-0.00086	0.26036	-0.19037	-0.12612
H12	0.38295	0.31602	0.05605	-0.04565	0.31564	0.29314	0.32815	0.25547	-0.10817	-0.10234
H13	0.34759	0.33795	0.28456	0.16668	0.24077	0.24551	0.32815	0.32747	0.09432	0.09555
H14	0.43214	0.47411	0.28067	0.20328	0.21137	0.51021	0.24067	0.49545	0.09273	0.10556
H15	0.00945	0.16647	0.31669	0.50555	0.10306	0.10505	0.21737	0.25458	0.51907	0.45617
H16	0.34175	0.42597	0.03665	0.03554	0.28511	0.28256	0.21737	0.40377	0.07764	0.07764
H17	0.14089	0.27119	0.44668	0.30615	0.09347	0.27937	0.27789	0.21281	0.30904	0.19127
H18	0.26455	0.33447	0.24390	0.01287	0.37326	0.37873	0.23125	0.45186	-0.04461	0.02633
H19	-0.01706	0.09691	0.09605	-0.13577	0.28198	0.11221	0.08593	0.20775	-0.16120	0.03642
H20	0.12028	0.04096	0.10745	-0.09525	0.31601	0.16122	0.13487	0.16616	-0.15161	0.00527
H21	0.22602	0.31842	0.18398	0.12496	0.45313	0.31541	0.27762	0.39862	0.92847	0.07564
H22	0.04666	0.09556	0.41161	0.56490	0.05458	0.19815	0.28217	0.27068	0.56666	0.36853
H23	0.39078	0.31149	0.07246	0.08177	0.18046	0.23056	0.14862	0.30686	0.03371	0.07720
H24	0.33532	0.43348	0.08763	-0.11438	0.36975	0.24629	0.13001	0.33112	-0.14913	-0.05550
H25	0.27111	0.17374	0.31819	0.40558	0.11357	0.22613	0.24195	0.26602	0.44560	0.36931
H26	0.02216	0.17252	0.22667	0.04583	0.29934	0.20926	0.28851	0.22615	-0.03347	0.04850
H27	0.11398	0.27992	0.25783	0.14018	0.39105	0.22250	0.22600	0.32529	0.12922	0.18740
H28	0.24305	0.15910	0.12151	-0.03711	0.24865	0.19457	0.24938	0.10220	-0.13917	-0.14467
H29	0.30281	0.33114	0.16265	-0.08253	0.42948	0.30357	0.14087	0.25780	-0.11351	-0.02566
H30	0.29872	0.36346	0.15884	0.04514	0.29040	0.33743	0.11456	0.29050	0.01543	0.02414
H31	0.02547	0.13205	0.37635	0.55245	0.15191	0.13518	0.13573	0.25668	0.55874	0.47050
H32	0.16227	0.19860	0.34665	0.48167	0.20596	0.18367	0.11632	0.32517	0.48023	0.40867
H33	0.17999	0.13455	0.31534	0.11717	0.20589	0.31061	0.36825	0.27623	0.04820	0.13195
H34	0.30703	0.42121	0.38384	0.38104	0.38174	0.36676	0.26052	0.49013	0.34531	0.31267
H35	0.39515	0.42338	0.37973	0.23086	0.24025	0.38494	0.35349	0.41581	0.22628	0.08053
H36	0.21429	0.40707	0.24551	0.18277	0.36156	0.23188	0.11828	0.44896	0.18984	0.16154
H37	0.05685	0.21238	0.30188	0.22595	0.26975	0.20829	0.36644	0.27129	0.19493	0.23734
H38	0.25009	0.39434	0.14579	-0.07025	0.40432	0.38408	0.14482	0.32730	-0.08587	-0.05477
H39	0.20092	0.39878	0.20222	0.15506	0.46452	0.22520	0.15353	0.36212	0.10622	0.20953
H40	0.10219	0.22632	0.39598	0.51770	0.22751	0.16266	0.23764	0.24462	0.53157	0.48156
H41	0.13394	0.09880	0.13683	-0.00015	0.32949	0.13550	0.30043	0.20740	-0.12378	-0.04958
H42	0.24932	0.26201	0.47016	0.37459	0.28523	0.35155	0.53033	0.27522	0.32479	0.21560
H43	0.42757	0.47907	0.19401	0.14604	0.21716	0.35274	0.16575	0.38078	0.13851	0.07057
H44	0.17232	0.07764	0.41134	0.32817	0.08369	0.23560	0.38459	0.16492	0.29512	0.27369
H45	0.23166	0.23272	0.24516	0.03766	0.39252	0.37173	0.39474	0.26543	-0.01360	0.00471
H46	0.22783	0.32323	-0.02591	0.11845	0.31552	0.11613	-0.11767	0.23718	0.07506	0.20855
H47	0.19476	0.14390	0.29554	0.24001	0.24815	0.27605	0.33599	0.22071	0.19893	0.22533
H48	0.15902	0.11737	0.32301	0.65555	0.04978	0.14547	0.08658	0.22142	0.66277	0.53774
H49	0.19070	0.32246	0.33972	0.55040	0.21874	0.21110	0.26135	0.27734	0.54420	0.51749
H50	0.46872	0.47622	0.17516	0.21532	0.37954	0.30418	0.26789	0.38245	0.21205	0.17957
H51	0.22660	0.21246	0.09950	0.21616	0.35462	0.12051	0.07130	0.29485	0.19287	0.26410
H52	0.28021	0.39033	0.09134	-0.09517	0.43315	0.28531	0.10404	0.31530	-0.11665	-0.09343
H53	0.48908	0.49546	0.20294	0.05595	0.37564	0.41767	0.16881	0.37816	0.03162	0.06244
H54	0.33667	0.27396	0.37300	0.34411	0.28048	0.39790	0.36892	0.35578	0.29636	0.30561

	H81	H82	H83	H84	H85	H86	H87	H88	H89	H90
H55	0.13205	0.15958	0.30010	0.46478	0.23064	0.17352	0.08067	0.25613	0.51139	0.46064
H56	0.19474	0.22267	0.27566	0.32396	0.20666	0.20282	0.44321	0.24307	0.26448	0.20164
H57	0.17933	0.16412	0.05542	-0.05442	0.32676	0.16242	0.19357	0.21724	-0.13320	-0.03265
H58	0.26541	0.34693	0.26211	0.18122	0.47301	0.28019	0.15221	0.36284	0.14592	0.20387
H59	0.28686	0.29652	0.24373	-0.05074	0.44688	0.34830	0.39108	0.34205	-0.07774	-0.05178
H60	0.42595	0.47191	0.34869	0.13535	0.28772	0.49053	0.41727	0.40346	0.09646	0.03266
H61	0.47439	0.43608	0.28515	0.09271	0.45150	0.42749	0.25547	0.35029	0.10971	0.11668
H62	0.10366	0.15842	0.38660	0.65732	0.16911	0.16078	0.15064	0.27320	0.66619	0.59652
H63	0.33312	0.25368	0.42575	0.27323	0.25215	0.33427	0.55050	0.21200	0.22041	0.21905
H64	0.20018	0.17140	0.42078	0.30485	0.25483	0.24372	0.41845	0.29764	0.26589	0.28771
H65	0.20146	0.25104	0.63116	-0.09167	0.32404	0.19467	0.11316	0.27159	-0.14962	-0.01550
H66	0.43017	0.52243	0.17270	-0.01586	0.38979	0.35904	0.05634	0.40504	-0.05344	0.00676
H67	0.22654	0.33400	0.02806	0.08084	0.32731	0.13568	-0.02018	0.21557	0.06434	0.13787
H68	0.24649	0.25389	0.42133	0.39721	0.25598	0.35979	0.56457	0.25411	0.32166	0.23505
H69	0.27996	0.32328	0.59139	0.30575	0.28739	0.53913	0.59075	0.40350	0.21732	0.18179
H70	0.23579	0.38468	0.42157	0.65305	0.28315	0.28041	0.29054	0.38259	0.67484	0.55125
H71	0.11501	0.13476	0.43567	0.25745	0.11630	0.30109	0.43498	0.30909	0.16884	0.27131
H72	0.38082	0.34313	0.42733	0.21405	0.29113	0.41184	0.49287	0.33495	0.11224	0.11521
H73	0.12837	0.14294	0.26049	0.46381	0.17292	0.08953	0.22202	0.28353	0.54376	0.49240
H74	0.34584	0.34364	0.38106	0.26696	0.21031	0.35249	0.52378	0.34567	0.22414	0.26462
H75	0.17607	0.20308	0.23545	0.60695	0.00858	0.09201	0.17883	0.21878	0.70844	0.63518
H76	0.32307	0.22988	0.44390	0.24520	0.17884	0.37035	0.52939	0.23037	0.16833	0.17223
H77	0.03525	0.08747	0.31803	0.12415	0.30522	0.14832	0.43785	0.20531	0.06678	0.11743
H78	0.55111	0.51357	0.42223	0.20118	0.31176	0.53131	0.26190	0.45601	0.15060	0.18459
H79	0.33691	0.36470	0.05674	-0.05646	0.40569	0.24150	0.08153	0.29655	-0.11140	-0.02552
H80	0.47354	0.36153	0.41082	0.17701	0.30574	0.57580	0.42416	0.31371	0.10240	0.08468
H81	1.00000	0.64997	0.25375	0.19176	0.25292	0.43647	0.25361	0.35328	0.11381	0.14189
H82	0.64597	1.00000	0.27469	0.24231	0.39098	0.43969	0.23126	0.54415	0.17736	0.16623
H83	0.25375	0.27469	1.00000	0.47274	0.19367	0.46587	0.38531	0.34654	0.35129	0.29165
H84	0.19176	0.24331	0.47274	1.00000	0.12466	0.20813	0.29771	0.28237	0.72506	0.53869
H85	0.25292	0.39098	0.19367	0.12466	1.00000	0.35255	0.27749	0.48315	0.06401	0.14317
H86	0.43647	0.43969	0.46987	0.20813	0.35255	1.00000	0.45867	0.48847	0.04386	0.14964
H87	0.25361	0.23126	0.38531	0.29771	0.27749	0.45867	1.00000	0.38778	0.15221	0.11576
H88	0.35328	0.54415	0.34654	0.28237	0.48315	0.48847	0.04386	1.00000	0.20725	0.24456
H89	0.14189	0.17736	0.35129	0.72506	0.06401	0.48847	0.38778	0.20725	1.00000	0.63002
H90	0.11576	0.14564	0.53869	0.14317	0.14564	0.48847	0.11576	0.24696	0.63002	1.00000
H91	0.01637	0.10596	0.5686	0.47576	0.23431	0.17671	0.26498	0.31201	0.48939	0.49859
H92	0.19743	0.28186	0.05627	0.14554	0.35757	0.19913	0.04803	0.31201	0.10409	0.17087
H93	0.24726	0.20394	0.46493	0.33257	0.24789	0.37075	0.50003	0.28802	0.24446	0.27962

APPENDIX D

CROSSTABULATION TABLES: SIGNIFICANT DISCRIMINATING VARIABLES

BY LEVELS OF INTEREST IN THE 16 FACTORS OF NEWSPAPER CONTENT

***** CROSS TABULATION OF *****
 82 SES BY CAT1 CATEGORY 1

[illegible]

