1972

Newspaper Reading: A Study In Selective Effects

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NEWSPAPER READING:

A STUDY IN SELECTIVE EFFECTS

by

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School of Business Administration

Submitted in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

Faculty of Graduate Studies

The University of Western Ontario

London, Canada

March 1972

ABSTRACT

The effects of selective newspaper reading have not been recognized in the assessment of newspaper audiences. When present, these effects result in inaccurate statements about audience size and inappropriate conclusions about audience characteristics if conventional assessment procedures are used. Decisions based on erroneous notions of audience size and audience characteristics can result in the inefficient use of a medium and the consequent waste of advertising dollars. The purpose of this study was to determine whether or not newspaper readers systematically select information from the daily newspaper and, in addition, to investigate the influence of a reader's predispositions in the selection process.

A theoretical framework based on studies in perceptual psychology and memory responses was developed and subsequently applied to newspaper reading. Evidence from the communications research supported the theory.

Reading profiles were collected from a sample of newspaper readers along with a bank of personal attribute information. These

data were analyzed to ascertain the presence of selective reading patterns and the influence of the predispositions in the selection process.

Clear evidence of selective patterns in newspaper reading was found along with supporting evidence for the causal role of the predispositions in the operation of the selective processes. Techniques for incorporating the presence of selective effects into newspaper audience assessment procedures were developed along with suggestions for further research in the area.

ACKNOWLEDGMENT

I wish to acknowledge assistance received from many individuals and organizations in the preparation of this dissertation. My committee members, Professors Joseph N. Fry, Alexander Mikalachki, and John R. Kennedy gave time and assistance beyond the call of duty; I am most grateful. In particular, I am indebted to my doctoral committee chairman, Professor Fry, who guided me not only through this project but through all the phases of my doctoral training; my sincere thanks.

Without the co-operation of the London Free Press Printing Company Limited, the Canadian Daily Newspaper Publisher's Association, and ORC International Limited this study would not have been possible. Messrs. Charles G. Fenn, Clyde H. McDonald, and J. Clifford Balson were most generous in providing time and assistance.

Many colleagues and friends lent considerable support in completing the manuscript. Professors Oberg and Weiss provided several helpful suggestions. The Larocks and the Harveys contributed greatly needed skills and technology. Finally, to Barbara, Cam, and Heidi, my very special thanks for their gracious acceptance of this dissertation as a family member of high priority during these many months.

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CHAPTER I

INTRODUCTION

The primary purpose of this study is to determine whether or not newspaper readers demonstrate systematic choice and avoidance patterns in their selection of information from the daily newspaper. A secondary objective is to assess the role of a reader's predispositions in influencing the selection process.

The past research on the selective mental processes suggests that newspaper readers should demonstrate selective patterns in their reading and, further, that the selection process should be related to their predispositions. If patterns of selectivity are present in newspaper reading, then different reader groupings are being formed on the basis of information selection within the newspaper. These different reader groupings constitute intra-newspaper audience segments for different kinds of information. There will be overlapping readership among these segments and the procedure for newspaper audience assessment must account for them. Current measurement procedures, by ignoring such segments, result in inaccurate statements about audience size and inappropriate conclusions about audience composition. The findings from this

study, in establishing the presence of selective reading in the newspaper and in providing better methods for evaluating daily newspaper audiences, should result in a more effective use of the medium.

The Selective Processes

The background theory for this study is drawn from the research on the selective mental processes. These processes - selective exposure, selective retention, and selective recall - have often been found to be important determining factors in the formation of communications audiences.[1] The research to date has argued that predispositions play a major role in screening information consumed by individuals. The direction of this research seems potentially rich for students of marketing on the assumption that promotional effectiveness can be enhanced by directing messages to the appropriate audiences.[2] There is, however, a minimum of related theory and empirical evidence developed in the marketing literature, particularly with respect to daily newspapers.

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[1] D. Sears and J. Freedman, "Selective Exposure to Information: A Critical Review," The Public Opinion Quarterly, XXXI (1967), pp. 194-213.

[2] D. Lucas and S. Britt, Measuring Advertising Effectivess (New York: McGraw-Hill Book Company, Inc., 1963), pp. 284-288.

This study attempts to contribute to this limited field of information by testing the hypothesis that newspaper readers demonstrate systematic patterns of choice and avoidance in their consumption of newspaper information. The portion of the theory supporting this hypothesis is drawn from the research on perceptual psychology and memory responses. The theoretical development in this area consists of three phases relating to the intake, storage, and recall of information. These phases approximately correspond to the ideas of selective exposure, selective retention, and selective recall. This study integrates the relevant theoretical constructs and applies the resulting model to newspaper reading. An empirical analysis of observed reading patterns is conducted through a goodness-of-fit methodology to test the selective reading hypothesis.

Secondary hypotheses concerning the influence of the predispositions on information consumption are supported from a broad range of research findings in the communications literature. This research casts the predispositions in the role of causal influences on the acceptance or rejection of information in each of the selective phases. Positive predispositions are argued to support positive selectivity or acceptance of information and negative predispositions are argued to cause negative selectivity or rejection of information. Refinements to the basic idea allow

for predispositions of various strengths and for varying degrees of alignment between the predispositions and the information under consideration. Multidimensional linear models are formulated to express the relationships between the predispositions and selectivity. The coefficients in these models are tested for significance to verify the influence of the predispositions on selective information consumption.

The Concept of Selectivity

Selectivity is an intervening variable that influences the acceptance or rejection of information in communications behavior. It is not an observable phenomenon. Its existence must be inferred from behavioral patterns. The literature concludes that audiences for most communications over-represent persons having favorable predispositions towards the information being presented but under-represent persons having unfavorable predispositions. The degree of over-representation or under-representation of different audience segments is one of the behavioral manifestations of selectivity.

Operationally, a newspaper reader in this study is deemed a selective reader if his observed reading pattern significantly departs from a random reading model. The test of departure is made on a goodness-of-fit basis. The mathematical appendix at the end

of this chapter details a simplified example of the testing procedure. The essential steps in the process are as follows:

(1) Analyze the newspaper contents

   (a) Define a unit of newspaper content as one-quarter of a newspaper page.
   (b) Differentiate among content units according to the type of information contained in the quarter page.
   (c) Aggregate the content units containing similar types of information into content sections to establish the possible reading pattern.

(2) Analyze the observed reading pattern

   (a) Determine which quarter pages of the newspaper a respondent looked at and which quarter pages he did not look at.
   (b) Assign the "looked-at" quarter pages to the appropriate content sections and aggregate them to yield a section-by-section reading profile for each respondent.

(3) Determine the random reading model

   (a) Weight the content proportions present in the possible reading distribution by the level of the respondent's actual reading to yield the expected random reading pattern.

(4) Test the departure of the observed reading pattern from the random reading model

   (a) Apply the Chi-square goodness-of-fit test and deem the reader selective if his χ^2 value falls in the critical region, otherwise deem him nonselective.

This procedure provides a method for the respondent-by-respondent classification of the sample members as selective readers or nonselective readers. The theoretical position is that the

unobservable selective processes are responsible for the nonrandom patterns observed in newspaper reading. The procedure can clearly be related to the null hypothesis in operational terms and thereby provides a statistical evaluation of selectivity.

The Importance of Audience Assessment

The justification for this investigation lies in the need to modify newspaper audience assessment procedures if newspaper readership is selective. The following paragraphs detail the current procedures for assessing newspaper audiences and point to severe limitations in the measurement process under conditions of selective reading.

Current Newspaper Audience Assessment Procedures. The basic measures used in newspaper audience assessment are duplicated audience or reach, unduplicated audience or net reach, and average frequency of exposure. The measures as currently determined are calculated for the newspaper as a whole and are based on all readers who look at any part of the newspaper. Reach is usually interpreted as the newspaper audience on an issue-by-issue basis with no concern given to readership or preceding or succeeding issues. However, reach is sometimes aggregated across issues. For a single issue, reach is the total of all persons who saw any part of the newspaper. Over a number of issues, reach is the aggregate of all persons who saw any part of the newspaper counted once for

every issue they saw. Net reach or unduplicated audience simply nets out the audience overlap over time. It is a measure of all persons who saw any part of the newspaper over the number of issues in question but counted once and only once regardless of how many issues they saw. The average frequency of exposure is the average number of times that a reader is exposed to part of the newspaper over the number of issues involved.

Clearly, these measures do not represent the actual audience for any specific part of the newspaper. They represent a conceptual audience that is composed of the readers of any one part of the newspaper projected as the readers of all other parts. If newspaper readership is selective, then readers of one part cannot be considered as readers of all other parts and the conceptual audience becomes an imaginary audience. Calculations on the size and composition of this imaginary audience are of dubious value.

Table 1-1 shows an example of such data taken from a recent series of newspaper studies. There is no attempt to identify the audience measures with any particular parts of the newspaper. Such measures are of severely limited usefulness under conditions of selective newspaper reading. Steps must be taken to relate the audience measures to the selective reading patterns in the newspaper if the measures are to retain any importance in the newspaper evaluation procedure.

Table 1-1

Reach Of The Daily Newspaper[a]

	Male Readers						Female Readers					
	Issue Number[b]						Issue Number					
	1	2	3	4	5	6	1	2	3	4	5	6
All Readers												
Reach %	79	80	83	81	81	80	82	82	82	83	82	80
Net Reach %	79	89	92	93	94	94	82	90	93	94	94	94
Average Frequency	1.0	1.8	2.6	3.4	4.3	5.1	1.0	1.8	2.7	3.5	4.4	5.2
Readers 20-30 years												
Reach %	77	78	81	77	76	76	81	80	81	81	79	75
Net Reach %	77	89	93	95	95	96	81	90	92	93	94	94
Average Frequency	1.0	1.7	2.5	3.3	4.1	4.8	1.0	1.8	2.6	3.5	4.3	5.1
Readers 35 and over												
Reach %	81	82	84	84	84	83	84	86	85	85	85	85
Net Reach %	81	89	92	93	93	94	84	92	94	95	95	96
Average Frequency	1.0	1.8	2.7	3.6	4.5	5.3	1.0	1.8	2.7	3.6	4.5	5.3

[a]Canadian Daily Newspaper Publisher's Association, New Dimensions - Canada's Daily Newspapers Today (Toronto: Canadian Daily Newspaper Publisher's Association, 1969), p. 3.

[b]These data appear to have an additional complication in that they have been aggregated over more than one newspaper. The method of aggregation is not clear from the presentation in the original document.

Terminology

Identifying words devoid of theoretical implication has been a difficult task. Many terms normally used in discussing communications must be reserved for specific theoretical reference. The following discussion attempts to clarify the wording used in this paper.

"Consume" and "consumption" are used specifically to relate to the intake and processing of information. The only other word that could express this idea is "assimilation" and that word is reserved for a specific theoretical construct.

Several factors are discussed as influence on the newspaper reading process. These include a wide range of personal attributes and characteristics. The word "predispositions" is used in a collective sense to subsume this divergent group of factors.

Continual reference is made to newspaper readers and newspaper reading. A limited interpretation of the word "reading" is intended in this study. All measurements with respect to reading are simple aided recognition measurements. No analysis of depth in reading or of the level of substantive recall has been made. Recognition is the only criterion for reading.

Extensive reference is also made to a "content classification scheme" and a "content analysis procedure".[1] The "content classification scheme" is an exhaustive listing of the different types of information in the newspaper. There are two principal divisions in the "content classification scheme": advertising content and nonadvertising content. Advertising content is defined as material which has an identifiable sponsor paying for the newspaper space containing an appeal, message, or information about a product, service, or institution. All other materials are classified as nonadvertising. The nonadvertising content contains such materials as news reports, feature items, and editorials.

Each of the principal classifications is in turn broken down into several secondary classifications. The advertising classification is made up of such topics as cigarette and automobile advertisements. The nonadvertising material is made up of such classifications as business and finance, and sports. Each secondary classification is referred to as a "content section."