RAW CHI SQUARE = 17.21524 WITH 6 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0085

***** CROSSTABULATION OF *****
L4 SERVICE ORGZN BY CAT1 CATEGORY 1

		CAT1						
COUNT		LOW	INT	MED	INT	HIGH	INT	ROW
COL	PCT	REST		REST		EREST		TOTAL
TOT	PCT	1	1	2	1	3	1	
L4		1	25	57	6			88
YES		28.4	64.8	6.8				32.1
		28.7	37.0	18.2				
		9.1	20.8	2.2				
		2	62	97	27			186
NO		33.3	52.2	14.5				67.9
		71.3	63.0	81.8				
		22.6	35.4	9.9				
		87	154	33				274
		31.8	56.2	12.0				100.0

RAW CHI SQUARE = 5.08876 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0785

***** CROSS TABULATION OF *****
 L10 ART GALLERY OR MUSEUM BY CAT1 CATEGORY 1

		CAT1						
COUNT		LOW		MED		HIGH		
ROW	PCT	COL	PCT	REST	REST	EREST	EREST	ROW
TOT	PCT	1	1	2	1	3	1	TOTAL
L10		-----		-----		-----		
YES	1	1	14	1	58	1	18	90
		1	15.6	1	64.4	1	20.0	32.8
		1	16.1	1	37.7	1	54.5	
		1	5.1	1	21.2	1	6.6	
		-----		-----		-----		
NO	2	1	73	1	96	1	15	184
		1	39.7	1	52.2	1	8.2	67.2
		1	83.9	1	62.3	1	45.5	
		1	26.6	1	35.0	1	5.5	
		-----		-----		-----		
COLUMN		87		154		33		274
TOTAL		31.8		56.2		12.0		100.0

RAW CHI SQUARE = 19.73537 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0001

***** CROSS TABULATION OF *****
 L2 ATTENDED SPORTS BY CAT1 CATEGORY 1

		CAT1							
COUNT		LOW	INT	MED	INT	HIGH	INT		
ROW	PCT	REST		REST		EREST		ROW	
COL	PCT							TOTAL	
TOT	PCT	1	1	2	1	3	1		
L2		-----		-----		-----			
YES	1	1	51	1	83	1	25	1	159
		1	32.1	1	52.2	1	15.7	1	58.0
		1	58.6	1	53.9	1	75.8	1	
		1	18.6	1	30.3	1	9.1	1	
		-----		-----		-----			
NO	2	1	36	1	71	1	8	1	115
		1	31.3	1	61.7	1	7.0	1	42.0
		1	41.4	1	46.1	1	24.2	1	
		1	13.1	1	25.9	1	2.9	1	
		-----		-----		-----			
COLUMN			87		154		33		274
TOTAL			31.8		56.2		12.0		100.0

RAW CHI SQUARE = 5.35115 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0689

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***** CRUSSTABULATION OF *****
83      AGE                      BY CAT2      CATEGORY 2
*****

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	COUNT	LOW	INTL	MED	INTL	HIGH	INTL	ROW
	PCT	REST		REST		EST		TOTAL
	TOT PCT	1	1	2	1	3	1	
83								
18-24	1	12	35	6				53
		22.6	66.0	11.3				19.1
		19.4	22.4	10.0				
		4.3	12.6	2.2				
25-29	2	14	29	6				49
		28.6	59.2	12.2				17.6
		22.6	18.6	10.0				
		5.0	10.4	2.2				
30-39	3	23	45	13				81
		28.4	55.6	16.0				29.1
		37.1	28.8	21.7				
		8.3	16.2	4.7				
40-49	4	8	23	11				42
		19.0	54.8	26.2				15.1
		12.9	14.7	18.3				
		2.9	8.3	4.0				
50+	5	5	24	24				53
		9.4	45.3	45.3				19.1
		8.1	15.4	40.0				
		1.8	8.6	8.6				
COLUMN TOTAL		62	156	60				278
		22.3	56.1	21.6				100.0

RAW CHI SQUARE = 28.40926 WITH 8 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0004

***** CROSSTABULATION OF *****
 B4 EDUCATION BY CAT2 CATEGORY 2

		CAT2									
		COUNT	I	LOW		INT	MED	INT	HIGH	INT	ROW
		ROW	PCT	COL	PCT	I	REST	REST	E	REST	TOTAL
		TOT	PCT	I	1	I	2	I	3	I	
B4											
		3			42		45		21		108
HS OR LESS					38.9		41.7		19.4		39.7
					67.7		29.6		36.2		
					15.4		16.5		7.7		
		4			10		41		20		71
SOME COLLEGE					14.1		57.7		28.2		26.1
					16.1		27.0		34.5		
					3.7		15.1		7.4		
		5			10		66		17		93
COLLEGE GRAD					10.8		71.0		18.3		34.2
					16.1		43.4		29.3		
					3.7		24.3		6.3		
					62		152		58		272
					22.8		55.9		21.3		100.0

RAW CHI SQUARE = 30.43234 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0000

***** CROSS TABULATION OF *****
 SCOPE SCOPE OF ACTIVITIES BY CAT2 CATEGORY 2

SCOPE	CAT2								ROW TOTAL
	COUNT	I		I		I		ROW	
	ROW PCT	LOW	INTE	MED	INTE	HIGH	INT		
	COL PCT	IREST	REST	REST	EREST	EREST			
	TOT PCT	1	1	2	1	3	1		
0-4	1	1	7	1	5	1	2	1	14
		1	50.0	1	35.7	1	14.3	1	5.0
		1	11.3	1	3.2	1	3.3	1	
		1	2.5	1	1.8	1	0.7	1	
5-9	2	1	30	1	38	1	18	1	86
		1	34.9	1	44.2	1	20.9	1	30.9
		1	48.4	1	24.4	1	30.0	1	
		1	10.8	1	13.7	1	6.5	1	
10-14	3	1	20	1	100	1	31	1	151
		1	13.2	1	66.2	1	20.5	1	54.3
		1	32.3	1	64.1	1	51.7	1	
		1	7.2	1	36.0	1	11.2	1	
15-20	4	1	5	1	13	1	9	1	27
		1	18.5	1	48.1	1	33.3	1	9.7
		1	8.1	1	8.3	1	15.0	1	
		1	1.8	1	4.7	1	3.2	1	
COLUMN TOTAL			62		156		60		278
			22.3		56.1		21.6		100.0

RAW CHI SQUARE = 25.08960 WITH 6 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0003

***** CROSS TABULATION OF *****
 L2 ATTENDED SPORTS BY CAT2 CATEGORY 2

		CAT2							
		COUNT	I						
		ROW PCT	LOW	INTE	MED	INTE	HIGH	INT	ROW
		COL PCT	IREST		REST		EREST		TOTAL
		TOT PCT	I	1	I	2	I	3	I
L2		-----		-----		-----		-----	
YES	1	I	33	I	88	I	39	I	160
		I	20.6	I	55.0	I	24.4	I	57.6
		I	53.2	I	56.4	I	65.0	I	
		I	11.9	I	31.7	I	14.0	I	
		-----		-----		-----		-----	
NO	2	I	29	I	68	I	21	I	118
		I	24.6	I	57.6	I	17.8	I	42.4
		I	46.8	I	43.6	I	35.0	I	
		I	10.4	I	24.5	I	7.6	I	
		-----		-----		-----		-----	
COLUMN			62		156		60		278
TOTAL			22.3		56.1		21.6		100.0

RAW CHI SQUARE = 1.92068 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.3828

***** C R O S S T A B U L A T I O N O F *****
 L15 VISITED NEIGHBORS BY CAT2 CATEGORY 2

		CAT2								
		COUNT								
		LOW	INT	MED	INT	HIGH	INT	ROW		
		COL PCT	IREST	REST		EREST		TCTAL		
		TOT PCT	1	1	2	1	3	1		
----- ----- ----- ----- ----- ----- -----										
L15		1	I	56	I	132	I	55	I	243
YES		I	23.0	I	54.3	I	22.6	I	87.4	
		I	90.3	I	84.6	I	91.7	I		
		I	20.1	I	47.5	I	19.8	I		
----- ----- ----- ----- ----- ----- -----										
NO		2	I	6	I	24	I	5	I	35
		I	17.1	I	68.6	I	14.3	I	12.6	
		I	9.7	I	15.4	I	8.3	I		
		I	2.2	I	8.6	I	1.8	I		
----- ----- ----- ----- ----- ----- -----										
COLUMN		62		156		60		278		
TOTAL		22.3		56.1		21.6		100.0		

RAW CHI SQUARE = 2.57291 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.2762

***** C R O S S T A B U L A T I O N O F *****
 L17 READ NEWS MAGAZINE BY CAT2 CATEGORY 2

		CAT2						
		COUNT						
		LOW	INT	MED	INT	HIGH	INT	
ROW	PCT	IREST	REST	EREST				ROW
COL	PCT							TOTAL
TOT	PCT	1	1	2	1	3	1	
L17		1	29	93	44			166
YES		17.5	56.0	26.5				59.9
		46.8	59.6	74.6				
		10.5	33.6	15.9				
NO		33	63	15				111
		29.7	56.8	13.5				40.1
		53.2	40.4	25.4				
		11.9	22.7	5.4				
COLUMN		62	156	59				277
TOTAL		22.4	56.3	21.3				100.0

RAW CHI SQUARE = 9.74515 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0077

***** CROSS TABULATION OF *****
 L20 READ NEWSPAPER BY CAT3 CATEGORY 3

		CAT3							
		COUNT							
		LOW	INT	MED	INT	HIGH	INT	ROW	
		COL PCT	IREST	REST	EREST	EREST		TOTAL	
		TOT PCT	1	1	2	1	3	1	
L20									
YES	1	1	45	1	115	1	53	1	213
		1	21.1	1	54.0	1	24.9	1	76.9
		1	69.2	1	75.2	1	89.8	1	
		1	16.2	1	41.5	1	19.1	1	
NO	2	1	20	1	38	1	6	1	64
		1	31.3	1	59.4	1	9.4	1	23.1
		1	30.8	1	24.8	1	10.2	1	
		1	7.2	1	13.7	1	2.2	1	
COLUMN TOTAL			65		153		59		277
TOTAL			23.5		55.2		21.3		100.0

RAW CHI SQUARE = 7.96401 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0186

***** CROSS TABULATION OF *****
 B3 AGE BY CAT3 CATEGORY 3

		CAT3						
		COUNT						
		LOW	INT	MED	INT	HIGH	INT	ROW
		COL PCT	IREST	REST	REST	EREST		TOTAL
		TOT PCT	1	1	2	1	3	1
B3								
18-24	1	1	11	1	36	1	7	54
		1	20.4	1	66.7	1	13.0	19.5
		1	16.9	1	23.5	1	11.9	
		1	4.0	1	13.0	1	2.5	
25-29	2	1	11	1	27	1	10	48
		1	22.9	1	56.3	1	20.8	17.3
		1	16.9	1	17.6	1	16.9	
		1	4.0	1	9.7	1	3.6	
30-39	3	1	24	1	43	1	14	81
		1	29.6	1	53.1	1	17.3	29.2
		1	36.9	1	28.1	1	23.7	
		1	8.7	1	15.5	1	5.1	
40-49	4	1	10	1	21	1	11	42
		1	23.8	1	50.0	1	26.2	15.2
		1	15.4	1	13.7	1	18.0	
		1	3.6	1	7.6	1	4.0	
50+	5	1	9	1	26	1	17	52
		1	17.3	1	50.0	1	32.7	18.8
		1	13.8	1	17.0	1	28.8	
		1	3.2	1	9.4	1	6.1	
COLUMN TOTAL			65		153		59	277
			23.5		55.2		21.3	100.0

RAW CHI SQUARE = 10.22178 WITH 8 DEGREES OF FREEDOM. SIGNIFICANCE = 0.2498

***** C R O S S T A B U L A T I O N O F *****
 84 EDUCATION BY CAT3 CATEGORY 3

		CAT3						
		COUNT	LOW		MID		HIGH	
		ROW	PCT	INT	REST	INT	REST	ROW
		COL	PCT	REST	REST	REST	REST	TOTAL
		TOT	PCT	1	2	3		
84								
	3	1	45	1	47	1	14	106
HS OR LESS		1	42.5	1	44.3	1	13.2	39.1
		1	70.3	1	31.5	1	24.1	
		1	16.6	1	17.3	1	5.2	
	4	1	7	1	45	1	20	72
SOME COLLEGE		1	9.7	1	62.5	1	27.8	26.6
		1	10.9	1	30.2	1	34.5	
		1	2.6	1	16.6	1	7.4	
	5	1	12	1	57	1	24	93
COLLEGE GRAD		1	12.9	1	61.3	1	25.8	34.3
		1	18.8	1	38.3	1	41.4	
		1	4.4	1	21.0	1	8.9	

RAW CHI SQUARE = 35.46373 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0000

***** C R O S S T A B U L A T I O N O F *****
 83 AGE BY CAT4 CATEGORY 4

		CAT4							
		COUNT	LOW		INT	HIGH		INT	
		ROW	PCT	LOW	INT	MED	INT	HIGH	ROW
		COL	PCT	REST		REST		REST	TOTAL
		TOT	PCT	1	1	2	1	3	1
83									
	1	1	33	1	20	1	1	1	54
18-24		1	61.1	1	37.0	1	1.9	1	19.4
		1	24.8	1	16.5	1	4.0	1	
		1	11.8	1	7.2	1	0.4	1	
	2	1	29	1	19	1	1	1	49
25-29		1	59.2	1	38.8	1	2.0	1	17.6
		1	21.8	1	15.7	1	4.0	1	
		1	10.4	1	6.8	1	0.4	1	
	3	1	41	1	29	1	12	1	82
30-39		1	50.0	1	35.4	1	14.6	1	29.4
		1	30.8	1	24.0	1	48.0	1	
		1	14.7	1	10.4	1	4.3	1	
	4	1	20	1	20	1	2	1	42
40-49		1	47.6	1	47.6	1	4.8	1	15.1
		1	15.0	1	16.5	1	8.0	1	
		1	7.2	1	7.2	1	0.7	1	
	5	1	10	1	33	1	9	1	52
50+		1	19.2	1	63.5	1	17.3	1	18.6
		1	7.5	1	27.3	1	36.0	1	
		1	3.6	1	11.8	1	3.2	1	
COLUMN			133		121		25		279
TOTAL			47.7		43.4		9.0		100.0

RAW CHI SQUARE = 32.76830 WITH 8 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0001

***** CROSS TABULATION OF *****
 82 SES BY CAT4 CATEGORY 4

		CAT4															
		COUNT		LOW		INT		MED		INT		HIGH		INT		RCW	
		ROW	PCT	COL	PCT	REST		REST		REST		EREST				TOTAL	
		TOT	PCT	I		I	1	I	2	I	3	I					
82																	
	1	I		I	28	I		I	20	I	5	I				53	
0-29		I		I	52.8	I		I	37.7	I	9.4	I				20.2	
		I		I	22.0	I		I	18.0	I	20.8	I					
		I		I	10.7	I		I	7.6	I	1.9	I					
		-I		-I		-I		-I		-I		-I					
	2	I		I	36	I		I	24	I	9	I				69	
30-49		I		I	52.2	I		I	34.8	I	13.0	I				26.3	
		I		I	28.3	I		I	21.6	I	37.5	I					
		I		I	13.7	I		I	9.2	I	3.4	I					
		-I		-I		-I		-I		-I		-I					
	3	I		I	32	I		I	28	I	2	I				62	
50-69		I		I	51.6	I		I	45.2	I	3.2	I				23.7	
		I		I	25.2	I		I	25.2	I	8.3	I					
		I		I	12.2	I		I	10.7	I	0.8	I					
		-I		-I		-I		-I		-I		-I					
	4	I		I	31	I		I	39	I	8	I				78	
70-93		I		I	39.7	I		I	50.0	I	10.3	I				29.8	
		I		I	24.4	I		I	35.1	I	33.3	I					
		I		I	11.8	I		I	14.9	I	3.1	I					
		-I		-I		-I		-I		-I		-I					
	COLUMN				127				111		24					262	
	TOTAL				48.5				42.4		9.2					100.0	

RAW CHI SQUARE = 7.77309 WITH 6 DEGREES OF FREEDOM. SIGNIFICANCE = 0.2552

***** CROSS TABULATION OF *****
 L19 NATIONAL NEWS BY CAT4 CATEGORY 4

CAT4														
COUNT														
ROW	PCT	LOW	INTE	MED	INTE	HIGH	INT	ROW						
COL	PCT	REST		REST		EREST		TOTAL						
TOT	PCT	I	1	I	2	I	3	I						
L19		I		I		I		I						
	1	I	56	I	72	I	15	I	143					
YES		I	39.2	I	50.3	I	10.5	I	51.3					
		I	42.1	I	59.5	I	60.0	I						
		I	20.1	I	25.8	I	5.4	I						
		-I		-I		-I		-I						
	2	I	77	I	49	I	10	I	136					
NO		I	56.6	I	36.0	I	7.4	I	48.7					
		I	57.9	I	40.5	I	40.0	I						
		I	27.6	I	17.6	I	3.6	I						
		-I		-I		-I		-I						
	COLUMN		133		121		25		279					
	TOTAL		47.7		43.4		9.0		100.0					

RAW CHI SQUARE = 8.51743 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0141