The "content analysis procedure" refers to the process of a detailed analytical reading of each piece of newspaper information

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[1]B. Berelson, Content Analysis in Communications Research (Glencoe: The Free Press, 1952).

and, on the basis of that reading, allocating that piece of information to one of the cells or sections of the "content classification scheme."

Setting for the Study

The data used in this study were generated as part of a research project carried out by the London Free Press Printing Company in conjunction with the Canadian Daily Newspaper Publishers' Association. At the time work was begun on this study the C.D.N.P.A. had established a relationship with ORC International Limited and a pilot project had been run in Hamilton, Ontario. Its purpose was to test a proposed research methodology, and since the results proved satisfactory, the research technique had been adopted. The field work phase of the first full-scale project, involving the Kitchener-Waterloo Record, had been completed and the data analysis had begun. In London, the sample design and research format had been set and sample recruiting was in progress.

Scope and Limitations of the Study

This study is limited to a single communications medium: the daily newspaper. Furthermore, the daily newspaper under consideration is the only daily newspaper in the medium-sized, southwestern Ontario city in which it is published. Generalizations from this

study to other newspapers, or to other communications media, or to other cities, or to multiple newspaper situations will involve uncertainties that are in proportion to the dissimilarities from the situation studied here. However, the theoretical base does support a fair degree of transferability in the concepts. The theory is not tightly tied to the newspaper under study or even to the newspaper as a specific communications medium.

The operational definitions used in this study impose a very strict meaning of the findings. The nature of selectivity, the character of the predispositional variables, and the substance of the content classification sections are among the factors that are precisely defined.

Many of the empirical results in this study are reported in terms of particular subsamples of the overall sample. Projection of the results back to the parent population must consider that —

(1) The overall sample, while tightly controlled to maintain representativeness, is not strictly probabilistic;

(2) The subsamples used in several of the empirical tests are purposely chosen on the basis of readership criteria necessary to test the selective reading hypotheses.

As a result of this situation, the inferential procedures are not

strictly scientific[1] and the researcher is dependent on robustness in the testing procedures.

Finally, the findings are based on a cross-sectional view of the data. This is a satisfactory way of assessing the static character of selectivity but it does not answer any questions concerning the dynamics of the phenomenon. Stability in selective reading patterns is required to make the information useful for media decisions. The theoretical base suggests reasonable stability over time but this judgment is not proven by the study.

Organization of the Dissertation

The dissertation consists of eight chapters including this introduction. Each chapter opens with a statement of purpose and is subsequently divided into major topic areas.

The objective of Chapter II is to develop a theoretical framework to explain the operation of the selective processes and to relate the empirical evidence concerning the processes to the framework. The research from the areas of perceptual psychology

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[1] R. Wonnacott and T. Wonnacott, Introductory Statistics (New York: John Wiley and Sons, Inc., 1969), pp. 3-7.

and memory responses provides the base for the theoretical analysis. The resulting framework is presented in terms of three distinct functions related to the intake, storage, and recall of information. The empirical evidence from the communications literature is reviewed and found to support the idea of selective processes although the separate functions cannot be identified within the findings. A concluding statement concerning the opportunity for research potential in the newspaper is provided.

Chapter III applies the general model developed in Chapter II to newspaper reading. The input, storage, and recall activities introduced in the general theory are considered with respect to the specific sensory systems involved in newspaper reading as well as with respect to the specific stimuli and predispositions at work. The first section of the chapter focuses on the question of the existence of selectivity in reading and concludes with a statement of the principal hypothesis concerning selective reading patterns. The second section focuses on the factors influencing selective reading and delineates the predispositions under consideration. This section concludes with a statement of the secondary research hypotheses.

The details of the research methodology are set out in Chapter IV. The first section of the chapter discusses the research instrument design and considers the measurement concept, the data collection strategy, and the questionnaire development. The second

section discusses the sampling plan and the recruitment procedures and reports the final composition of the sample.

Chapter V deals with the problems of data reduction. A detailed discussion of the content analysis and content classification procedures is followed by an overview of the generation of the dependent and independent variables for the secondary analysis.

Chapter VI outlines the analytical methods. It includes details of the selectivity testing procedures along with some sample calculations and a discussion of the significance of the selective reader classification. The sample subsets usable in the secondary regression analyses are identified and the regression modeling procedures are reviewed.

A statement of the test results and some comments on their interpretation are found in Chapter VII. It reports both on reading selectivity and on the linear models linking selectivity and the predispositions.

The final chapter summarizes and examines the practical implications of the findings. Consideration is given to possible directions for further research.

THE MATHEMATICAL APPENDIX TO CHAPTER I

Assume a hypothetical newspaper has the following distribution of contents over a finite time period:

(1) 50 units of content type 1
(2) 30 units of content type 2
(3) 20 units of content type 3.

This assumption provides a simplified data base similar to that developed in this study. The assumption requires that —

(1) A unit of content can be defined. In this study a surface area measure was used for a unit of content. One-quarter of a newspaper page was equal to one unit of content.

(2) Different content types can be delineated from one another. The first step in this process was the preparation of an exhaustive list of different types of information that appeared in the newspaper. This listing was called a content classification scheme. Content analysis was then performed on each content unit of the newspaper and, where appropriate, the content units were allocated to the cells of the content classification scheme. Each such cell was referred to as a content section.

(3) A computational procedure can be developed for aggregating different content types into the content classification scheme over time. This problem was handled by numerically coding the content analysis results and designing a computer program to aggregate the content analyzed quarter pages into the appropriate sections of the content classification scheme.

Assume that over the time period in question a reader looks at the following material from the hypothetical newspaper:

(1) 45 units of content type 1
(2) 10 units of content type 2
(3) 5 units of content type 3.

This assumption requires the following operational steps:

(1) The development of a method for assessing which quarter pages a reader looks at and which quarter pages he does not look at in any given time period. In the study, this step was accomplished through a series of aided recall questionnaires.

(2) The development of a means of aggregating those quarter pages which are looked at into the appropriate sections of the content classification scheme. This step was accomplished by a digitizing and programming operation similar to that used in aggregating the content analyzed quarter pages.

The detailed explanations concerning the required assumptions are found in the research methodology and data reduction sections of the study.

Under the above assumptions, the concept of selectivity can be demonstrated without encountering the complex operational problems involved in establishing the real data base. The information on the contents of the hypothetical newspaper and on the proportions of those contents looked at by the reader allows the construction of Table 1-2. From the data in Table 1-2, the question of selectivity in readership can be approached. Has the reader demonstrated systematic choice and avoidance patterns in his

Table 1-2

Possible And Observed Reading In The Hypothetical Newspaper

	Possible Reading (maximum possible units of content available for reading)	Observed Reading (measured amount of reading by respondent from available contents)
Section 1 (units of content from content type 1)	50	45
Section 2	30	10
Section 3	20	5
Totals	100	60

newspaper reading? The criterion used in answering this question relates to the degree of departure of the observed reading pattern from the pattern that might be expected if the reader were to read in a simple random fashion.

Probability theory dictates that the expected random reading distribution must reflect the content proportions present in the possible reading distribution. In this example, any expected random reading pattern must then have 50% of the reading occurring in Section 1, 30% occurring in Section 2, and 20% occurring in Section 3. Therefore, for the 60 content units looked at by the reader, the expected random reading distribution must be:

(1) 30 units of content type 1
(2) 18 units of content type 2
(3) 12 units of content type 3.

Adding the expected reading information to the data in Table 1-2 yields Table 1-3.

The data in Table 1-3 are in a form appropriate to a goodness-of-fit test. The larger the deviations of the observed reading pattern from the expected reading pattern, the larger the χ^2 value and the more likely the observed reading pattern is a selective reading pattern. This procedure can be stated in terms of a null hypothesis concerning selectivity and an appropriate critical region specified for the Chi-square distribution. The calculated

Table 1-3

Possible, Observed And Expected Reading In The Hypothesized Newspaper

	Possible Reading	Observed Reading	Expected Reading
Section 1	50	45	30
Section 2	30	10	18
Section 3	20	5	12
Totals	100	60	60

χ^2 result can then be tested against the critical region for significance. These steps provide for a statistical evaluation of selectivity as demonstrated in Table 1-4.

Table 1-4

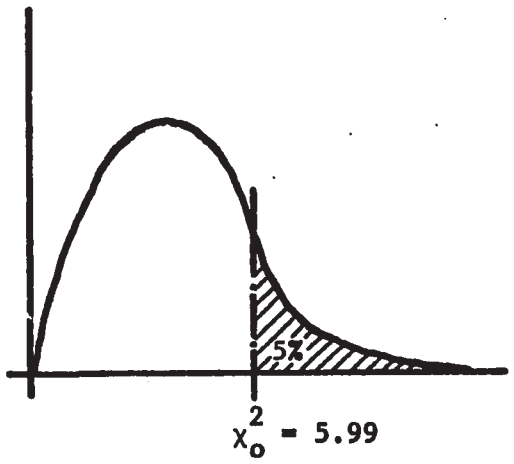
The Chi-square Test For Selective Reading

	Possible Reading	Observed Reading	Expected Reading	Deviation = (Observed Reading) - (Expected Reading)	$(\text{Deviation})^2$	$\frac{(\text{Deviation})^2}{(\text{Expected Reading})}$
Section 1	50	45	30	+15	225	7.50
Section 2	30	10	18	- 8	64	3.56
Section 3	20	5	12	- 7	49	4.08
Totals	100	60	60			$15.14 = \chi^2$

Chi-square Distribution

$H_o: \chi^2 = 0$

$H_1: \chi^2 > 0$



d.o.f. = 2

$\chi^2 < \chi_o^2$

$\therefore$ Reject H_o and deem this reader selective.

CHAPTER II

THE NATURE OF THE SELECTIVE PROCESSES

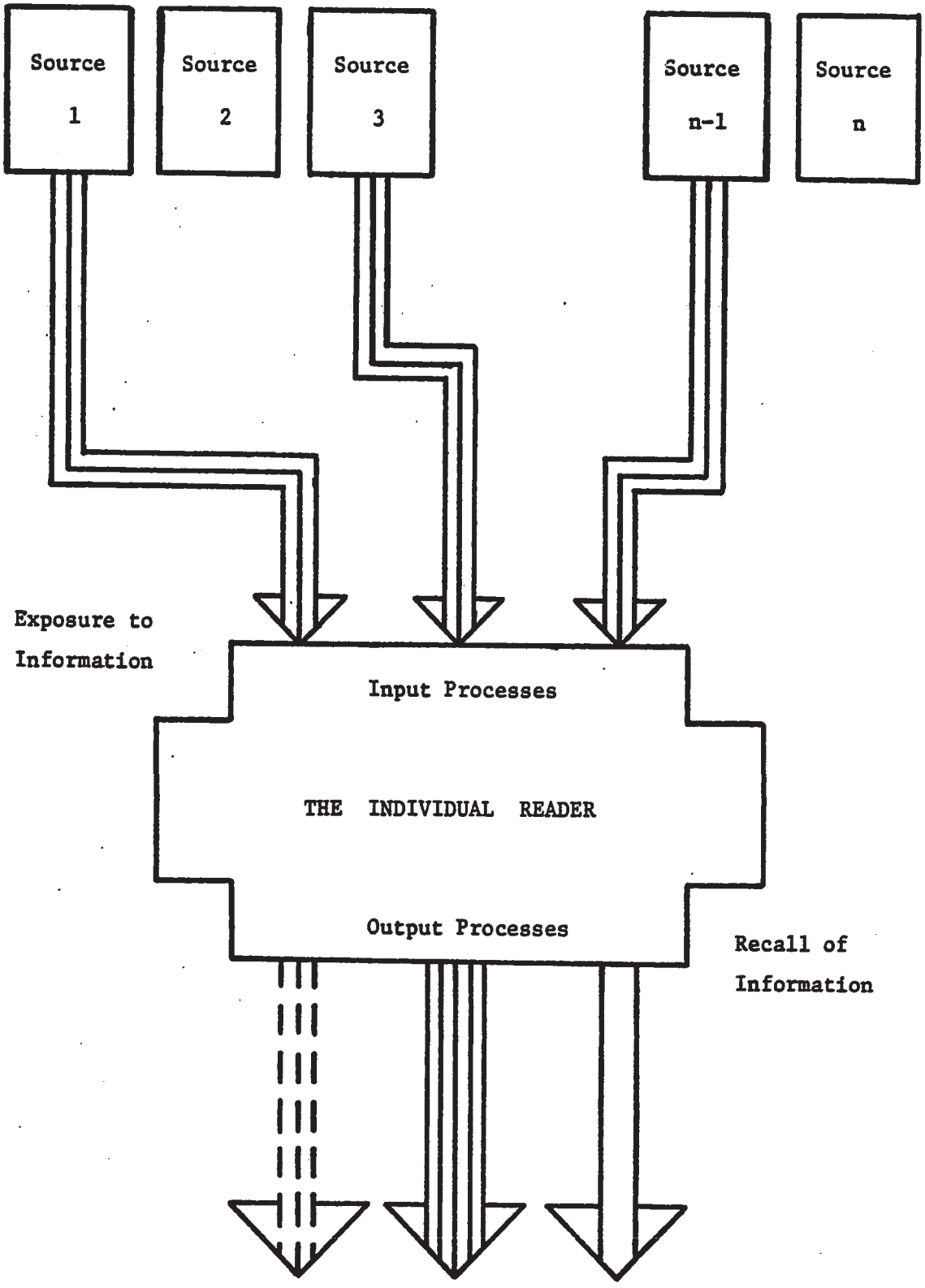
In order to provide some background documentation on the selective processes, this chapter examines the general theory available in the areas of perceptual psychology and memory responses. A theoretical analysis relating to the input, storage and output of information is organized around a model of information consumption. The empirical evidence concerning the selective processes is shown to support the existence of selective effects. The general theory developed in the chapter forms the basis for the specific newspaper analysis in chapter three.