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***** C R O S S T A B U L A T I O N   O F *****
L4      SERVICE ORGZN                        BY CAT4      CATEGORY 4
*****
```

		CAT4							
		COUNT	1						
ROW	PCT	LOW	INT	MED	INT	HIGH	INT		ROW
COL	PCT	1	REST		REST		EREST		TOTAL
TOT	PCT	1	1	2	1	3	1		
L4		1	47	39	6				92
YES		1	51.1	42.4	6.5				33.0
		1	35.3	32.2	24.0				
		1	16.8	14.0	2.2				
		2	86	82	19				187
NO		1	46.0	43.9	10.2				67.0
		1	64.7	67.8	76.0				
		1	30.8	29.4	6.8				
			133	121	25				279
	COLUMN		47.7	43.4	9.0				100.0
	TOTAL								

RAW CHI SQUARE = 1.27753 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.5279

***** C R O S S T A B U L A T I O N O F *****
L16 VISITED FRIENDS BY CAT4 CATEGORY 4

		CAT4								
		COUNT		LOW		INT		HIGH		INT
ROW	PCT	LOW	INT	MED	INT	HIGH	INT	ROW		
COL	PCT	REST	REST	REST	REST	REST	REST	TOTAL		
TOT	PCT	1	1	2	1	3	1			
L16		1	1	1	1	1	1			
	YES	1	111	1	86	1	23	1	220	
		1	50.5	1	39.1	1	10.5	1	78.9	
		1	83.5	1	71.1	1	92.0	1		
		1	39.8	1	30.8	1	8.2	1		
		-1	-1	-1	-1	-1	-1	-1		
	NO	2	22	1	35	1	2	1	59	
		1	37.3	1	59.3	1	3.4	1	21.1	
		1	16.5	1	28.9	1	8.0	1		
		1	7.9	1	12.5	1	0.7	1		
		-1	-1	-1	-1	-1	-1	-1		
			133		121		25		279	
	COLUMN		47.7		43.4		9.0		100.0	
	TOTAL									

RAW CHI SQUARE = 8.67384 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0131

***** CROSS TABULATION OF *****
 L10 ART GALLERY OR MUSEUM BY CAT4 CATEGORY 4

		CAT4								
		COUNT	LOW		INT	MED	INT	HIGH	INT	ROW
		COL	PCT	REST		REST		EREST		TOTAL
		TOT	PCT	1	1	2	1	3	1	
L10										
YES	1	1	33	1	50	1	8	1	91	
		1	36.3	1	54.9	1	8.8	1	32.6	
		1	24.8	1	41.3	1	32.0	1		
		1	11.8	1	17.9	1	2.9	1		
NO	2	1	100	1	71	1	17	1	188	
		1	53.2	1	37.8	1	9.0	1	67.4	
		1	75.2	1	58.7	1	68.0	1		
		1	35.8	1	25.4	1	6.1	1		
COLUMN			133		121		25		279	
TOTAL			47.7		43.4		9.0		100.0	

RAW CHI SQUARE = 7.86291 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0196

***** CROSS TABULATION OF *****
 L5 POLITICAL INVOLVEMENT BY CAT4 CATEGORY 4

		CAT4						
		COUNT	LOW		MED	HIGH		
ROW	PCT	COL	PCT	REST	REST	REST	REST	ROW
TOT	PCT	1	1	2	3	1	1	TOTAL
L5		1	1	12	23	8	1	43
YES		1	27.9	53.5	18.6	1	1	15.4
		1	9.0	19.0	32.0	1	1	
		1	4.3	8.2	2.9	1	1	
		1	1		1		1	
		2	1	121	98	17	1	236
NO		1	51.3	41.5	7.2	1	1	84.6
		1	91.0	81.0	68.0	1	1	
		1	43.4	35.1	6.1	1	1	
		1	1		1		1	
COLUMN			133	121	25			279
TOTAL			47.7	43.4	9.0			100.0

RAW CHI SQUARE = 10.64189 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0049

***** C R O S S T A B U L A T I O N O F *****
 L20 READ NEWSPAPER BY CAT5 CATEGORY 5

		CAT5						
		COUNT	I					
ROW	PCT	ILOW	INTE	MED	INTE	HIGH	INT	ROW
COL	PCT	IREST		REST		EREST		TOTAL
TOT	PCT	I	1	I	2	I	3	I
----- ----- ----- ----- ----- ----- ----- ----- -----								
L20	1	I	35	I	88	I	88	I
		I	16.6	I	41.7	I	41.7	I
		I	60.3	I	75.9	I	86.3	I
		I	12.7	I	31.9	I	31.9	I
----- ----- ----- ----- ----- ----- ----- ----- -----								
YES	2	I	23	I	28	I	14	I
		I	35.4	I	43.1	I	21.5	I
		I	39.7	I	24.1	I	13.7	I
		I	8.3	I	10.1	I	5.1	I
----- ----- ----- ----- ----- ----- ----- ----- -----								
NO	3	I	58	I	116	I	102	I
		I	21.0	I	42.0	I	37.0	I
		I	100.0	I	100.0	I	100.0	I
		I	100.0	I	100.0	I	100.0	I
----- ----- ----- ----- ----- ----- ----- ----- -----								
COLUMN		58		116		102		276
TOTAL		21.0		42.0		37.0		100.0

RAW CHI SQUARE = 13.84613 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0010

***** C R O S S T A B U L A T I O N O F *****
 L15 VISITED NEIGHBORS BY CAT5 CATEGORY 5

		CAT5							
		COUNT I							
ROW	PCT	ILOW	INTE	MED	INTE	HIGH	INT	ROW	
COL	PCT	IREST		REST		EREST		TCTAL	
TOT	PCT	I	1	I	2	I	3	I	
----- ----- ----- ----- ----- ----- ----- ----- -----									
L15	1	I	43	I	106	I	93	I	
		I	17.8	I	43.8	I	38.4	I	
		I	74.1	I	91.4	I	91.2	I	
		I	15.6	I	38.4	I	33.7	I	
----- ----- ----- ----- ----- ----- ----- ----- -----									
YES	2	I	15	I	10	I	9	I	
		I	44.1	I	29.4	I	26.5	I	
		I	25.9	I	8.6	I	8.8	I	
		I	5.4	I	3.6	I	3.3	I	
----- ----- ----- ----- ----- ----- ----- ----- -----									
NO	3	I	58	I	116	I	102	I	
		I	21.0	I	42.0	I	37.0	I	
		I	100.0	I	100.0	I	100.0	I	
		I	100.0	I	100.0	I	100.0	I	
----- ----- ----- ----- ----- ----- ----- ----- -----									
COLUMN		58		116		102		276	
TOTAL		21.0		42.0		37.0		100.0	

RAW CHI SQUARE = 12.47156 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0020

***** CROSS TABULATION OF *****
 L9 PURCHASED BOOKS BY CAT5 CATEGORY 5

		CAT5							
		COUNT	I		I				
ROW	PCT	LOW	INT	MED	INT	HIGH	INT	ROW	
COL	PCT	IREST	REST	EREST	EREST	EREST	EREST	TOTAL	
TOT	PCT	1	1	2	1	3	1		
L9		-----		-----		-----			
	1	I	49	I	92	I	73	I	214
YES		I	22.9	I	43.0	I	34.1	I	77.5
		I	84.5	I	79.3	I	71.6	I	
		I	17.8	I	33.3	I	26.4	I	
		-----		-----		-----			
	2	I	9	I	24	I	29	I	62
NO		I	14.5	I	38.7	I	46.8	I	22.5
		I	15.5	I	20.7	I	28.4	I	
		I	3.3	I	8.7	I	10.5	I	
		-----		-----		-----			
COLUMN			58		116		102		276
TOTAL			21.0		42.0		37.0		100.0

RAW CHI SQUARE = 3.90198 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.1421

***** CROSS TABULATION OF *****
 B5 SEX BY CAT5 CATEGORY 5

		CAT5							
COUNT		I		I		I			
ROW	PCT	LOW	INT	MED	INT	HIGH	INT	ROW	
COL	PCT	IREST	REST	EREST				TOTAL	
TOT	PCT	1	1	2	1	3	1		
B5									
WOMAN	1	I	20	I	52	I	61	I	
		I	15.0	I	39.1	I	45.9	I	
		I	34.5	I	44.8	I	59.8	I	
		I	7.2	I	18.8	I	22.1	I	
MAN	2	I	38	I	64	I	41	I	
		I	26.6	I	44.8	I	28.7	I	
		I	65.5	I	55.2	I	40.2	I	
		I	13.8	I	23.2	I	14.9	I	
COLUMN			58		116		102		
TOTAL			21.0		42.0		37.0	100.0	

RAW CHI SQUARE = 10.40049 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0055

***** C R O S S T A B U L A T I O N O F *****
 B4 EDUCATION BY CAT5 CATEGORY 5

		CAT5							
		COUNT	I			R			
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW
		COL PCT	IREST	REST	REST	EREST	EST	EST	TOTAL
		TOT PCT	1	1	2	1	3	1	
B4									
	3	I	15	I	40	I	50	I	105
HS OR LESS		I	14.3	I	38.1	I	47.6	I	38.9
		I	25.9	I	35.4	I	50.5	I	
		I	5.6	I	14.8	I	18.5	I	
		-I		-I		-I		-I	
	4	I	13	I	26	I	33	I	72
SOME COLLEGE		I	18.1	I	36.1	I	45.8	I	26.7
		I	22.4	I	23.0	I	33.3	I	
		I	4.8	I	9.6	I	12.2	I	
		-I		-I		-I		-I	
	5	I	30	I	47	I	16	I	93
COLLEGE GRAD		I	32.3	I	50.5	I	17.2	I	34.4
		I	51.7	I	41.6	I	16.2	I	
		I	11.1	I	17.4	I	5.9	I	
		-I		-I		-I		-I	
COLUMN TOTAL			58		113		99		270
			21.5		41.9		36.7		100.0

RAW CHI SQUARE = 25.24199 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0000

***** C R O S S T A B U L A T I O N O F *****
 B1 MARITAL STATUS BY CAT5 CATEGORY 5

		CAT5							
		COUNT	I			R			
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	
		COL PCT	IREST	REST	REST	EREST	EST		
		TOT PCT	1	1	2	1	3	1	
B1	SINGLE	1	1	34	1	40	1	30	104
		1	32.7	1	38.5	1	28.8	1	39.8
		1	64.2	1	36.0	1	30.9	1	
		1	13.0	1	15.3	1	11.5	1	
		-I-	-I-			-I-			-I-
	MARRIED	2	1	19	1	71	1	67	157
		1	12.1	1	45.2	1	42.7	1	60.2
		1	35.8	1	64.0	1	69.1	1	
		1	7.3	1	27.2	1	25.7	1	
		-I-	-I-			-I-			-I-
COLUMN			53		111		97		261
TOTAL			20.3		42.5		37.2		100.0

RAW CHI SQUARE = 16.95297 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0002

***** CROSS TABULATION OF *****
 L5 POLITICAL INVOLVEMENT BY CAT5 CATEGORY 5

		CAT5								
		COUNT	I			I				
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW	
		COL PCT	IREST	REST	REST	EREST	REST	EREST	TOTAL	
		TOT PCT	1	1	2	1	3	1		
L5										
		1	4	25	14				43	
	YES		9.3	58.1	32.6				15.6	
			6.9	21.6	13.7					
			1.4	9.1	5.1					
	2	54	91	88				233		
NO		23.2	39.1	37.8				84.4		
		93.1	78.4	86.3						
		19.6	33.0	31.9						
COLUMN			58	116	102			276		
TOTAL			21.0	42.0	37.0			100.0		

RAW CHI SQUARE = 6.73706 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0344

***** CROSS TABULATION OF *****
 L6 HOME PROJECT BY CAT5 CATEGORY 5

		CAT5						
		COUNT	I			I		
		ROW PCT	LOW	INT	MED	INT	HIGH	INT
		COL PCT	IREST	REST	EREST	EREST	EREST	ROW
		TOT PCT	1	1	2	1	3	TCTAL
L6	YES	1	38	95	77			210
		18.1	45.2	36.7		76.1		
		65.5	81.9	75.5				
		13.8	34.4	27.9				
NO	2	20	21	25		66		
		30.3	31.8	37.9		23.9		
		34.5	18.1	24.5				
		7.2	7.6	9.1				
COLUMN		58	116	102		276		
TOTAL		21.0	42.0	37.0		100.0		

RAW CHI SQUARE = 5.73308 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0569

***** C R O S S T A B U L A T I O N O F *****
 B5 SEX BY CAT6 CATEGORY 6

		CAT6								
		COUNT								
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW	
		COL PCT	REST		REST		EREST		TOTAL	
		TOT PCT	1	1	2	1	3	1		
B5			-----	-----	-----	-----	-----	-----		
	WOMAN	1	1	8	1	62	1	65	1	135
			1	5.9	1	45.9	1	48.1	1	48.6
			1	29.6	1	42.8	1	61.3	1	
			1	2.9	1	22.3	1	23.4	1	
			-----	-----	-----	-----	-----	-----		
	MAN	2	1	19	1	83	1	41	1	143
			1	13.3	1	58.0	1	28.7	1	51.4
			1	70.4	1	57.2	1	38.7	1	
			1	6.8	1	29.9	1	14.7	1	
		-----	-----	-----	-----	-----	-----			
COLUMN			27		145		106		278	
TOTAL			9.7		52.2		38.1		100.0	

RAW CHI SQUARE = 12.73716 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0017

***** C R O S S T A B U L A T I O N O F *****
 B4 EDUCATION BY CAT6 CATEGORY 6

		CAT6							
		COUNT	1		2		3		
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW
		COL PCT	REST		REST		EREST		TCTAL
		TOT PCT	1	1	2	1	3	1	
B4									
		3	1	5	1	47	1	55	107
	HS OR LESS		4.7	1	43.9	1	51.4	1	39.3
			18.5	1	33.3	1	52.9	1	
			1.8	1	17.3	1	20.2	1	
		4	1	9	1	34	1	28	71
	SOME COLLEGE		12.7	1	47.9	1	39.4	1	26.1
			33.3	1	24.1	1	26.9	1	
			3.3	1	12.5	1	10.3	1	
		5	1	13	1	60	1	21	94
	COLLEGE GRAD		13.8	1	63.8	1	22.3	1	34.6
			48.1	1	42.6	1	20.2	1	
			4.8	1	22.1	1	7.7	1	
COLUMN			27		141		104		272
TOTAL			9.9		51.8		38.2		100.0

RAW CHI SQUARE = 20.16177 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0005

***** C R O S S T A B U L A T I O N O F *****
 B1 M A R I T A L S T A T U S B Y C A T 6 C A T E G O R Y 6

		CAT6							
		COUNT	I						
B1		ROW PCT	LOW	INTE	MED	INTE	HIGH INT	ROW	
		COL PCT	REST		REST		EREST	TOTAL	
		TOT PCT	1	1	2	1	3	1	
SINGLE	1	1	18	1	56	1	30	104	
		1	17.3	1	53.8	1	28.8	39.4	
		1	78.3	1	40.3	1	29.4	1	
		1	6.8	1	21.2	1	11.4	1	
MARRIED	2	1	5	1	83	1	72	160	
		1	3.1	1	51.9	1	45.0	60.6	
		1	21.7	1	59.7	1	70.6	1	
		1	1.9	1	31.4	1	27.3	1	
COLUMN TOTAL			23		139		102	264	
			8.7		52.7		38.6	100.0	

RAW CHI SQUARE = 18.85617 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0001

***** C R O S S T A B U L A T I O N O F *****
 L8 C O N C E R T O R P L A Y B Y C A T 6 C A T E G O R Y 6

		CAT6							
		COUNT	I						
L8		ROW PCT	LOW	INTE	MED	INTE	HIGH INT	ROW	
		COL PCT	REST		REST		REST	TOTAL	
		TOT PCT	I	1	I	2	I	3	I
YES	1	I	20	I	89	I	44	I	153
		I	13.1	I	58.2	I	28.8	I	55.0
		I	74.1	I	61.4	I	41.5	I	
		I	7.2	I	32.0	I	15.8	I	
NO	2	I	7	I	56	I	62	I	125
		I	5.6	I	44.8	I	49.6	I	45.0
		I	25.9	I	38.6	I	58.5	I	
		I	2.5	I	20.1	I	22.3	I	
COLUMN TOTAL			27		145		106		278
TOTAL			9.7		52.2		38.1		100.0

RAW CHI SQUARE = 14.14960 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0008

***** C R O S S T A B U L A T I O N O F *****
 L10 ART GALLERY OR MUSEUM BY CAT6 CATEGORY 6

		CAT6									
		COUNT	LOW		INT	MED		INT	HIGH	INT	ROW
		ROW	PCT	I		REST	REST		EREST		TOTAL
		TOT	PCT	I	1	I	2	I	3	I	
L10											
		1	I	17	I	46	I	28	I	91	
	YES		I	18.7	I	50.5	I	30.8	I	32.7	
		I	63.0	I	31.7	I	26.4	I			
		I	6.1	I	16.5	I	10.1	I			
NO		2	I	10	I	99	I	78	I	187	
		I	5.3	I	52.9	I	41.7	I		67.3	
		I	37.0	I	68.3	I	73.6	I			
		I	3.6	I	35.6	I	28.1	I			
COLUMN				27		145		106		278	
TOTAL				9.7		52.2		38.1		100.0	

RAW CHI SQUARE = 13.19447 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0014

***** C R O S S T A B U L A T I O N O F *****
 L20 READ NEWSPAPER BY CAT6 CATEGORY 6

		CAT6						
		COUNT	LOW		MID		HIGH	ROW
		ROW PCT	COL PCT	REST	REST	REST	REST	TOTAL
		TOT PCT	1	1	2	1	3	1
L20								
		1	13	111	90			214
	YES		6.1	51.9	42.1			77.0
			48.1	76.6	84.9			
			4.7	39.9	32.4			
	2	14	34	16				64
NO		21.9	53.1	25.0				23.0
		51.9	23.4	15.1				
		5.0	12.2	5.8				
COLUMN			27	145	106			278
TOTAL			9.7	52.2	38.1			100.0

RAW CHI SQUARE = 16.43724 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0003

***** CROSS TABULATION OF *****
 L4 SERVICE ORGZN BY CAT7 CATEGORY 7

		CAT7							
		COUNT	LOW	INT	MED	INT	HIGH	INT	ROW
		ROW PCT	REST		REST		REST		TOTAL
		COL PCT							
		TOT PCT	1	1	2	1	3	1	
L4									
		1	8	48	34				90
	YES		8.9	53.3	37.8				32.7
			29.6	41.0	26.0				
			2.9	17.5	12.4				
		2	19	69	97				185
	NO		10.3	37.3	52.4				67.3
			70.4	59.0	74.0				
			6.9	25.1	35.3				
		COLUMN	27	117	131				275
		TOTAL	9.8	42.5	47.6				100.0

RAW CHI SQUARE = 6.50675 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0386

***** CROSS TABULATION OF *****
 B2 SES BY CAT7 CATEGORY 7

		CAT7						
		COUNT	LOW		MED		HIGH	
		ROW PCT	FLOW	INTE	REST	INTE	REST	ROW
		COL PCT	REST					TOTAL
		TOT PCT	1	1	2	1	3	1
B2								
	1	1	4	1	18	1	29	1
0-29		1	7.8	1	35.3	1	56.9	1
		1	16.7	1	16.5	1	23.2	1
		1	1.6	1	7.0	1	11.2	1
		-1						-1
	2	1	3	1	28	1	37	1
30-49		1	4.4	1	41.2	1	54.4	1
		1	12.5	1	25.7	1	29.6	1
		1	1.2	1	10.9	1	14.3	1
		-1						-1
	3	1	7	1	26	1	29	1
50-69		1	11.3	1	41.9	1	46.8	1
		1	29.2	1	23.9	1	23.2	1
		1	2.7	1	10.1	1	11.2	1
		-1						-1
	4	1	10	1	37	1	30	1
70-93		1	13.0	1	48.1	1	39.0	1
		1	41.7	1	33.9	1	24.0	1
		1	3.9	1	14.3	1	11.6	1
		-1						-1
COLUMN			24		109		125	258
TOTAL			9.3		42.2		48.4	100.0

RAW CHI SQUARE = 7.18073 WITH 6 DEGREES OF FREEDOM. SIGNIFICANCE = 0.3045

***** CROSS TABULATION OF *****
 85 SEX BY CAT7 CATEGORY 7

		CAT7								
		COUNT	I			E				
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW	
		COL PCT	IREST		REST		EREST		TOTAL	
		TOT PCT	1	1	2	1	3	1		
85	WOMAN	1	1	9	1	43	1	81	1	133
			1	6.8	1	32.3	1	60.9	1	48.4
			1	33.3	1	36.8	1	61.8	1	
			1	3.3	1	15.6	1	29.5	1	
		-1	-1			-1			-1	
	MAN	2	1	18	1	74	1	50	1	142
			1	12.7	1	52.1	1	35.2	1	51.6
			1	66.7	1	63.2	1	38.2	1	
			1	6.5	1	26.9	1	18.2	1	
		-1	-1			-1			-1	
		COLUMN	27			131			275	
		TOTAL	9.8			42.5			47.6 100.0	

RAW CHI SQUARE = 18.27457 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0001

***** CROSS TABULATION OF *****
 L3 ENTERTAINED IN HOME BY CAT7 CATEGORY 7

		CAT7							
		COUNT	I			E			
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW
		COL PCT	IREST	REST	REST	EREST	EREST	EST	TOTAL
		TOT PCT	1	1	2	1	3	1	
L3									
		1	1	19	1	99	1	118	236
	YES		1	8.1	1	41.9	1	50.0	85.8
			1	70.4	1	84.6	1	90.1	
		1	6.9	1	36.0	1	42.9		
NO		2	1	8	1	18	1	13	39
			1	20.5	1	46.2	1	33.3	14.2
			1	29.6	1	15.4	1	9.9	
			1	2.9	1	6.5	1	4.7	
COLUMN			27		117		131		275
TOTAL			9.8		42.5		47.6		100.0

RAW CHI SQUARE = 7.38476 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0249

***** C R O S S T A B U L A T I O N O F *****
 L20 READ NEWSPAPER BY CAT7 CATEGORY 7

		CAT7						
		COUNT						
ROW	PCT	ILOW	INTE	MED	INTE	HIGH	INT	
COL	PCT	IREST	REST	EREST				
TOT	PCT	1	1	2	1	3	1	
L20	YES	1	14	84	114		212	
			6.6	39.6	53.8		77.1	
			51.9	71.8	87.0			
			5.1	30.5	41.5			
NO		2	13	33	17		63	
			20.6	52.4	27.0		22.9	
			48.1	28.2	13.0			
			4.7	12.0	6.2			
COLUMN		27	117	131				
TOTAL		9.8	42.5	47.6	275 100.0			

RAW CHI SQUARE = 18.91376 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0001

***** C R O S S T A B U L A T I O N O F *****
 L2 ATTENDED SPORTS BY CAT8 CATEGORY 8

		CAT8					
		COUNT					
ROW	PCT	ILOW	INTE	MED	INTE	HIGH	INT
COL	PCT	IREST	REST	EREST			
TOT	PCT	1	2	3			
L2		1	18	76	64		158
YES		11.4	48.1	40.5			57.5
		45.0	55.9	64.6			
		6.5	27.6	23.3			
		2	22	60	35		117
NO		18.8	51.3	29.9			42.5
		55.0	44.1	35.4			
		8.0	21.8	12.7			
COLUMN		40	136	99			
TOTAL		14.5	49.5	36.0	275 100.0		

RAW CHI SQUARE = 4.77062 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0921

***** C R O S S T A B U L A T I O N O F *****
 L15 VISITED NEIGHBORS BY CAT8 CATEGORY 8

		CAT8							
		COUNT							