A Theoretical Framework for the Selective Processes

Figure 2-1 delineates the requirements of a model for explaining the selective processes. It shows a group of information sources to which an individual may be exposed. It illustrates that all information sources do not gain exposure to an individual and that information recall may differ from information exposure. The theoretical analysis must account for the lack of exposure to some information sources and must explain the variation between information exposure and information recall. Since the only active

Figure 2-1

Simplified Model Of Information Consumption



component in Figure 2-1 is the individual, the theoretical development focuses on him in order to provide an explanation for the selective processes.

Selective Forces. There is a long history of evolution from one school of thought to another in matters concerning the workings of the human mind. Rapaport differentiates between these schools on an active/passive dimension.[1] The old school is characterized as representing mental processes as passive and purely reactive to the environment; the new school as recognizing that the human mind is capable of autonomous activity:

> "Classical association psychology stated its laws of memory and thinking in terms of the relative strength of associations derived from the frequency of contiguous occurrences and the degree of similarity of the associated elements. It was early recognized that the frequency-principle was insufficient, that the meaning of similarity was vague and that its degrees were lacking objective criteria. ... The association theory was destined to failure as it lacked a concept of 'psychic force' on the basis of which a theory of psychic dynamics could be developed. ... 'Emotions' and 'feelings' were assigned the role of such a selective force only recently, and with partial success; for in regard to both memory and the emotions, a theory based on the dynamics of forces is still in an early stage of development." [2]

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[1] D. Rapaport, Emotions and Memory (2nd ed.; The Menninger Clinic Monograph Series No. 2; New York: International University Press, Inc., 1959), pp. 111-112.

[2] Rapaport, pp. 113-114.

The position of the new school is essentially that the facts as perceived by us are not necessarily the facts as they exist. Our perceptions follow the laws of our minds. Mental processes are influenced by active, organizing forces. These forces are responsible for the self-autonomy of the human mind and they actively influence the intake, storage, and recall of information. Since the words "emotions" and "feelings", once appropriate to describe these forces, no longer denote any specific psychological referent, the term "selective forces" now seems more fitting.[1]

Many authors have used different words to identify the factors that Rapaport is concerned with in discussing the "selective forces". Among the terms he considers consistent with his intent are "needs, quasi-needs, instincts, drives, feelings, moods, temperaments, attitudes, interests, intentions, and preferences."[2]

The operation of the selective forces in information consumption is a complex process involving firstly, the momentary interaction of information, selective forces, and memory to produce an interpretation of information and secondly, the acceptance or rejection of information into memory storage. Rapaport, in translating Mueller-Freienfels, says:

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[1]Rapaport, pp. 114-122.

[2]Rapaport, p. 6.

> "In point of fact, it is the [selective forces] which shape the constitution of our thinking. These [forces] act like a magnet which selects the iron pieces from a heap of dust. The [forces], ... existing in the consciousness like an undercurrent, draw into their realm everything they can use. The fate of what is attracted is dependent on many things, ..."[1]

The Role of Selective Forces in the Input Process. The selective forces are active, conditioning pressures influencing the choice of information. The term "choice" is of particular interest in this section. What is implied by suggesting that one piece of information is chosen from among others? How does the choice mechanism work?

There are at least two important dimensions to the choice process. The first dimension is a matter of physical awareness: the awareness that something exists in the sensory field. No interpretation of information is implied; there is simply a "recognition" that the stimulus is present. Moreover, its presence in the sensory field does not guarantee recognition. A malfunction in the sensory system may render certain stimuli outside the reach of sensory recognition. Some stimuli are too "small" to overcome the threshold level of the sensory function. Others may be recognized under one set of environmental circumstances but not under another. They may instead be interpreted as "noise" by the sensory system.

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[1] Rapaport, p. 115.

The second dimension of the choice mechanism deals with the "registration" of stimulus content: the interpretation of information in relation to all things psychologically relevant to the individual at the time of recognition. Registration, although a mental process, is not necessarily a conscious process.[1] In practice, the recognition/registration dimensions are simultaneous and inseparable. The term "apperception" is used to refer to the combination of these two processes.

Considerable evidence supports the role of the selective forces in apperception. Gordon argues that apperception is not merely a photographic process.[2] He says that information is transformed according to the subject's interests. Bartlett's selective apperception theory states that there are two factors in the process:

> 1. That of the sensory pattern, which provides a physiological basis for perceiving; and
> 2. That of another factor which constructs the sensory pattern into something having a significance which goes beyond its immediate sensory character. The latter appears to be a specifically psychological function in the total perceptual response, ...[3]

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[1] Rapaport, p. 5.

[2] K. Gordon, "Memory Viewed as Imagination," Journal of General Psychology, XVII (1937), pp. 113-124.

[3] F. Bartlett, Remembering, A Study in Experimental and Social Psychology (Cambridge: University Press, 1932), p. 188.

Note the similarity between Bartlett's two factors and the proposed recognition/registration processes. The psychological function that Bartlett mentions could well be called the "selective forces". Rapaport adheres to Szymanski's position concerning apperception and the selective forces.[1] They argue that high frequency of experience is not sufficient to gain knowledge of an object. A driving or motivating force is needed. Conversely, an event may affect a person but once, and great knowledge may still be gained if the event is associated with driving forces in the individual.

Other authors have proposed similar hypotheses but have described the processes in different terms. Berelson and Steiner define perception as a complex process used by people to select, organize, and interpret sensory stimulation into a meaningful and coherent picture of the world.[2] They describe the process as a mental activity that is usually unconscious. Berelson and Steiner include both recognition and registration in their definitions of perception. Dember says there are a variety of cognitive variables that influence the nature of perception. He suggests they include such things as set, attitude, expectancy, and tuning. In referring to perception, he is concerned with the process earlier referred to as "registration":

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[1] Rapaport, p. 123.

[2] B. Berelson and G. Steiner (eds.), Human Behavior: An Inventory of Scientific Findings (New York: Harcourt, Brace and World, Inc., 1964), p. 88.

> "...stimulation does not fall on a passive receiver. The individual, on the contrary, is 'prepared' implicitly or explicitly, for certain kinds of input; the input is actively dealt with on the basis of this preparation. The fate of any input is at least partly dependent on the nature of the preparation."[1]

In summary, the selective forces operate in a systematic, discriminating fashion to provide a screening and interpretation of material that is recognized in the sensory field. The process is not simply one in which the subject recognizes the presence or absence of a stimulus but one in which he actively sorts out and classifies the information reaching him. It is a selective process involving the screening-in and screening-out of relevant and irrelevant materials. The screening process may be conscious and purposeful or it may be unconscious.

Two final issues remain in accounting for the workings of the selective forces in information input: firstly, the differential roles of force magnitude and force direction, and secondly, the effects of alignment variations between forces and stimuli. These factors determine which information is accepted into memory storage and which is rejected as well as the degree of discrimination in the process.

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[1] W. Dember, The Psychology of Perception (New York: Holt, Rinehart and Winston, 1960), pp. 271-272.

In a selective force, such as an attitude, "magnitude" refers to the strength of the attitude or the degree of conviction, and "direction" to the favorable or unfavorable leaning towards the object under consideration. The research argues that an individual chooses material congruent with the positive forces. It also argues that the degree of discrimination in the choice process is correlated with the strength of the force. The nearer a person is to having a closed mind on an issue the more inclined he is to accept only that information which reinforces his position. Therefore, the direction and magnitude of a force affects whether or not a particular piece of information is chosen and the degree of latitude inthe choice process.

Much information apperceived by an individual partially opposes his position. The theory of assimilation and contrast is relevant in considering the degree of alignment between the selective forces and information. The theory states that a stimulus similar to the selective forces tends to be assimilated and its similarity to the forces exaggerated. Conversely, a stimulus differing from the selective forces tends to be contrasted and its dissimilarity from the forces exaggerated. Thus, the former results in interpreting the stimulus as closer to the person's position than it actually is; the latter often results in the rejection of information.

The assimilation and contrast effects depend on the force's magnitude. For any given degree of force/stimulus alignment, stronger forces result in more assimilation or contrast depending on the direction of the force in relation to the stimulus. The effects similarly vary with the degree of alignment given any force level. The integration of the selective force concept and the assimilation and contrast theory provides for accommodating all types of information in apperception.

The Role of Selective Forces in the Retention Period. The events that occur between apperception and recall constitute the essential riddle of memory. Are retained materials altered under the influence of the selective forces, without conscious contribution? There is no way of learning what takes place during retention short of investigating the information apperceived and recalled, and then speculating about the intermediate happenings.

Crosland describes the retention period as a process of losing detail, with characteristic typifying and disintegration of the image.[1] He argues that it is a period of subjective selection, interpolation, and clarification. Stern says that selectivity

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[1] H. Crosland, "A Qualitative Analysis of the Process of Forgetting," Psychological Monograph, XXIX (1921), p. 67.

during retention results in a personally relevant meaning.[1] The Gestalt psychologists report autonomous changes occurring in the mind which bring stored material further into line with the selective forces.[2]

The research concerning the role of selective forces in retention is sparser than that concerning the selective forces in apperception. However, the available evidence supports selectivity in the retention period. No evidence suggests that retention works against the selective forces.

The Role of Selective Forces in the Recall Process. The terms "recall', "remembering", or "reproduction" are used to designate the process by which material accepted into memory storage in the past comes to conscious attention in the present. In the research investigating this process, an important role is attributed to the selective forces. The process has been characterized as an active, creative process and at least one researcher maintains that reproduction is actually production.[3] Bartlett also stresses the

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[1] W. Stern, General Psychology from the Personalistic Standpoint, (trans) H. Spoerl (New York: Macmillan, Inc., 1938), p. 205.

[2] Rapaport, p. 128.

[3] R. Wheller, The Laws of Human Nature, A General Review of Gestalt Psychology (New York: Appleton, Inc., 1932), pp. 168-169.

creative nature of remembering.[1] Crosland reports that the dominant meaning is remembered and proposes that detail close to the dominant meaning tends to be changed in order to fit the dominant meaning.[2] Peripheral details are forgotten. Pear maintains the selective function is the essence of remembering.[3] He proposes the selective function is determined by our personality and says:

> "...our mind never photographs, it paints pictures. And those pictures, if interpreted with understanding portray not only the external, impersonal objects which they profess to depict, but the personality too, of their owner, who is also their maker. ... This is the selective nature of memory favoring and welcoming what it wants at the moment, pushing out what at just that point in time is irrelevant for it ... the image shows unmistakable evidence of the type of filter through which it has just passed."

Thus, recall cannot be considered as independent of the selective forces. One of the prime functions of remembering is to secure one's past in a form that is personally appropriate.[4] The

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[1] Bartlett, pp. 204-205.

[2] Crosland, Psychological Monographs, XXIX (1921), p. 76.

[3] T. Pear, Remembering and Forgetting (New York: Dutton Press, 1922), pp. 34-35.

[4] Rapaport, p. 131

selective forces ensure the fulfilment of this function. In any practical sense it is impossible to determine what portion of selectivity is induced at recall relative to apperception and retention but it is evident that some selectivity does exist in recall.

Two very important situation-specific factors affect the recall process: the method of recall induction and the context in which recall is requested.[1] The fact that a certain memory output is generated in one setting does not mean that the same output would be generated if the circumstances were altered. Furthermore, the fact that reproduction does not occur in some situations does not mean that it cannot occur in others. Material remembered is remembered for a purpose and is remembered under the influence of a recall setting.

Summary of the Selective Force Operations. Apperception is an active, complex, two-stage process consisting of recognition and registration. Recognition has a physiological base and relates to the awareness of a stimulus in the sensory field. Registration has a psychological base and relates to the cognitive interpretation of the stimulus. This interpretation is subject to the strivings of

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[1]Rapaport, p. 5.

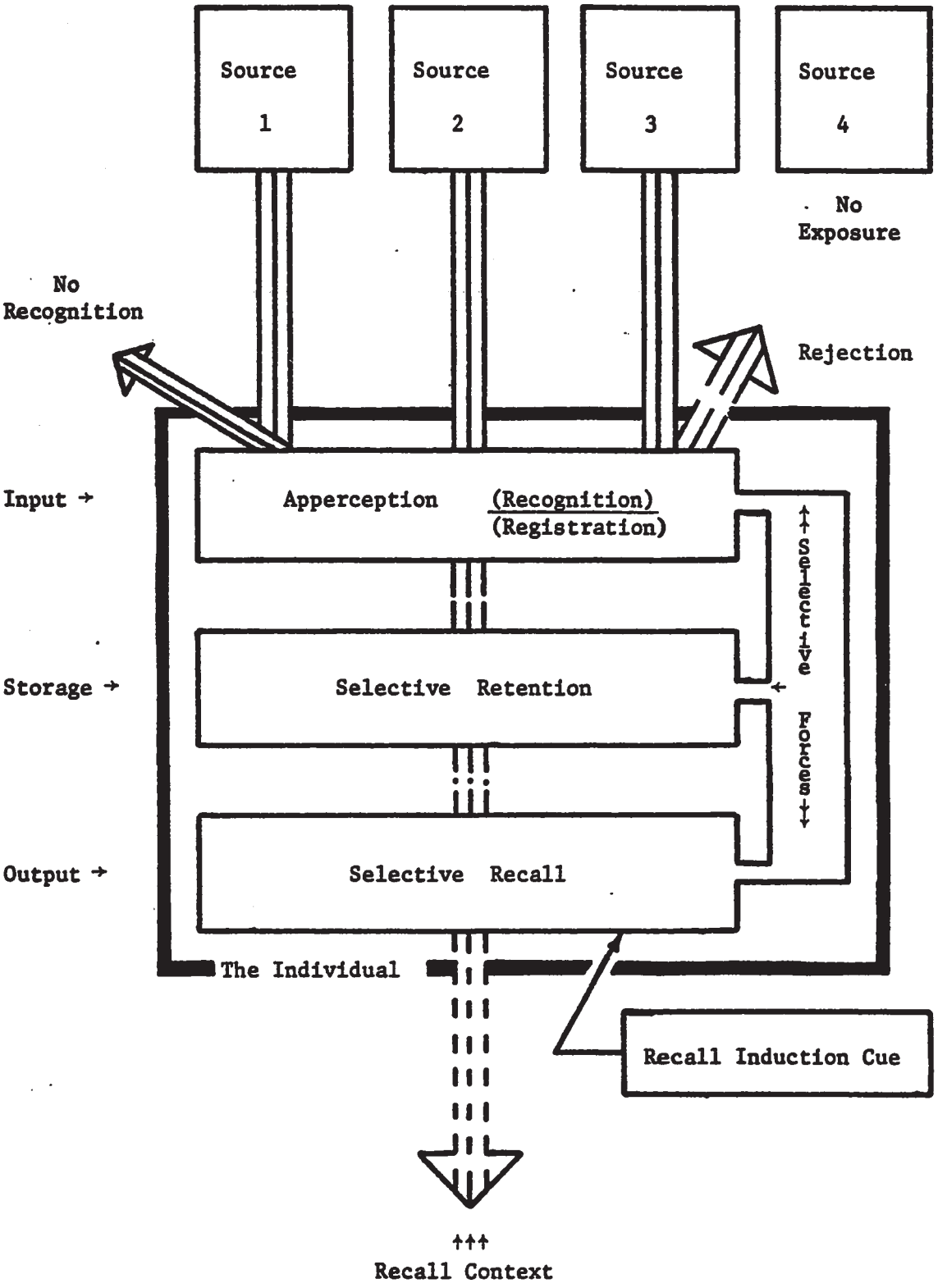
the interpreter. Retention is not a wax-plate, loyal and reliable. Autonomous changes occur in retained material as it is reorganized under the influence of the selective forces, without conscious contribution. Reproduction involves active production rather than simple retrieval of traces imprinted somewhere in the mind. The selective forces shape the recalled past so that it is appropriate to the present. The input, storage, and output processes are inextricably interrelated and operate simultaneously at every moment.

Figure 2-1 can now be modified to account for the theoretical developments in this chapter and thereby provide a summary vehicle for making the analysis specific to newspaper reading. Figure 2-2 shows the summary model. It depicts an individual in the presence of four information sources. The input, storage, and output processes are shown separately, tied together by the selective forces.

Through one or more of the sensory systems, a complex array of interrelated activities takes place. First, physical recognition occurs (or does not occur as the case may be). Stimuli are physically screened-in or screened-out due to finite range and sensitivity in the sensory systems. Stimulus four, for example, goes unnoticed. Perhaps it does not reach sensory threshold or perhaps it is beyond sensory range. Information source 1, on the other hand, is neither "too small" nor "too far away" to preclude

Figure 2-2

Refined Model Of Information Consumption



sensory recognition, yet because of lack of focus or distraction no recognition occurs. This source is discarded as noise under these circumstances (although it may not be under others).

Information sources 2 and 3 do gain sensory awareness; they are recognized and accepted for interpretation by registration. Apperception processes can be thought of as occurring in a buffer storage zone. These processes may occur without conscious effort and may leave no recall of their occurrence. The dividing line between conscious and unconscious activity is very fine. For sources 2 and 3 a decision must be made concerning acceptance into memory storage or rejection from it. The selective forces are the determining factors.

The model shows source 3 rejected from memory storage although the rejected information has suffered the manipulations of selective forces. This information was registered sufficiently at odds with the positive selective forces to be contrasted and rejected from further processing. Information source 2, on the other hand, is accepted for memory storage. It was found congruent with the positive selective forces and assimilated for memory storage. The information entering memory shows the effects of assimilation in apperception, the shaping pressures of the selective forces.

Data held in memory storage are under the influence of the selective forces. The retention period is characterized as selective retention. As a personally relevant meaning evolves, information in storage shifts towards the predispositions without conscious contribution.

Recall summons stored information to the conscious level. In moving from storage to consciousness, information is further screened by the selective forces and shaped into a desirable meaning. Two important externalities contribute to shaping in recall: the recall induction method and the context in which recall is requested.

The Empirical Evidence Concerning the Selective Processes

Considerable research effort has been devoted to the empirical investigation of the selective processes. The majority of this work supports the existence of selective effects; however, the simultaneous and inseparable nature of the input, storage, and output processes precludes any meaningful interpretation of the empirical results in terms of one selective activity versus another. The selective processes must be viewed as a single intervening phenomenon in empirical research. The manifestation of this phenomenon is usually an observable behavioral pattern which can be used as a surrogate indicator of the effect of the selective processes.

The Related Literature. Many classical works in the social sciences report behavioral phenomena attributable to the influence of the selective processes. Exposure to political messages is dependent on a voter's predispositions towards the parties involved.[1] Opinion leadership is a function of selective information consumption in one specialized area.[2] Dissonance reduction is accomplished through the selective use of information.[3] The effect of mass communications is the reinforcement of existing predispositions.[4]

The journals also report many studies confirming the influence of the selective processes. Newspaper readers favor newspapers whose editorial position supports their own opinion on an important issue.[5] More nonsmokers than smokers read articles claiming a

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[1] P. Lazarfeld, et al., The People's Choice (New York: Columbia University Press, 1948), pp. 73-86.

[2] E. Katz and P. Lazarsfeld, Personal Influence (New York: The Free Press, 1955), pp. 309-320.

[3] L. Festinger, A Theory of Cognitive Dissonance (Evanston: Row, Peterson, and Co., 1957), pp. 123-176.

[4] J. Klapper, The Effects of Mass Communications (Glencoe: The Free Press, 1960), pp. 12-52.

[5] S. Lipset, "Opinion Formation in a Crisis Situation," The Public Opinion Quarterly, XVII (1953), pp. 20-46.

relationship between smoking and lung cancer.[1] People attending a meeting to encourage support for the United Nations are already favorably disposed towards the United Nations.[2] New car sales advertisements are extensively read by recent purchasers of new cars.[3] Massive information campaigns often fail to reach their target audiences.[4] All of these effects result from the influence of the selective processes in information consumption.

Several studies reported in the literature had to account for the influences of the selective processes before their main purpose could be achieved. The variations in reading patterns demonstrated by men and women so overwhelmed the data in an advertising recall study that the respondents' answers had to be partitioned by sex before the analysis became meaningful.[5] Similarly, a relationship has been reported between recall of a blank space, the subject matter

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[1] C. Cannell and J. MacDonald, "The Impact of Health News on Attitudes and Behavior," Journalism Quarterly, XXXIII (1956), pp. 315-323.

[2] S. Star and H. Hughes, "Report of an Educational Campaign: The Cincinnati Plan for the United Nations," The American Journal of Abnormal and Social Psychology, IV (1950), pp. 389-400.

[3] D. Ehrlich, et al., "Post Decision Exposure to Relevant Information," The Journal of Abnormal and Social Psychology, LIV (1957), pp. 98-102.

[4] H. Hyman and P. Sheatsley, "Some Reasons Why Information Campaigns Fail," The Public Opinion Quarterly, XI (1947) pp. 412-423.

[5] V. Troldahl and R. Jones, "Predictors of Newspaper Advertisement Readership," Journal of Advertising Research, IV (1965), pp. 23-27.

of a "missing advertisement", and the sex of a reader. In a controlled newspaper advertising experiment, men showed no higher recall for a dishwasher advertisement than they did for the blank space left when the advertisement was omitted. Women, however, did have a higher recall for the dishwasher advertisement than for the blank space. Furthermore, depending on which one of three test advertisements was left blank, the page drew different audiences.[1]

The research concerning the selective consumption of information contains null and negative findings as well as supporting evidence. Some research has added a conditional dimension to the concept. In contrast to an earlier study, one investigation of dissonance reduction reveals no preference differentials between smokers and nonsmokers for articles supporting a relationship between smoking and lung cancer and articles taking the opposite position.[2] A participant in a competitive game is found to have no preference between favorable and unfavorable information concerning his partner. This is true whether the partner has been selected or whether there is still deliberation.[3] Selective information

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[1] L. Bogart and B. Tolley, "The Impact of Blank Space: An Experiment in Advertising Readership," Journal of Advertising Research, II (1964), pp. 21-27.

[2] N. Feather, "Cigarette Smoking and Lung Cancer: A Study in Cognitive Dissonance," Australian Journal of Psychology, XIV (1962) pp. 55-64.