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW
		COL PCT	REST		REST		EREST		TCTAL
		TOT PCT	1	1	2	1	3	1	
L15	YES	1	29	117	94				240
			12.1	48.8	39.2				87.3
			72.5	86.0	94.9				
			10.5	42.5	34.2				
		-	-	-	-	-	-	-	
	NO	2	11	19	5				35
			31.4	54.3	14.3				12.7
			27.5	14.0	5.1				
			4.0	6.9	1.8				
		-	-	-	-	-	-	-	
COLUMN			40	136	99				275
TOTAL			14.5	49.5	36.0				100.0

RAW CHI SQUARE = 13.30092 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0013

***** C R O S S T A B U L A T I O N O F *****
 L20 READ NEWSPAPER BY CAT8 CATEGORY 8

		CAT8								
		COUNT								
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW	
		COL PCT	REST		REST		EREST		TCTAL	
		TOT PCT	1	1	2	1	3	1		
L20	YES	1	1	24	1	101	1	87	1	212
			1	11.3	1	47.6	1	41.0	1	77.1
			1	60.0	1	74.3	1	87.9	1	
			1	8.7	1	36.7	1	31.6	1	
		-1	-1		-1		-1			
NO		2	1	16	1	35	1	12	1	63
			1	25.4	1	55.6	1	19.0	1	22.9
			1	40.0	1	25.7	1	12.1	1	
			1	5.8	1	12.7	1	4.4	1	
		-1	-1		-1		-1			
COLUMN			40		136		99		275	
TOTAL			14.5		49.5		36.0		100.0	

RAW CHI SQUARE = 13.75456 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0010

***** CROSSTABULATION OF *****
 85 SEX BY CAT8 CATEGORY 8

		CAT8							
		COUNT	I		I		I		
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	
		COL PCT	REST		REST		E REST		
		TOT PCT	1	1	2	1	3	1	
85			-----		-----		-----		
	WOMAN	1	1	15	1	58	1	62	1
			1	11.1	1	43.0	1	45.9	1
			1	37.5	1	42.6	1	62.6	1
			1	5.5	1	21.1	1	22.5	1
			-----		-----		-----		
	MAN	2	1	25	1	78	1	37	1
			1	17.9	1	55.7	1	26.4	1
			1	62.5	1	57.4	1	37.4	1
			1	9.1	1	28.4	1	13.5	1
		-----		-----		-----			
COLUMN			40		136		99		
TOTAL			14.5		49.5		36.0	100.0	

RAW CHI SQUARE = 11.66725 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0029

***** CROSSTABULATION OF *****
 L11 TAKEN LESSONS IN ARTS BY CAT8 CATEGORY 8

		CAT8							
		COUNT	I		I		I		
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	RCM
		COL PCT	REST		REST		REST		TOTAL
		TOT PCT	1	1	2	1	3	1	
L11									
		1	7	29	9				45
	YES		15.6	64.4	20.0				16.4
			17.5	21.3	9.1				
			2.5	10.5	3.3				
		-1							
NO		2	33	107	90				230
			14.3	46.5	39.1				83.6
			82.5	78.7	90.9				
			12.0	38.9	32.7				
			-1						
COLUMN			40	136	99				275
TOTAL			14.5	49.5	36.0				100.0

RAW CHI SQUARE = 6.30844 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0427

***** C R O S S T A B U L A T I O N O F *****
 B5 SEX BY CAT9 CATEGORY 9

		CAT9							
		COUNT	I						
ROW	PCT	ILOW	INTE	MED	INTE	HIGH	INT	ROW	
COL	PCT	IREST		REST		EREST		TCTAL	
TOT	PCT	1	1	1	2	1	3	1	
		-----		-----		-----			
B5	WOMAN	1	1	10	1	56	1	69	135
			1	7.4	1	41.5	1	51.1	49.3
			1	20.8	1	43.4	1	71.1	
			1	3.6	1	20.4	1	25.2	
		-----		-----		-----			
	MAN	2	1	38	1	73	1	28	139
			1	27.3	1	52.5	1	20.1	50.7
			1	79.2	1	56.6	1	28.9	
			1	13.9	1	26.6	1	10.2	
		-----		-----		-----			
COLUMN				48		129		97	274
TOTAL				17.5		47.1		35.4	100.0

RAW CHI SQUARE = 35.85274 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0000

***** C R O S S T A B U L A T I O N O F *****
 B1 MARITAL STATUS BY CAT10 CATEGORY 10

		CAT10							
		COUNT	I						
ROW	PCT	ILOW	INTE	MED	INTE	HIGH	INT	ROW	
COL	PCT	IREST		REST		EREST		TOTAL	
TOT	PCT	1	1	2	1	3	1		
B1		-----1-----	-----1-----	-----2-----	-----1-----	-----3-----	-----1-----		
	SINGLE	1	1	21	1	57	1	26	104
			1	20.2	1	54.8	1	25.0	39.4
			1	50.0	1	47.9	1	25.2	
			1	8.0	1	21.6	1	9.8	
	MARRIED		-----1-----	-----1-----	-----2-----	-----1-----	-----3-----	-----1-----	
		2	1	21	1	62	1	77	160
			1	13.1	1	38.8	1	48.1	60.6
			1	50.0	1	52.1	1	74.8	
			1	8.0	1	23.5	1	29.2	
		-----1-----	-----1-----	-----2-----	-----1-----	-----3-----	-----1-----		
COLUMN			42		119		103	264	
TOTAL			15.9		45.1		39.0	100.0	

RAW CHI SQUARE = 14.22372 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0008

***** CROSSTABULATION OF *****
 B5 SEX BY CAT10 CATEGORY 10

		CAT10								
		COUNT	I							
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW	
		COL PCT	I	REST	I	REST	I	EREST	TOTAL	
		TOT PCT	I	1	I	2	I	3	I	
B5	WOMAN	1	1	18	1	53	1	65	1	136
			1	13.2	1	39.0	1	47.8	1	48.9
			1	38.3	1	42.7	1	60.7	1	
			1	6.5	1	19.1	1	23.4	1	
			-I-	-I-	-I-	-I-	-I-	-I-		
	MAN	2	1	29	1	71	1	42	1	142
			1	20.4	1	50.0	1	29.6	1	51.1
			1	61.7	1	57.3	1	39.3	1	
			1	10.4	1	25.5	1	15.1	1	
			-I-	-I-	-I-	-I-	-I-	-I-		
		COLUMN		47		124		107		278
		TOTAL		16.9		44.6		38.5		100.0

RAW CHI SQUARE = 10.00646 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0067

***** CROSSTABULATION OF *****
 L7 MOVIES BY CAT10 CATEGORY 10

		CAT10								
		COUNT	I							
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	RCW	
		COL PCT	REST		REST		EREST		TOTAL	
		TOT PCT	1	1	2	1	3	1		
L7										
		1	32	74	77				183	
	YES		17.5	40.4	42.1				65.8	
			68.1	59.7	72.0					
			11.5	26.6	27.7					
		2	15	50	30				95	
NO			15.8	52.6	31.6				34.2	
			31.9	40.3	28.0					
			5.4	18.0	10.8					
COLUMN			47	124	107				278	
TOTAL			16.9	44.6	38.5				100.0	

RAW CHI SQUARE = 3.98182 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.1366

***** CROSS TABULATION OF *****
 L2 ATTENDED SPORTS BY CAT11 CATEGORY II

		CAT11							
		COUNT	I		II		III		
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	
		COL PCT	REST		REST		EREST		
		TOT PCT	I	1	I	2	I	3	
L2			I		I		I		
YES	1	I	I	37	I	74	I	48	I
		I	I	23.3	I	46.5	I	30.2	I
		I	I	64.9	I	51.4	I	64.0	I
		I	I	13.4	I	26.8	I	17.4	I
			-I		-I		-I		
NO	2	I	I	20	I	70	I	27	I
		I	I	17.1	I	59.8	I	23.1	I
		I	I	35.1	I	48.6	I	36.0	I
		I	I	7.2	I	25.4	I	9.8	I
			-I		-I		-I		
COLUMN				57		144		75	276
TOTAL				20.7		52.2		27.2	100.0

RAW CHI SQUARE = 4.78069 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0916

***** CROSS TABULATION OF *****
 B2 SES BY CAT11 CATEGORY II

		CAT11								
		COUNT	I		II		III			
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW	
		COL PCT	REST		REST		REST		TOTAL	
		TOT PCT	I	1	I	2	I	3	I	
B2			I	I	I	I	I	I	I	
	1	I	I	16	I	22	I	13	I	
0-29		I	I	31.4	I	43.1	I	25.5	I	
		I	I	30.8	I	16.4	I	17.8	I	
		I	I	6.2	I	8.5	I	5.0	I	
		I	I	I	I	I	I	I	I	
	2	I	I	14	I	34	I	20	I	
30-49		I	I	20.6	I	50.0	I	29.4	I	
		I	I	26.9	I	25.4	I	27.4	I	
		I	I	5.4	I	13.1	I	7.7	I	
		I	I	I	I	I	I	I	I	
	3	I	I	12	I	29	I	21	I	
50-69		I	I	19.4	I	46.8	I	33.9	I	
		I	I	23.1	I	21.6	I	28.8	I	
		I	I	4.6	I	11.2	I	8.1	I	
		I	I	I	I	I	I	I	I	
	4	I	I	10	I	49	I	19	I	
70-93		I	I	12.8	I	62.8	I	24.4	I	
		I	I	19.2	I	36.6	I	26.0	I	
		I	I	3.9	I	18.9	I	7.3	I	
		I	I	I	I	I	I	I	I	
COLUMN				52		134		73	259	
TOTAL				20.1		51.7		28.2	100.0	

RAW CHI SQUARE = 9.51150 WITH 6 DEGREES OF FREEDOM. SIGNIFICANCE = 0.1468

***** C R O S S T A B U L A T I O N O F *****
 B3 AGE BY CAT11 CATEGORY II

		CAT11							
		COUNT	I						
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	
		COL PCT	IREST	REST		EREST			
		TOT PCT	I	1	I	2	I	3	
			I	1	I	2	I	3	
83	18-24	1	I	13	I	34	I	6	53
			I	24.5	I	64.2	I	11.3	19.2
			I	22.8	I	23.6	I	8.0	
			I	4.7	I	12.3	I	2.2	
			-I					-I	
25-29	2	I	13	I	21	I	15	49	
		I	26.5	I	42.9	I	30.6	17.8	
		I	22.8	I	14.6	I	20.0		
		I	4.7	I	7.6	I	5.4		
			-I					-I	
30-39	3	I	19	I	43	I	20	82	
		I	23.2	I	52.4	I	24.4	29.7	
		I	33.3	I	29.9	I	26.7		
		I	6.9	I	15.6	I	7.2		
			-I					-I	
40-49	4	I	6	I	21	I	13	40	
		I	15.0	I	52.5	I	32.5	14.5	
		I	10.5	I	14.6	I	17.3		
		I	2.2	I	7.6	I	4.7		
			-I					-I	
50+	5	I	6	I	25	I	21	52	
		I	11.5	I	48.1	I	40.4	18.8	
		I	10.5	I	17.4	I	28.0		
		I	2.2	I	9.1	I	7.6		
			-I					-I	
COLUMN			57		144		75	276	
TOTAL			20.7		52.2		27.2	100.0	

RAW CHI SQUARE = 15.71511 WITH 8 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0466

***** C R O S S T A B U L A T I O N O F *****
 B1 MARITAL STATUS BY CAT11 CATEGORY II

		CAT11								
		COUNT	I							
		ROW PCT	LOW	INT	MED	INT	HIGH	ROW		
		COL PCT	IREST	REST		EREST		TOTAL		
		TOT PCT	I	1	I	2	I	3	I	
81	SINGLE	1	I	30	I	59	I	16	I	105