[3] J. Jecker, "Selective Exposure to Information," Conflict, Decisions and Dissonance, (ed.) L. Festinger (Stanford: Stanford University Press, 1964), pp. 65-81.

consumption is found to be inversely conditioned by the amount of confidence that one has in his own opinions and by the degree of information that one has about an issue.[1] One study even reports that people sometimes seek out information adverse to a position they have taken or a decision they have made.[2]

Festinger points out that many studies not supporting selective information consumption have been trapped by a peculiar problem in methodology.[3] He argues that these studies have investigated the special problem of how a person deals with the increased dissonance that is aroused by confronting him with the fact that there exists specific information that goes contrary to a decision he has made or a position he has taken. Festinger asks how a person could cope with this situation. He believes that most people see themselves as able to deal with finite, concrete information;

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[1] L. Canon, "Self-confidence and Selective Exposure to Information," Conflict, Decision, and Dissonance, (ed.) L. Festinger (Stanford: Stanford University Press, 1964), pp. 83-95.
J. Freedman, "Confidence, Utility, and Selective Exposure: A Partial Replication, "Journal of Personality and Social Psychology, II (1965), pp. 778-780.
D. Sears, "Biased Indoctrination and Selectivity of Exposure to New Information," Sociometry, XXVIII (1965), pp. 363-376.

[2] S. Rosen, "Post Decision Affinity for Incompatible Information," Journal of Abnormal and Social Psychology, LXIII (1961), pp. 188-190.

[3] L. Festinger, Conflict, Decision, and Dissonance, (Stanford: Stanford University Press, 1964), pp. 81-83.

thus they will overcome their additional dissonance by exposing themselves to the adverse data at the same time as they protect their position by using a critical attitude as a defensive device. These arguments, as Festinger admits, are somewhat after the fact but clearly they must be taken into account before much credibility is attributed to the evidence in opposition to the existence of selective effects.

An exhaustive review of many articles devoted to selective information consumption concludes that there are several motives for selective consumption and possibly even some motives against it; but the fact remains that most audiences tend to over-represent persons who already have favourable predispositions towards the information being presented.[1]

Conclusions Concerning the Empirical Evidence on the Influence of the Selective Processes. The research findings are heavily weighted in favor of selective information consumption. The selective mechanism relates to an individual's predispositions towards the information. The findings are not unequivocal, however, and some studies indicate that selective consumption is conditional on such factors as the amount of confidence that one has in his opinions. A few studies do not support the selective findings but

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[1] Sears and Freedman, The Public Opinion Quarterly, XXXI (1967), pp. 194-213.

methodological problems in design may render the results of these studies questionable.

Aggregate conclusions based on the empirical evidence must be regarded with some reservations since the studies considered are not directly comparable with respect to the phenomenon measured, the measurement technique, or the research methodology. However, the studies do provide an empirical base for a tentative conclusion.

The Newspaper and the Existing Research on the Selective Processes

It is apparent from the theoretical and empirical work on the selective processes that —

(1) The newspaper has not received much attention in this area

(2) Selective newspaper reading should be expected if the existing work is generalizable

(3) Selection of newspaper material should be related to the predispositions of the reader.

CHAPTER III

THE APPLICATION OF SELECTIVE FORCE THEORY TO NEWSPAPER READING

The theory concerning the selective forces in information consumption is applied to newspaper reading in this chapter. The first section develops the newspaper-specific arguments and concludes with a statement of the principal research hypothesis. The second section identifies selective forces considered relevant in newspaper reading and summarizes them in matrix form from which the secondary research hypotheses are stated.

Operation of the Selective Forces in Newspaper Reading

Assume that Figure 2-2 relates to an individual reading the newspaper. Information sources 1, 2, 3, and 4 may be thought of as parts of a printed page: headlines, pictures, copy, and blank spaces. The eyes scan the complex array of information on the newspaper page. A host of related processes begin as the scanning goes on. Recognition occurs first. Stimuli are screened-in and screened-out by the sensory system. It seems reasonable to assume that the majority of print material achieves sensory threshold.

Stimuli such as blemishes or wrinkles in the paper and printing errors are probably screened-out. Registration occurs for each item recognized. Should the item be read? Does it look interesting? If so, assimilate it and accept it for memory storage. Does the item seem uninteresting? Then screen it out, contrast it, and reject it from memory storage. In practice, it is difficult to know whether an unrecallable item was not recognized, or whether it was recognized and then rejected in registration at the unconscious level, or whether it was recognized, registered, and accepted to be eliminated later from accessible memory storage by the action of the selective forces. The nature of apperception makes it clear, however, that the highest probability of an item finding its way into recallable memory storage is associated with those items congruent to the positive selective forces.

During the retention period, information in storage remains under the inflence of the selective forces. The probable effect of this influence is further alignment of the stored data with the selective forces.

Recall of newspaper information may occur for a number of reasons, under a number of circumstances. Both the nature of the cue inducing recall and the circumstances under which recall occurs affect the recall. This study employs a visually aided recall vehicle — a strong cue as it virtually duplicates the original

exposure opportunity. The recall environment is probably the respondent's home. A non-anonymous, self-administered questionnaire is completed but little is known about the circumstances in which such questionnaires are answered. These procedures, more fully discussed in the research methodology, are mentioned here because of their role in recall.

The respondent is asked to look at the newspaper for a second time, a day later. He is quizzed concerning his recall of different portions of the paper. It is difficult to assess a respondent's behavior in this uncontrolled situation. Perhaps he is making a true effort to recall whether or not he looked at the material. On the other hand, his answering mode may be to ask himself the question: "Do you want to admit that you looked at this?" or "Do you want to admit that you did not look at it?" In addition, the possibility exists that the respondent may be completely disinterested in the whole process and is simply scattering X's throughout the questionnaire lest he not qualify for his prize at the end of the survey.

Little can be done about the uninterested respondent; however, either of the first two answering modes is adequate for investigating the role of the selective forces in newspaper reading. The first mode is clearly the more desirable one from the research standpoint;

the second mode simply reinforces the effects of the selective forces.

For this study then, the output activity has some influence on the selective reading analysis. A strong recall cue stimulates maximum recall but the nature of the recall situation itself gives rise to new selective pressures. The original exposure opportunity is largely repeated with some added constraints. It is difficult to argue that the selective forces influence a first reading of the newspaper and then argue that they do not influence a second reading. The reproduction effects of this study tend to reinforce selectivity activities.

Fortunately, these methodological peculiarities are not expected to influence reported reading too greatly. The majority of the newspaper's content is such that the lack of anonymity in response should not cause extensive denial or elaborate overstatements. The reported reading patterns should fairly accurately reflect actual readership.

Statement of the First Research Hypothesis

> An individual newspaper reader demonstrates systematic choice and avoidance patterns in the information he reads from the newspaper.

In this form, the hypothesis is not operationally testable. An operational statement in terms of a goodness-of-fit test and

the Chi-square distribution is given prior to the implementation of the hypothesis testing procedures.

Selective Forces Important in Newspaper Reading

Thus far, arguments have been presented in support of selectivity in newspaper reading and a related hypothesis has been stated. Attention now turns to identifying some of the variables associated with the selective reading process. This study investigates a group of measures chosen on the basis of previous research evidence, availability, and intuitive appeal. The measures discussed are personality variables, opinion related measures, demographic characteristics, respondent's leisure interests, purchase records, and product use data. The details on the origin of these scales are given in Appendix II.

The subheadings below consider the measurement groups one at a time. Figures 3-1 and 3-2 contain a matrix presentation of the measurement groups and the associated scales against the content classification scheme. These matrices actually summarize the secondary research hypotheses but they also give an overview of the relationships being considered here. Occasional reference to these matrices will help to keep the following discussion in perspective.

The hypotheses, concerning the influence of any variable on the selective reading process, range from rather well-documented and supported arguments to positions that are much more speculative.

On the other hand, mere exploratory "fishing" is avoided. The hypotheses are presented in terms of specific selectivity and general selectivity. Specific selectivity applies to selective reading within any specific section of the content classification scheme. The specific arguments have direction associated with them; they may support either positive or negative selectivity within a content section. General selectivity applies to selective reading across more than one section; for example, all the nonadvertising sections. Although the general arguments do not have direction associated with them, they do have a degree of selectivity, either positive or negative.

General selectivity has only a magnitude component because it looks at the influence of a single variable across more than one content section. Any one variable may cause positive selectivity in one section and negative selectivity in another. As is discussed in Chapter V, the nondirectional general selectivity measure is generated from the absolute values of the specific selectivity index.

The Personality Traits. A review of different personality inventories along with related empirical evidence identified a small set of personality traits potentially relevant to selective newspaper reading. These traits were included in the study questionnaires. The first trait adopted was general self-confidence. Some empirical

evidence shows this trait to be important in information selection.[1] The empirical evidence reports that self-confidence operates as a conditioning factor in selective information consumption.[2] A person having considerable self-confidence sees himself as having a high capacity to deal with dissonant information. Thus, he is less selective in information consumption than a person with little self-confidence. These arguments can be applied to a newspaper reading. A reader may find newspaper features and editorials either in or out of tune with his predispositions. It is expected that increasing levels of general self-confidence are associated with decreasing levels of general selectivity in newspaper reading.

The second personality trait considered was cognitive structure. This trait relates to the need for certainty and completeness in information. Since newspapers generally supply detailed and complete news stories, it is expected that persons having high cognitive structure turn to the newspaper for a greater variety of information than do persons having low cognitive structure. Thus, decreasing levels of cognitive structure are associated with

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[1] J. Fry and F. Siller, "A Comparison of Housewife Decision Making in Two Social Classes," Journal of Marketing Research, VII (1970), pp. 333-337.

[2] Cannon, Conflict, Decision and Dissonance, (ed.) Festinger, 1964, pp. 83-95.
Freedman, Journal of Personality and Social Psychology, II (1965).

increasing levels of general selectivity in newspaper reading.

The need for social recognition was the third personality variable selected. Persons with high social recognition needs desire to be held in high esteem by their acquaintances. Berelson reports that while most people claim to read the newspaper as a serious information source, a deeper analysis of their motives reveals an important social prestige dimension to newspaper reading.[1] This prestige relates to the accumulation of specific current information for purposes of impressing one's peers and superordinates, thereby gaining external acknowledgement of social worth. Thus, respondents with high social recognition needs are expected to demonstrate more general selectivity in newspaper reading than respondents with low social needs. The added selectivity results from their desire to be recognized as experts in some area.

The personality trait termed understanding is also expected to influence newspaper reading. Persons having high understanding scores value the synthesis of ideas and logical reasoning. Such persons are intellectually curious and seek to comprehend many

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[1] B. Berelson, "What Missing the Newspaper Means", Communications Research, (ed.) P. Lazarseld (New York: Harper and Brothers, 1949), pp. 111-129.

areas of knowledge. They are heavy consumers of information and as a result are less selective in information consumption than persons scoring low on this measure.

Anxiety, as a personality dimension, has been investigated in several studies relevant to newspaper reading.[1] Of importance to this study is the general finding that persons with low anxiety read a great number of news items concerning a greater variety of subjects than do persons with moderate or high anxiety. It is thus expected that persons scoring high on anxiety exhibit more general selectivity in newspaper reading than do persons scoring low on anxiety.

In summary, the personality traits are basic factors supporting or opposing general selectivity in reading. Neither the available empirical evidence nor the general nature of these measures supports any specific postulations concerning the newspaper content classification categories used in this study.

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[1] W. Schram, "The Nature of the News," Journalism Quarterly, XVI (1949), pp. 259-269.

H. Kay, "Towards an Understanding of News-Reading Behaviour," Journalism Quarterly, XXXI (1954), pp. 15-32.

G. Church, "The Socio-Psychological Nature of the News," Social Forces, XVII (1938), pp. 190-195.

A. Maslow, "The Need to Know and the Fear of Knowing," Journal of General Psychology, LXVII (1963), pp. 111-125.

L. Buss, "Motivational Variables and Information Seeking in the Mass Media," Journalism Quarterly, XLIV (1967), pp. 130-132.

The Opinion Related Measures. A number of measures in this study ask the respondent for his opinion concerning certain aspects of the newspaper, certain institutions in society, and certain facets of his life. The first of these measures asks whether any member of the respondent's household is likely to purchase any furniture or household appliance items in the next six months. A similar question is posed with respect to automobiles. The logical expectation is that persons professing purchase intentions should seek information concerning them. Thus increasing scores on the purchase intent scales are expected to associate with increasing positive specific selectivity in the appropriate content categories: furniture and appliance advertising, automobile and accessory advertising, and the classified advertisements.

The newspaper rating scale, relating mainly to editorial content, asks the respondents' opinions on various aspects of the newspaper. It is expected that the more favourably the respondent rates newspapers, the more he turns to the newspaper for information. Heavy dependence on the newspaper for information leads to lower general selectivity in newspaper reading.

Results similar to those proposed for the newspaper rating scale are expected for the advertising rating scale. Persons who evaluate newspaper advertising highly are expected to refer to newspaper advertising frequently and thus exhibit less general selectivity in newspaper advertisement readership.

The next scale in this series concerns the respondent's opinions on various economic, political, social, and religious issues. The expectation is that tendencies towards conservative views in these matters lead to increasing general selectivity in newspaper reading. The arguments supporting this position are rather fragile. They are based first on evidence that dogmatic persons tend to be more selective in information consumption[1] and second on evidence that conservatism is more associated with dogmatic behaviour than is liberalism.[2]

The respondent's opinion on the quality of newspaper coverage and the value of the newspaper as an information source serves as the basis for the following measures: the coverage scale pertaining primarily to nonadvertising material and the source scale pertaining to both advertising and nonadvertising content. For reasons similar to those stated earlier, it is expected that higher ratings of the newspaper on these dimensions are associated with lower levels of general selectivity.

The newspaper personality score is the last opinion measure. Favourable newspaper personality ratings are expected to associate

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[1] P. Clarke and J. James, "The Effect of Situation, Attitude Intensity, and Personality on Information Seeking," Sociometry, XXX (1967), pp. 235-245.

[2] M. Rokeache, The Open and Closed Mind, (New York: Basic Books, Inc., 1960), pp. 109-131.

with lower levels of general selectivity in newspaper reading.

Leisure Interests. Two dimensions of the respondent's leisure interests — sports and hobbies — are investigated in the study. It is expected that higher degrees of interest in any given activity are associated with higher specific selective readership concerning that activity.

Demographic Characteristics. The demographic measures in this study are age, sex, income, and education. A degree of interrelationship is expected among some of the demographics; for example, higher education usually leads to better jobs which in turn provide higher income. This problem of multicollinearity is difficult to estimate *a priori* and must be appraised as the analysis unfolds.

It is proposed that men and women select different materials from the newspaper. Men are expected to read more alcohol, tobacco, and automobile advertisements as well as more men's clothing and jewelery advertisements. In nonadvertising material, women are expected to be more selective of women's world items while men focus on business and finance, government, and sports.

No respondents younger than fifteen years of age were permitted in this study and therefore the habits of young readers cannot be investigated. Although age is not expected to be an important

determinant of specific selectivity in either advertising or nonadvertising material, young readers are expected to be more generally selective than mature readers.

Income and education are usually interrelated and consequently support similar reading patterns. Higher scores on these measures are associated with greater specific selectivity in the business and government category while sports is expected to show the opposite effect. No special relationships are expected in the advertising material.

Purchase Record and Product Use Data. A recent history of product purchases and a statement concerning personal product use are the last variables considered in accounting for selective newspaper reading. It is expected that the purchase and/or use of a product leads to increased specific selectivity for information relating to that product. For example, the recent purchase of an automobile is expected to be associated with increased specific selectivity for automobile advertising. Similarly, the smoking of cigars is expected to be associated with increased specific selectivity in reading cigar advertisements.

There is some theory supporting this position, most of it based on Festinger's work in cognitive dissonance. Ehrlich's study supports the example concerning an automobile purchase and

the reading of automobile advertisements.[1] The same logic is argued for each product considered although it is clear that many of the relationships are less well founded than the automobile example and some of the hypotheses must be placed in the speculative category.

The matrices in Figures 3-1 and 3-2 summarize the arguments that have been put forward. Figure 3-1 pertains to general selectivity. The signs there refer to more (+) or less (-) general selectivity. They are devoid of meaning with respect to positive or negative influence. Figure 3-2 summarizes the specific selectivity arguments. Its signs relate to direction in selectivity; a plus sign indicates positive selectivity or seeking out of a section and a minus sign indicates negative selectivity or avoidance of a section. The relative magnitude of selectivity is not depicted in the figure.

Statement of the Secondary Research Hypotheses

The statement of the secondary research hypotheses is broken down into the two categories of Figures 3-1 and 3-2: general

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[1] Ehrlich, et al., Journal of Abnormal and Social Psychology, LIV (1957), pp. 98-102.

Table 3-1

Summary Of The General Selectivity Hypotheses

Content Classification Scheme / Measurement Groups and Scales		Personality Traits					Opinion Measures								Leisure Interests		Demographic Characteristics				Purchase Record						Product Use			
		Self-confidence	Cognitive Structure	Social Recognition	Understanding	Manifest Anxiety	Furniture and appliance buying intentions	Car buying intentions	Newspaper Rating	Advertising Rating	Liberalism	Newspaper Coverage	Newspaper Source	Newspaper Personality	Hobbies	Sports	Age	Sex	Income	Education	Automobiles and accessories	Household appliances	Cigars and cigarettes	Groceries	Men's clothing and jewelery	Women's clothing and jewelery	Cigars	Cigarettes	Liquor	Movies
Business and Finance Government Women's World Sports	Nonadvertising Contents	-	-	+	-	+			-		-	-	-	-			-													
Furniture and Appliances Groceries Movies Liquor Cigars Cigarettes Women's Clothing and Jewelery Mens Clothing and Jewelery Automobiles and Accessories Classified Advertisements	Advertising Contents	-	-	+	-	+				-	-		-	-			-													
	Total Newspaper Contents	-	-	+	-	+					-		-	-			-									-				

Table 3-2

Summary Of The Specific Selectivity Hypotheses

Content Classification Scheme / Measurement Groups and Scales		Personality Traits					Opinion Measures									Leisure Interests		Demographic Characteristics				Purchase Record						Product Use			
		Self-confidence	Cognitive Structure	Understanding	Social Recognition	Manifest Anxiety	Furniture and appliance buying intentions	Car buying intentions	Newspaper Rating	Advertising Rating	Liberalism	Newspaper Coverage	Newspaper Source	Newspaper Personality		Hobbies	Sports	Age	Sex	Income	Education	Automobiles and accessories	Household appliances	Cigars and cigarettes	Groceries	Men's clothing and jewelery	Women's clothing and jewelery	Cigars	Cigarettes	Liquor	Movies
Nonadvertising Content	Business and Finance																		-	+											
	Government																		-	+											
	Women's World															+			+	-	-										
	Sports																+		-	-	-										
Advertising Content	Furniture and Appliances						+												+			+									
	Groceries																		+					+							
	Movies																				-										+
	Liquor																		-	-									+		
	Cigars																		-	-			+					+			
	Cigarettes																						+						+		
	Women's Clothing and Jewelery																		+							+					
	Men's Clothing and Jewelery																		-	-					+						
	Automobiles and Accessories							+											-	-		+									
	Classified Advertisements						+	+														+	+								

selectivity and specific selectivity. The hypotheses are not presented in an operationally testable form. Multidimensional linear models are used to test these hypotheses and the operational statements are given in Chapter VI.

General Selectivity Hypotheses. It is expected that increasing general selectivity in reading the nonadvertising contents of the newspaper is associated with —

1) decreasing levels of self-confidence
2) decreasing cognitive structure scores
3) increasing social recognition needs
4) decreasing understanding scores
5) increasing levels of manifest anxiety
6) decreasing newspaper rating scores
7) decreasing liberalism in views
8) decreasing newspaper coverage scores
9) decreasing newspaper source scores
10) decreasing newspaper personality scores
11) deacreasing age.

It is expected that increasing general selectivity in reading the advertising contents of the newspaper is associated with —

1) decreasing levels of self-confidence
2) decreasing cognitive structure scores
3) increasing social recognition needs
4) decreasing understanding scores
5) increasing levels of manifest anxiety
6) decreasing advertising ratings
7) decreasing liberalism in views
8) decreasing newspaper source scores
9) decreasing newspaper personality scores
10) decreasing age.

It is expected that increasing general selectivity in reading the total newspaper contents is associated with —

1) decreasing levels of self-confidence
2) decreasing cognitive structure scores
3) increasing social recognition scores
4) decreasing understanding scores
5) increasing levels of manifest anxiety
6) decreasing liberalism in views
7) decreasing newspaper source scores
8) decreasing newspaper personality scores
9) decreasing age.

Specific Selectivity Hypotheses. It is expected that positive specific selectivity in the business and finance and government sections of the newspaper is associated with —

1) the male sex
2) higher incomes
3) higher levels of education.

It is expected that positive specific selectivity in the women's world section of the newspaper is associated with —

1) increasing hobbies interests
2) the female sex
3) lower incomes
4) lower levels of education.

It is expected that positive specific selectivity in the sports section of the newspaper is associated with —

1) increasing sports interests
2) the male sex.

It is expected that positive specific selectivity in the furniture and appliance advertising section of the newspaper is associated with —

1) furniture and appliance buying intentions
2) the female sex
3) recent household appliance purchases.

It is expected that positive specific selectivity in the grocery advertising section of the newspaper is associated with —

1) the female sex
2) recent grocery purchases.

It is expected that positive specific selectivity in the movie advertising section of the newspaper is associated with —

1) decreasing levels of education
2) higher levels of movie attendance.

It is expected that positive specific selectivity in the liquor advertising section of the newspaper is associated with —

1) the male sex
2) use of liquor.

It is expected that positive specific selectivity in the cigar advertising section of the newspaper is associated with —

1) the male sex
2) recent cigar or cigarette purchases
3) smoking of cigars.

It is expected that positive specific selectivity in the cigarette advertising section of the newspaper is associated with —

1) recent cigar or cigarette purchases
2) smoking of cigarettes.

It is expected that positive specific selectivity in the women's clothing and jewelery advertising section of the newspaper is associated with —

1) the female sex
2) recent women's clothing purchases.

It is expected that positive specific selectivity in the men's clothing and jewelery advertising section of the newspaper is associated with —

1) the male sex
2) recent men's clothing purchases.

It is expected that positive specific selectivity in the automobile and accessory advertising section of the newspaper is associated with —

1) car buying intentions
2) the male sex
3) recent automobile and accessory purchases.

It is expected that positive specific selectivity in the classified advertising section of the newspaper is associated with —

1) furniture and appliance buying intentions
2) car buying intentions
3) recent automobile and accessory purchases
4) recent household appliance purchases.

CHAPTER IV

RESEARCH METHODS

The purpose of this chapter is to give a description of the research activities pursued in the study. In cases where the material presented describes events completed prior to this study, the documentation has been provided by the research house and by the CDNPA.

There are actually three distinct but related research activities occurring within this study design:

(1) an advertising effectiveness study

(2) an editorial information study

(3) a newspaper reach study.

This thesis is concerned exclusively with the data generated by the newspaper reach study. Thus, the research methods discussed here focus on the reach phase of the study to the exclusion of the other two phases. Figure 4-1 provides an overview of the events associated with the project.