			I	28.6	I	56.2	I	15.2	I	40.2
			I	58.8	I	42.4	I	22.5	I	
			I	11.5	I	22.6	I	6.1	I	
			-I					-I		
MARRIED	2	I	21	I	80	I	55	I	156	
		I	13.5	I	51.3	I	35.3	I	59.8	
		I	41.2	I	57.6	I	77.5	I		
		I	8.0	I	30.7	I	21.1	I		
			-I					-I		
COLUMN			51		139		71		261	
TOTAL			19.5		53.3		27.2		100.0	

RAW CHI SQUARE = 16.86174 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0002

***** C R O S S T A B U L A T I O N O F *****
 B5 SEX BY CAT12 CATEGORY 12

		CAT12							
		COUNT	I			I			
		ROW PCT	LOW	INTE	MED	INTE	HIGH	INT	ROW
		COL PCT	REST	REST	REST	REST	REST	REST	TOTAL
		TOT PCT	1	1	2	1	3	1	
85	WOMAN	1	0	40	96				136
			0.0	29.4	70.6				48.7
			0.0	42.1	56.5				
			0.0	14.3	34.4				
	MAN	2	14	55	74				143
			9.8	38.5	51.7				51.3
			100.0	57.9	43.5				
			5.0	19.7	26.5				
COLUMN			14	95	170			279	
TOTAL			5.0	34.1	60.9			100.0	

RAW CHI SQUARE = 19.05183 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0001

***** C R O S S T A B U L A T I O N O F *****
 L3 ENTERTAINED IN HOME BY CAT12 CATEGORY 12

		CAT12								
		COUNT	I			I				
		ROW PCT	LOW	INTE	MED	INTE	HIGH	INT	ROW	
		COL PCT	REST		REST		EREST		TOTAL	
		TOT PCT	1	1	2	1	3	1		
L3	YES	1	7	82	150				239	
			2.9	34.3	62.8				85.7	
			50.0	86.3	88.2					
			2.5	29.4	53.8					
NO	2	7	13	20				40		
			17.5	32.5	50.0				14.3	
			50.0	13.7	11.8					
			2.5	4.7	7.2					
COLUMN TOTAL			14	95	170			279		
TOTAL			5.0	34.1	60.9			100.0		

RAW CHI SQUARE = 15.44705 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0004

***** C R O S S T A B U L A T I O N O F *****
 L16 VISITED FRIENDS BY CAT12 CATEGORY 12

		CAT12						ROW TOTAL
		COUNT	LOW		MEDIUM		HIGH	
		PCT	REST		REST		REST	
ROW	COL	PCT	1	2	3			
L16	TOT	PCT	1	2	3			
YES	1		8	72	140			220
			3.6	32.7	63.6			78.9
			57.1	75.8	82.4			
			2.9	25.8	50.2			
NO	2		6	23	30			59
			10.2	39.0	50.8			21.1
			42.9	24.2	17.6			
			2.2	8.2	10.8			
COLUMN			14	95	170			279
TOTAL			5.0	34.1	60.9			100.0

RAW CHI SQUARE = 5.74071 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0567

***** C R O S S T A B U L A T I O N O F *****
 B2 SES BY CAT12 CATEGORY 12

		CAT12						ROW TOTAL
		COUNT	LOW		MEDIUM		HIGH	
		PCT	REST		REST		REST	
ROW	COL	PCT	1	2	3			
B2	TOT	PCT	1	2	3			
0-29	1		6	15	31			52
			11.5	28.8	59.6			19.8
			46.2	17.2	19.1			
			2.3	5.7	11.8			
30-49	2		2	20	48			70
			2.9	28.6	68.6			26.7
			15.4	23.0	29.6			
			0.8	7.6	18.3			
50-69	3		3	18	41			62
			4.8	29.0	66.1			23.7
			23.1	20.7	25.3			
			1.1	6.9	15.6			
70-93	4		2	34	42			78
			2.6	43.6	53.8			29.8
			15.4	39.1	25.9			
			0.8	13.0	16.0			
COLUMN			13	87	162			262
TOTAL			5.0	33.2	61.8			100.0

RAW CHI SQUARE = 11.21697 WITH 6 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0819

***** CROSS TABULATION OF *****
 81 MARITAL STATUS BY CAT12 CATEGORY 12

		CAT12								
		COUNT	I		I		I			
		ROW PCT	ILOW	INTE	MED	INTE	HIGH	INT	ROW	
		COL PCT	I	REST	REST	EREST	EREST		TOTAL	
		TOT PCT	I	1	I	2	I	3	I	
81			I	I	I	I	I	I	I	
	SINGLE	1	I	9	I	39	I	57	I	105
			I	8.6	I	37.1	I	54.3	I	39.8
			I	64.3	I	45.9	I	34.5	I	
			I	3.4	I	14.8	I	21.6	I	
		I	I	I	I	I	I	I	I	
	MARRIED	2	I	5	I	46	I	108	I	159
			I	3.1	I	28.9	I	67.9	I	60.2
			I	35.7	I	54.1	I	65.5	I	
			I	1.9	I	17.4	I	40.9	I	
	I	I	I	I	I	I	I	I		
		COLUMN	14		85		165		264	
		TOTAL	5.3		32.2		62.5		100.0	

RAW CHI SQUARE = 0.71861 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0348

***** CROSS TABULATION OF *****
 84 EDUCATION BY CAT13 CATEGORY 13

		CAT13								
		COUNT	I							
		ROW PCT	ILOW	INTE	MED	INTE	HIGH	INT	RCW	
		COL PCT	I	REST	REST	EREST	EREST		TOTAL	
		TOT PCT	I	1	I	2	I	3	I	
84			I	I	I	I	I	I	I	
		3	I	32	I	33	I	43	I	
	HS OR LESS	I	29.6	I	30.6	I	39.8	I	39.4	
		I	53.3	I	31.4	I	39.4	I		
		I	11.7	I	12.0	I	15.7	I		
I		I	I	I	I	I	I	I		
		4	I	14	I	30	I	28	I	
	SOME COLLEGE	I	19.4	I	41.7	I	38.9	I	72	
		I	23.3	I	28.6	I	25.7	I	26.3	
		I	5.1	I	10.9	I	10.2	I		
		I	I	I	I	I	I	I	I	
		5	I	14	I	42	I	38	I	
	COLLEGE GRAD	I	14.9	I	44.7	I	40.4	I	94	
		I	23.3	I	40.0	I	34.9	I	34.3	
		I	5.1	I	15.3	I	13.9	I		
		I	I	I	I	I	I	I	I	
COLUMN			60		105		109		274	
TOTAL			21.9		38.3		39.8		100.0	

RAW CHI SQUARE = 8.17844 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0853

***** C R O S S T A B U L A T I O N O F *****
 L10 ART GALLERY OR MUSEUM BY CAT14 CATEGORY 14

		CAT14						
		COUNT	I		I			
		ROW PCT	LOW	INT	MED	INT	HIGH	
		COL PCT	IREST	REST	REST	EREST	EST	
		TOT PCT	1	1	2	1	3	
L10	YES	1	11	57	22			
		12.2	63.3	24.4				
		11.8	38.0	64.7				
		4.0	20.6	7.9				
NO	2	82	93	12				
		43.9	49.7	6.4				
		88.2	62.0	35.3				
		29.6	33.6	4.3				
		COLUMN TOTAL		93	150	34		
		TOTAL		33.6	54.2	12.3		

RAW CHI SQUARE = 36.26498 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0000

***** C R O S S T A B U L A T I O N O F *****
 B5 SEX BY CAT14 CATEGORY 14

		CAT14						
		COUNT	I		I			
		ROW PCT	LOW	INT	MED	INT	HIGH	
		COL PCT	IREST	REST	REST	EREST	INT	
		TOT PCT	1	1	2	1	3	
			1	1	2	1	3	
B5	WOMAN	1	35	76	24			
			25.9	56.3	17.8			
			37.6	50.7	70.6			
			12.6	27.4	8.7			
MAN	2	58	74	10				
			40.8	52.1	7.0			
			62.4	49.3	29.4			
			20.9	26.7	3.6			
COLUMN TOTAL		93	150	34				
TOTAL		33.6	54.2	12.3				

RAW CHI SQUARE = 11.30987 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0035

***** CROSSTABULATION OF *****
 L19 NATIONAL NEWS BY CAT14 CATEGORY 14

		CAT14								
		COUNT	LOW		INT	MED	INT	HIGH	INT	ROW
		ROW PCT	I		REST	REST		EREST		TOTAL
		COL PCT	I		REST	REST		EREST		
		TOT PCT	1		1	2		3		1
L19	YES									
		1	1	45	1	77	1	21	1	143
			1	31.5	1	53.8	1	14.7	1	51.6
			1	48.4	1	51.3	1	61.8	1	
	NO		1	16.2	1	27.8	1	7.6	1	
		2	1	48	1	73	1	13	1	134
			1	35.8	1	54.5	1	9.7	1	48.4
			1	51.6	1	48.7	1	38.2	1	
			1	17.3	1	26.4	1	4.7	1	
		COLUMN		93		150		34		277
		TOTAL		33.6		54.2		12.3		100.0

RAW CHI SQUARE = 1.79527 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.4075

***** CROSSTABULATION OF *****
 L14 ENGAGED IN SPORTS BY CAT14 CATEGORY 14

		CAT14								
		COUNT	LOW		INT	MED	INT	HIGH	INT	ROW
		ROW PCT	I		REST	REST	REST	EREST		TOTAL
		COL PCT	I		REST	REST	REST	EREST		
		TOT PCT	1		1	2	1	3	1	
L14	YES	1	1	46	1	98	1	15	1	159
			1	28.9	1	61.6	1	9.4	1	57.4
			1	49.5	1	65.3	1	44.1	1	
			1	16.6	1	35.4	1	5.4	1	
		-1	-1		-1	-1	-1	-1	-1	
NO		2	1	47	1	52	1	19	1	118
			1	39.8	1	44.1	1	16.1	1	42.6
			1	50.5	1	34.7	1	55.9	1	
			1	17.0	1	18.8	1	6.9	1	
		-1	-1		-1	-1	-1	-1	-1	
COLUMN			93			150		34		277
TOTAL			33.6			54.2		12.3		100.0

RAW CHI SQUARE = 8.71023 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0128

***** C R O S S T A B U L A T I O N O F *****
 84 EDUCATION BY CAT14 CATEGORY 14

		CAT14						
		COUNT	I		I			
		ROW PCT	LOW	INT	MED	INT	HIGH	
		COL PCT	REST	REST	REST	REST	REST	
		TOT PCT	1	2	3			
84	HS OR LESS	3	53	48	6		107	
			49.5	44.9	5.6		39.5	
			58.9	32.7	17.6			
			19.6	17.7	2.2			
	SOME COLLEGE	4	17	42	11		70	
			24.3	60.0	15.7		25.8	
			18.9	28.6	32.4			
			6.3	15.5	4.1			
	COLLEGE GRAD	5	20	57	17		94	
			21.3	60.6	18.1		34.7	
			22.2	38.8	50.0			
			7.4	21.0	6.3			
COLUMN TOTAL			90	147	34		271	
			33.2	54.2	12.5		100.0	

RAW CHI SQUARE = 24.13142 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0001

***** C R O S S T A B U L A T I O N O F *****
 L17 READ NEWS MAGAZINE BY CAT14 CATEGORY 14

		CAT14						
		COUNT	I		I			
		ROW PCT	LOW	INT	MED	INT	HIGH	
		COL PCT	REST	REST	REST	REST	REST	
		TOT PCT	1	1	2	1	3	
L17	YES	1	44	101	19			
			26.8	61.6	11.6			
			47.3	67.8	55.9			
			15.9	36.6	6.9			
NO	2	49	48	15				
		43.8	42.9	13.4				
		52.7	32.2	44.1				
		17.8	17.4	5.4				
		COLUMN TOTAL		93	149	34		
		TOTAL		33.7	54.0	12.3		

RAW CHI SQUARE = 10.15513 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0062

***** C R O S S T A B U L A T I O N O F *****
 L1 VOLUNTEER WORK BY CAT14 CATEGORY 14

		CAT14					
		COUNT					
ROW	PCT	LOW	INT	MED	INT	HIGH	INT