Figure 4-1

Sequence of Events In The Newspaper Reach Study

Timing	Event	Comments
Early August	Finalization of study plans	1. Commitment to three phases for the study. 2. Decision to go with split-run advertising techniques. 3. Overall format finalized.
Late August	Prefieldwork operations	1. Organization of the field team. 2. Production of standardized questionnaire material. 3. Trial runs at the London Free Press.
Early September	Sample recruiting.	1. Selection of approximately 2,000 respondents. 2. Sample partitioned into three split-run panels. 3. Compilation of recruitment questionnaire.
Late September	Experimental treatments associated with other phases of the study.	1. Loss of sample members to experimental treatments.
October 3	First Newspaper Reach Questionnaire.	1. Loss of additional sample members each week to experimental treatments. 2. Concluding sample size at 1220 respondents.
October 10	Second Newspaper Reach Questionnaire	
October 17	Third Newspaper Reach Questionnaire	
October 24	Fourth Newspaper Reach Questionnaire	
October 31	Fifth Newspaper Reach Questionnaire	
November 7	Sixth Newspaper Reach Questionnaire	
November 11	Completion of main study experimental treatments	1. Post-testing of remaining sample.
Mid-November	Mailing of follow-up questionnaire.	

The basic design in the London study followed a pattern established in earlier projects. New features included the collection of more behavioral information, the use of a different timing pattern, and the application of split-run advertising techniques. The timing pattern chosen for interviews was each Thursday from October 3 to November 7, 1968, a period of six weeks. The introduction of split-run advertising techniques required the partitioning of the sample into three separate panels; two to receive split-run treatments and one for non-split run usage.

One difficulty in reporting the research methods is that the study's more sophisticated design features generally relate to phases 1 and 2 of the project and, while these features were necessary to achieve the overall goals of the study, they do not directly relate to the undertakings in this thesis. For example, the three panels needed for the split-run advertising treatments only complicate the assessment of the selective reading problem. In the discussion that follows, the design steps that are less relevant to this work are described, in order to maintain continuity in the sequence of events; however, they are not given the detailed attention devoted to topics more germane to this thesis.

The Research Instrument Design

The principal task of the research instrument was to indicate the potential reach of the newspaper.[1] It was imperative, however, that the instrument design be acceptable to media buyers. The broadcast industry had already developed a measure which media buyers accepted as the standard in audience reach information. It was based on the concept of opportunity for exposure.

The Measurement Concept. The opportunity for exposure measure used by the broadcast industry indicated the number of people who could have been listening to or watching a certain program in a given time period. No claim was made concerning what people actually saw or heard; the measurement simply indicated that these people had their radio or television sets on and, as a result, had an opportunity to be exposed to the information presented.

Since the opportunity for exposure measure had proven acceptable to media planners, the same concept was chosen for newspaper assessment. Conversion of the broadcast ideas to the newspaper was accomplished by a simple analogy: the newspaper

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[1] Most of the material in this section is taken from reports provided by the research house. The decisions associated with the research instrument design were made before the author became involved in the project. This comment also applies to the next section of the chapter.

measures were devised to correspond to the time segments of the broadcast media. Two basic measures were proposed:[1]

(1) Page Exposure - reports of a respondent looking at a given newspaper page.

(2) Space Exposure - reports of a respondent looking at a given quarter of a newspaper page.

Page exposure was compared with the main divisions of the broadcast day, such as hourly segments, while space exposure was compared with 15 or 30 minute time slots.

The Data Collection Strategy. A survey research format incorporating a self-administered, aided-recall questionnaire was used. Readership records had to be collected before recall of the newspaper began to fade. Consequently, it was decided that all interviewing should be done no later than the day after publication. Since it would be impossible to interview all sample members on the day after publication with a field team of manageable size, a questionnaire methodology was chosen in place of personal interviewing.

The Newspaper Page Questionnaires. The decisions concerning the newspaper page questionnaires were taken as part of the Hamilton pilot study. The design adopted consisted of a high quality, photo-reduced, off-set printed, 8 1/2" x 11" replica of a newspaper page.

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[1]See Appendix III for a further discussion of the measures.

Prior to being photographed, each page was divided into quarters by affixing cross-hatched tape. Stickers were added asking whether or not the respondent had looked at the page. Figure 4-2 is a copy of a miniaturized research page showing the above features. Two- and four-color reproductions were incorporated into the miniaturized pages when needed to duplicate the original ones.

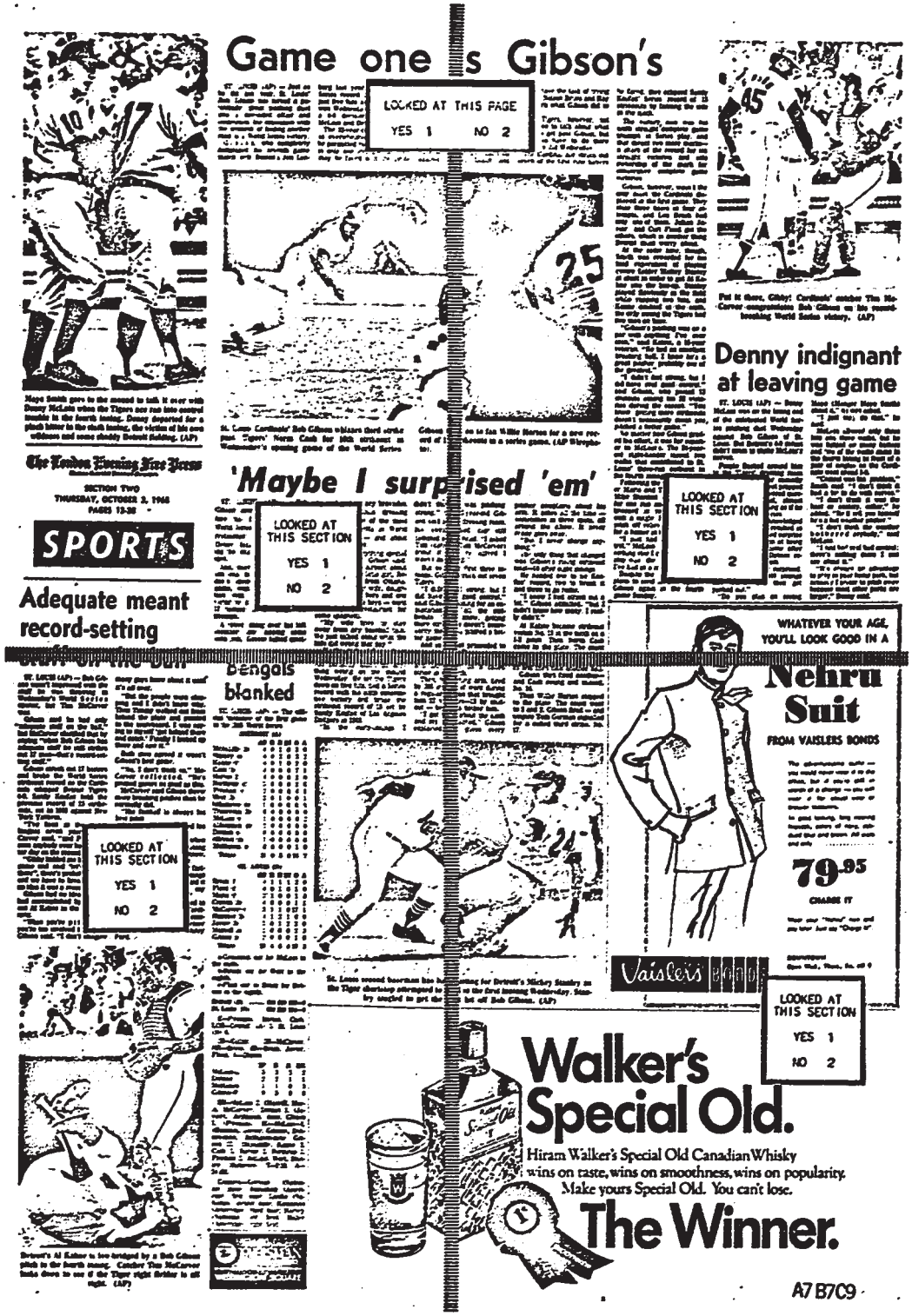
Four alternative recording methods, outlined below, were investigated before this format was adopted.

Questionnaire Page Size / Administration Technique	Use of full-sized newspaper pages	Use of Miniaturized newspaper pages
Use of self-administered questionnaire	✓	✓
Use of personal interview	✓	✓

As a further precaution, some respondents were repeatedly exposed to one of the alternatives and their answers were compared with answers from respondents exposed only once.

Figure 4-2

Miniaturized Newspaper Page



The Hamilton study reports little or no contamination from repetitive measurement. Little or no difference between using a miniaturized or a full-sized page is reported. There is a slight increase in the level of recorded exposure when the self-administered questionnaire is used rather than the personal interview; however, the self-administered methodology was adopted as it was similar to techniques used by other media.

The entire newspaper was not miniaturized. Of the sixty to ninety pages that constituted the complete paper, approximately twenty were selected for miniaturization. The Thursday papers were printed in four physical sections and the first and last pages of these sections appeared in the questionnaires. Each page that contained a test advertisement was placed in the miniaturized set. A few additional pages were selected by London Free Press personnel. The minimum number of test pages in any week was sixteen, the maximum twenty-two.

The Communications Disguise. To minimize any effects that might be caused by respondents knowing the sponsorship of the project, it was called a total communications study. They were told that information would be collected concerning their radio listening and television viewing as well as their newspaper reading. To effect this disguise, the materials shown in Figures 4-3 and 4-4 were added to the miniaturized questionnaires.

Figure 4-3

My Radio Listening for Yesterday

Please circle, for each half-hour period yesterday, whether or not you were listening to the radio.

Morning	Yes	No
BEFORE 7:00 A.M.	1	2
7:00 - 7:30 A.M.	1	2
7:30 - 8:00	1	2
8:00 - 8:30	1	2
8:30 - 9:00	1	2
9:00 - 9:30	1	2
9:30 - 10:00	1	2
10:00 - 10:30	1	2
10:30 - 11:00	1	2
11:00 - 11:30	1	2
11:30 - 12:00 Noon	1	2

Afternoon	Yes	No
12:00 - 12:30 P.M.	1	2
12:30 - 1:00	1	2
1:00 - 1:30	1	2
1:30 - 2:00	1	2
2:00 - 2:30	1	2
2:30 - 3:00	1	2
3:00 - 3:30	1	2
3:30 - 4:00	1	2
4:00 - 4:30	1	2
4:30 - 5:00	1	2
5:00 - 5:30	1	2
5:30 - 6:00	1	2

Evening	Yes	No
6:00 - 6:30	1	2
6:30 - 7:00	1	2
7:00 - 7:30	1	2
7:30 - 8:00	1	2
8:00 - 8:30	1	2
8:30 - 9:00	1	2
9:00 - 9:30	1	2
9:30 - 10:00	1	2
10:00 - 10:30	1	2
10:30 - 11:00	1	2
11:00 - 11:30	1	2
11:30 - 12:00 Midnight	1	2
12:00 - 12:30 A.M.	1	2
12:30 - 1:00 A.M.	1	2
AFTER 1:00	1	2

Figure 4-4

My Television Viewing for Yesterday

Please circle, for each half-hour period yesterday, whether or not you were watching television.

Morning	Yes	No
BEFORE 7:00 A.M.	1	2
7:00 - 7:30 A.M.	1	2
7:30 - 8:00	1	2
8:00 - 8:30	1	2
8:30 - 9:00	1	2
9:00 - 9:30	1	2
9:30 - 10:00	1	2
10:00 - 10:30	1	2
10:30 - 11:00	1	2
11:00 - 11:30	1	2
11:30 - 12:00 Noon	1	2
Afternoon		
12:00 - 12:30 P.M.	1	2
12:30 - 1:00	1	2
1:00 - 1:30	1	2
1:30 - 2:00	1	2
2:00 - 2:30	1	2
2:30 - 3:00	1	2
3:00 - 3:30	1	2
3:30 - 4:00	1	2
4:00 - 4:30	1	2
4:30 - 5:00	1	2
5:00 - 5:30	1	2
5:30 - 6:00	1	2
Evening		
6:00 - 6:30	1	2
6:30 - 7:00	1	2
7:00 - 7:30	1	2
7:30 - 8:00	1	2
8:00 - 8:30	1	2
8:30 - 9:00	1	2
9:00 - 9:30	1	2
9:30 - 10:00	1	2
10:00 - 10:30	1	2
10:30 - 11:00	1	2
11:00 - 11:30	1	2
11:30 - 12:00 Midnight	1	2
12:00 - 12:30 A.M.	1	2
12:30 - 1:00	1	2
AFTER 1:00	1	2

The information about radio listening and television viewing was collected according to three main time periods; morning, afternoon, and evening. Each period was divided into half-hour segments starting with "before 7:00 a.m. " and finishing with "after 1:00 a.m." Respondents were not restricted to any given stations or programs and they were given a copy of the previous day's television schedule to assist in recall of viewing.