COL	PCT	REST		REST		EREST	
TOT	PCT	1	2	3			
L1		1	1	1	1	1	1
YES		1	30	24	6		60
			50.0	40.0	10.0		21.7
			32.3	16.0	18.2		
			10.9	8.7	2.2		
NO		2	63	126	27		216
			29.2	58.3	12.5		78.3
			67.7	84.0	81.8		
			22.8	45.7	9.8		
COLUMN			93	150	33		276
TOTAL			33.7	54.3	12.0		100.0

RAW CHI SQUARE = 9.19785 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0101

***** C R O S S T A B U L A T I O N O F *****
 B2 SES BY CAT15 CATEGORY 15

		CAT15					
		COUNT					
ROW	PCT	LOW	INT	MED	INT	HIGH	INT
COL	PCT	REST		REST		EREST	
TOT	PCT	1	2	3			
B2		1	1	1	1	1	1
0-29		1	29	19	4		52
			55.8	36.5	7.7		20.1
			24.2	16.2	18.2		
			11.2	7.3	1.5		
30-49		2	37	25	7		69
			53.6	36.2	10.1		26.6
			30.8	21.4	31.8		
			14.3	9.7	2.7		
50-69		3	21	37	3		61
			34.4	60.7	4.9		23.6
			17.5	31.6	13.6		
			8.1	14.3	1.2		
70-93		4	33	36	8		77
			42.9	46.8	10.4		29.7
			27.5	30.8	36.4		
			12.7	13.9	3.1		
COLUMN			120	117	22		259
TOTAL			46.3	45.2	8.5		100.0

RAW CHI SQUARE = 10.72180 WITH 6 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0974

***** C R O S S T A B U L A T I O N O F *****
 B5 SEX BY CAT15 CATEGORY 15

		CAT15								
		COUNT	I		I		I			
		ROW PCT	LOW	INT	MED	INT	HIGH	INT	ROW	
		COL PCT	IREST	REST	REST	EREST	EREST	EST	TOTAL	
		TOT PCT	I	1	I	2	I	3	I	
B5			-----I		-----I		-----I		-----I	
	WOMAN	1	I	73	I	56	I	6	I	135
			I	54.1	I	41.5	I	4.4	I	48.9
			I	58.4	I	45.2	I	22.2	I	
			I	26.4	I	20.3	I	2.2	I	
			-----I		-----I		-----I		-----I	
	MAN	2	I	52	I	68	I	21	I	141
			I	36.9	I	48.2	I	14.9	I	51.1
			I	41.6	I	54.8	I	77.8	I	
			I	18.8	I	24.6	I	7.6	I	
		-----I		-----I		-----I		-----I		
COLUMN		125		124		27		276		
TOTAL		45.3		44.9		9.8		100.0		

RAW CHI SQUARE = 12.89828 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0016

***** C R O S S T A B U L A T I O N O F *****
 L12 PERFORMED BY CAT15 CATEGORY 15

		CAT15							
		COUNT	I		I				
		ROW PCT	LOW	INT	MED	INT	HIGH	ROW	
		COL PCT	IREST	REST	REST	EREST	INT	TOTAL	
		TOT PCT	I	1	I	2	I	3	I
L12			I		I		I		I
		1	I	16	I	17	I	8	I
	YES		I	39.0	I	41.5	I	19.5	I
			I	12.8	I	13.7	I	29.6	I
		I	5.8	I	6.2	I	2.9	I	
			-I		-I		-I		
		2	I	109	I	107	I	19	I
	NO		I	46.4	I	45.5	I	8.1	I
			I	87.2	I	86.3	I	70.4	I
			I	39.5	I	38.8	I	6.9	I
			-I		-I		-I		
		COLUMN	125		124		27		276
		TOTAL	45.3		44.9		9.8		100.0

RAW CHI SQUARE = 5.20570 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0741

***** C R O S S T A B U L A T I O N O F *****
 L20 READ NEWSPAPER BY CAT15 CATEGORY 15

		CAT15						
		COUNT	LOW		MED	HIGH		
		ROW PCT	INT	REST	INT	INT	INT	ROW
		COL PCT	REST	REST	REST	REST	REST	TOTAL
		TOT PCT	1	1	2	1	3	1
L20								
	YES	1	85	102	24			211
			40.3	48.3	11.4			76.4
			68.0	82.3	88.9			
		30.8	37.0	8.7				
NO								
	2	40	22	3			65	
			61.5	33.8	4.6		23.6	
			32.0	17.7	11.1			
			14.5	8.0	1.1			
COLUMN			125	124	27		276	
TOTAL			45.3	44.9	9.8		100.0	

RAW CHI SQUARE = 9.60095 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0082

***** C R O S S T A B U L A T I O N O F *****
 L2 ATTENDED SPORTS BY CAT15 CATEGORY 15

		CAT15						
		COUNT	LOW		MED	HIGH		
		ROW PCT	INT	REST	INT	INT	INT	ROW
		COL PCT	REST	REST	REST	REST	REST	TOTAL
		TOT PCT	1	1	2	1	3	1
L2	YES	1	66	76	19			161
			41.0	47.2	11.8			58.3
			52.8	61.3	70.4			
			23.9	27.5	6.9			
NO	2		59	48	8			115
			51.3	41.7	7.0			41.7
			47.2	38.7	29.6			
			21.4	17.4	2.9			
		COLUMN		125	124	27	276	
		TOTAL		45.3	44.9	9.8	100.0	

RAW CHI SQUARE = 3.63023 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.1628

***** CROSS TABULATION OF *****
 L5 POLITICAL INVOLVEMENT BY CAT16 CATEGORY 16

		CAT16							
		COUNT	I			HIGH INT			
		ROW PCT	LOW	INT	MED	INT	EREST	ROW	
		COL PCT	REST	REST	REST	REST	REST	TOTAL	
		TOT PCT	1	1	2	1	3	1	
L5			-----		-----		-----		
	1	I	8	I	22	I	13	I	
YES		I	18.6	I	51.2	I	30.2	I	
		I	16.0	I	21.6	I	10.4	I	
		I	2.9	I	7.9	I	4.7	I	
		-I	-----		-----		-----		
	2	I	42	I	80	I	112	I	
NO		I	17.9	I	34.2	I	47.9	I	
		I	84.0	I	78.4	I	89.6	I	
		I	15.2	I	28.9	I	40.4	I	
		-I	-----		-----		-----		
COLUMN			50		102		125	277	
TOTAL			18.1		36.8		45.1	100.0	

RAW CHI SQUARE = 5.35324 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0688

***** CROSS TABULATION OF *****
 L9 PURCHASED BOOKS BY CAT16 CATEGORY 16

		CAT16							
		COUNT	I			HIGH INT			
		ROW PCT	LOW	INT	MED	INT	EREST	ROW	
		COL PCT	REST	REST	REST	REST	REST	TOTAL	
		TOT PCT	1	1	2	1	3	1	
L9			I	I	I	I	I	I	
YES	1	I	28	I	81	I	107	I	
		I	13.0	I	37.5	I	49.5	I	
		I	56.0	I	79.4	I	85.6	I	
		I	10.1	I	29.2	I	38.6	I	
		-I	-I	-I	-I	-I	-I	-I	
NO	2	I	22	I	21	I	18	I	
		I	36.1	I	34.4	I	29.5	I	
		I	44.0	I	20.6	I	14.4	I	
		I	7.9	I	7.6	I	6.5	I	
		-I	-I	-I	-I	-I	-I	-I	
COLUMN			50		102		125	277	
TOTAL			18.1		36.8		45.1	100.0	

RAW CHI SQUARE = 18.41539 WITH 2 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0001

 84 EDUCATION BY CAT16 CATEGORY 16

		CAT16						
		COUNT	LOW		MED	HIGH		
		ROW PCT	LOW	INT	REST	INT	HIGH	ROW
		COL PCT	REST	REST	REST	REST	REST	TOTAL
		TOT PCT	1	1	2	1	3	1
84								
	3		34		46		26	106
HS OR LESS			32.1		43.4		24.5	39.1
			70.8		46.5		21.0	
			12.5		17.0		9.6	
	4		6		23		43	72
SOME COLLEGE			8.3		31.9		59.7	26.6
			12.5		23.2		34.7	
			2.2		8.5		15.9	
	5		8		30		55	93
COLLEGE GRAD			8.6		32.3		59.1	34.3
			16.7		30.3		44.4	
			3.0		11.1		20.3	
		COLUMN	48		99		124	271
		TOTAL	17.7		36.5		45.8	100.0

RAW CHI SQUARE = 39.67574 WITH 4 DEGREES OF FREEDOM. SIGNIFICANCE = 0.0000

APPENDIX E

MEANS AND STANDARD DEVIATIONS OF THE 93 HEADLINES

Headline	Mean	Standard Deviation
H1	65.2321	30.0527
H2	33.1036	30.9462
H3	51.4357	33.3261
H4	45.0786	34.1786
H5	67.3000	29.5657
H6	41.3571	32.9424
H7	65.3786	30.0546
H8	76.7786	25.2948
H9	28.1786	32.6448
H10	38.3464	32.9608
H11	38.0321	32.1608
H12	36.5536	31.2978
H13	56.0036	30.7401
H14	44.0857	32.9070
H15	63.6929	29.7241
H16	48.2464	34.7049
H17	67.6429	29.7427
H18	52.2786	33.9694
H19	64.1500	35.4400
H20	38.2500	33.2143
H21	42.0000	31.7206
H22	65.0428	30.2343
H23	24.1000	27.5811
H24	41.6893	33.6880
H25	45.8786	33.1343
H26	57.2714	35.2861
H27	49.5000	35.0746
H28	39.0071	32.9241
H29	44.3893	32.0856
H30	51.5036	33.5855
H31	62.9214	32.4485
H32	65.1214	30.8161
H33	56.1750	35.1267
H34	49.8929	31.8861
H35	49.0607	34.9170
H36	54.9714	33.5000
H37	55.6178	31.1899
H38	52.7821	34.3493
H39	39.6286	31.6692
H40	67.3607	29.3761
H41	37.4964	34.5449
H42	52.1393	34.5573
H43	32.7500	30.4500

Headline	Mean	Standard Deviation
H44	55.4714	36.2866
H45	50.9214	31.7144
H46	32.2143	35.4033
H47	48.3750	36.4244
H48	52.0393	34.1240
H49	58.3143	30.6036
H50	43.4607	31.6547
H51	35.0000	30.3984
H52	46.4107	34.3522
H53	35.7750	32.5721
H54	49.1857	32.8475
H55	65.0964	31.8298
H56	34.6425	33.9705
H57	30.4250	31.3669
H58	47.7964	35.3687
H59	54.0500	35.3773
H60	49.7393	35.6450
H61	55.0357	32.8433
H62	58.3643	32.1557
H63	66.9107	31.1253
H64	57.8786	34.3176
H65	34.7821	31.7318
H66	46.3000	33.8056
H67	25.8393	28.9963
H68	59.3143	31.9657
H69	61.3678	34.9567
H70	58.3393	31.7972
H71	64.9536	33.8925
H72	57.5464	34.7407
H73	62.9607	31.4986
H74	51.3321	34.9736
H75	50.0964	33.6745
H76	57.2928	34.8626
H77	58.2500	35.6277
H78	56.7714	34.4408
H79	28.1857	29.8878
H80	52.9071	33.9370
H81	45.3214	34.4102
H82	46.9500	34.9885
H83	68.4071	29.4208
H84	57.2928	30.9957
H85	47.7143	33.9397
H86	59.4000	34.3308
H87	56.3464	36.5081
H88	47.2500	33.5795
H89	59.7750	33.3269
H90	55.8714	32.6127
H91	66.6571	31.7398
H92	26.4464	31.2898
H93	58.4928	34.8634

VITA

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She was employed by the Warren (Michigan) Consolidated Schools from 1967 through 1973, and in the fall of 1974 she moved to Columbus, Ohio to begin graduate studies at Ohio State University. She earned the Master of Arts degree with a major in Journalism from Ohio State in August 1976.

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