The Additional Interest Questionnaires. The last items in each questionnaire were the additional interest topics. These topics covered several measures proposed as independent variables in the secondary research hypotheses.

The advertising rating scale, as well as the newspaper personality scale, was in this set. The two leisure interest measures - hobbies and sports - also appeared here.

Figure 4-5 shows the newspaper source scale as an example of the additional interest items. Other additional interest questions are in Section 2 of Appendix I.

The London Newspaper Reach Questionnaires. In summary, the complete newspaper reach questionnaire package for the London study consisted of —

(1) The miniaturized newspaper pages, divided into quarters with question stickers attached

Figure 4-5

Additional Interest Scale - Newspaper Source

There are many different ways of keeping up to date on what is happening. Magazines, newspapers, television and radio are popular sources for news and information. Which of these do you consider to best fit your needs for the following. Please mark one answer on each line by checking "X" the appropriate box.

	Newspaper	Magazines	TV	Radio	No Opinion
Useful information about financial matters.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Tells you what is happening in the business world	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Informative advertising that helps you buy more effectively.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Accurate and descriptive news reporting.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Keeps you in touch with what is happening locally.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Good sports reporting.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Interesting fashion news.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Helpful cooking hints.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

(2) The communications disguise items consisting of questions concerning radio listening and television viewing

(3) The additional interest topics covering aspects of the respondent's opinions and interests.

The Follow-Up Questionnaire. A group of personal attribute scales was administered to the sample in a separate mail-out questionnaire. The contents of the follow-up questionnaire included —

(1) The personality traits

(2) The newspaper rating

(3) The liberalism scale

(4) A few questions tying the follow-up study to the main survey.

The follow-up questionnaire appears in Appendix I, Section 3.

The Sampling Plan and the Recruiting Procedures

The sample population for the London study was defined as all persons within the greater London area who lived in a home delivery zone for the newspaper and who were fifteen years of age and over. The respondent or his family did not have to be a subscriber to the London Free Press. Within the eligible regions of greater London, an area sampling technique was used to select households and, within a household, further randomization procedures were employed to choose

a specific respondent. The steps in the selection procedure[1] were as follows:

(1) Listing of enumeration areas in the study zone

(2) Random selection of 40 enumeration areas as primary sampling units

(3) Random selection of a starting point

(4) Predesignated listing of households in sampling frame

(5) Up to three calls to recruit with a household

(6) Predesignated respondent selection procedure with no substitution allowed within the household.

The recruiting questionnaire (Section 1 of Appendix I) was an integral part of the sampling procedure. The selection of a specific respondent within a household was dictated by the questionnaire. Information collected at recruiting time included the demographic data and the automobile and household appliance purchase intentions.

The recruiting was done by 99 women from the London area, the majority of whom had been involved in research work before, many with O.R.C. The group was divided into nine teams each headed by an experienced captain who in turn reported directly to the head of ORC's Toronto interviewing department.

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[1] This procedure is quoted directly from the Opinion Research Corporation reports to the CDNPA.

A total of 1,966 people agreed to co-operate in the study. Participants were not pressured into taking part and a detailed explanation was given to them. They were not paid but were promised a small gift at the end of the study in appreciation for their co-operation. Ignoring empty houses, language barriers, and persistent "not-at-homes", the recruiting rate was 64%. Only 215 people, about 11% dropped out of the study before its completion. An additional 531 sample members were lost to various experimental treatments over the course of the study leaving a final sample size of 1,220 respondents. Some 5% of the sample did not read the London Free Press during the entire study.[1]

The three panels into which the sample was partitioned were organized according to London Free Press truck routes in order to facilitate delivering three different newspapers throughout the city. Care was taken to maintain some balance among the panels from the standpoint of size and respondent demography. The final sample size by panel was —

(1) Panel A, 402 respondents
(2) Panel B, 404 respondents
(3) Panel C, 414 respondents

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[1]Appendix IV reports the sample/population demography.

CHAPTER V

DATA REDUCTION

This chapter discusses the operational measures developed from the disaggregate data file. These measures are inputs to the analytical procedures of Chapter VI. The principal undertaking in preparing the operational measures was the generation of a categorized reading profile for each respondent. The profile shows how much of each type of newspaper information a respondent read and provides the data needed both to test the principal hypothesis and to generate the selectivity index. This index is used as the dependent variable in the multiple regression analysis for testing the secondary hypotheses. The development of the profiles is dependent upon the identification of the different types of information in the newspaper; that is, the content classification procedure.

The independent variables for the multiple regression analysis are the second focus of the chapter. Comments are given concerning the selection of the variables, their sources, the scaling procedures, the score ranges, and the number of usable results. The details concerning the scales are presented in Appendix II.

The flow diagram shown in Figure 5-1 outlines the contents of the chapter and illustrates how the operational measures feed the analytical procedures of the next chapter.

The Content Classification Procedures

Selective newspaper reading is a function of the kinds of information that a reader chooses. Therefore, to use the quarter page by quarter page readership reports, some evaluation of the information contained in each quarter is needed. The identification of single information type quarter pages is central to the application of the newspaper reach data to the selective reading hypotheses. The purpose of the content classification scheme and the content analysis was to identify and code the single content quarter pages.

The Content Classification Scheme. The content classification scheme is an exhaustive listing of the types of information that appeared in the research newspapers. Some categories in the listing were derived from the newspaper index; others were named and defined in consultation with personnel from the London Free Press.

The first category in the scheme is advertising/nonadvertising. An advertisement is characterized as having an identifiable sponsor who paid for the newspaper space containing a message about a product, service, or institution. All material not classified as advertising is classified as nonadvertising.

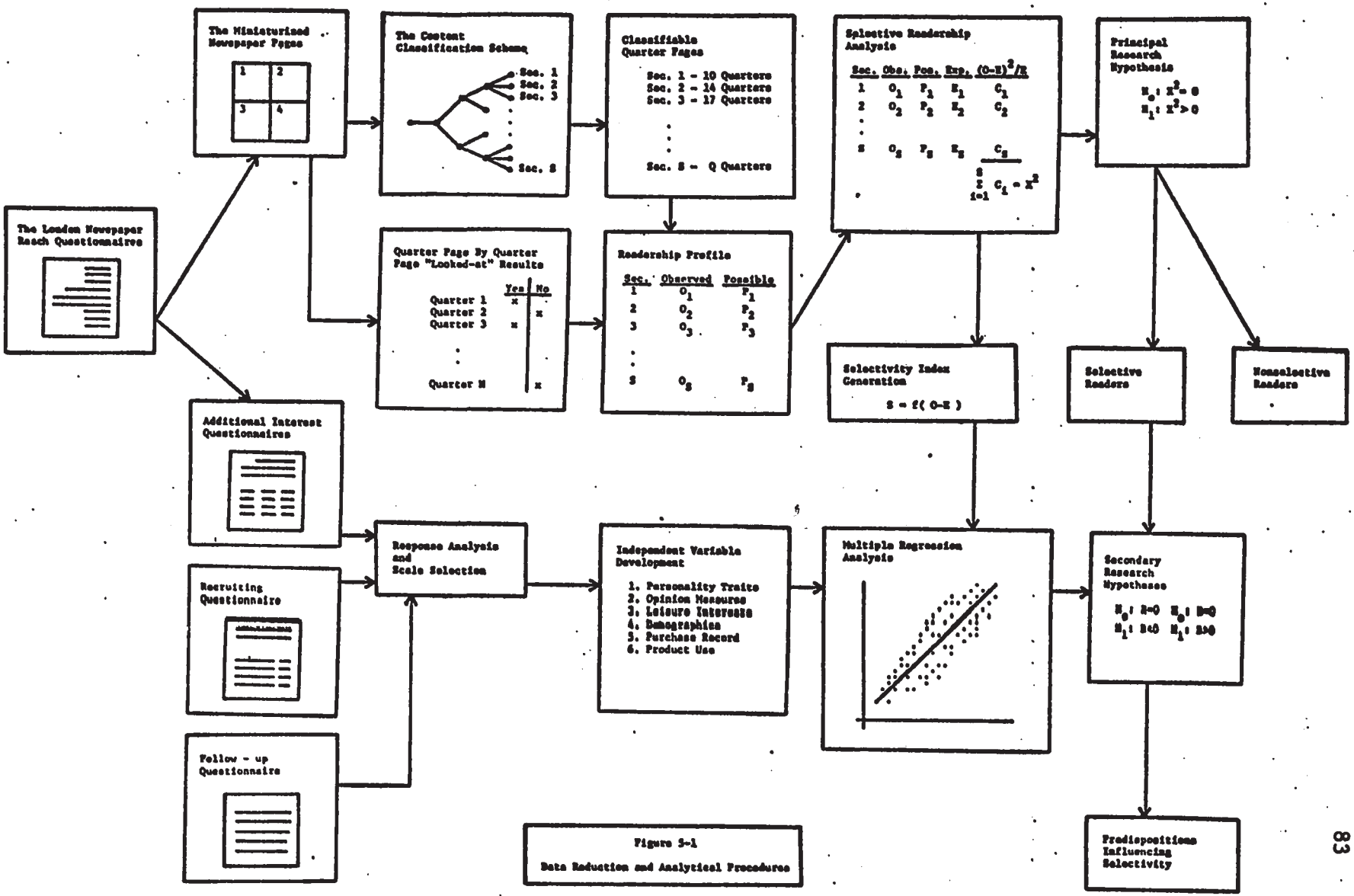


Figure 3-1

Data Reduction and Analytical Procedures

The nonadvertising section is further broken down into the following content items:

(1) Business and Finance — reports concerning businesses and businessmen

(2) Government — reports concerning legislative bodies and legislators

(3) Law and Order — reports concerning violations of the law

(4) Women's World — reports concerning the activities of women's clubs and associations and the activities of the housewife around the home

(5) Accidents and Misfortune — reports of unfortunate occurrences to persons, places, or things

(6) Entertainment — reports pertaining to entertainment and recreational activities

(7) Medicine and Health — reports from the field of medicine and health

(8) Sports — reports concerning sporting events

(9) Farm — reports concerning farming and farmers

(10) Religion — reports concerning God, church, and religious activities

(11) Education — reports relating to schools, teachers, and students

(12) Funnies and Humor — reports relating to the comic strips, funny stories, and humorous situations

(13) Hobbies — reports concerning activities undertaken as favorite pastimes.

Similarly, the advertising section is broken down into the following:

(1) Furniture and Appliances — advertising concerning any furniture items or household appliances

(2) Groceries — advertisements concerning food and beverages other than alcoholic beverages

(3) Entertainment — advertisements for recreational and entertainment activities

(4) Alcohol — advertisements for liquor, beer, or wine

(5) Cigarettes — concerning cigarette advertising

(6) Cigars — concerning cigar advertising

(7) Women's Clothing and Jewelery — advertisements for ladies wearing apparel and body adornments

(8) Men's Clothing and Jewelery — advertisements for mens wearing apparel and body adornments

(9) Cosmetics and Drugs — advertisements for beauty aids and pharmaceuticals

(10) Finance and Insurance — advertisements concerning matters of money, insurance, taxes, estates

(11) Self-improvement — advertisements for courses and programs of self-improvement

(12) Construction and Land Development — advertisements concerning building materials, land contracts, and landscaping

(13) Hobbies — advertisements relating to favorite pastimes

(14) Tools and Hardware — advertisements for tools and hardware items

(15) Automobiles and Accessories — advertisements for cars and trucks, and their accessories and supplies

(16) Religion — advertisements concerning churches and religious activities

(17) Sports — advertisments concerning sporting events

(18) Toys and Games — advertisements for children's play things

(19) Travel — advertisements for travel and travel supplies.

Some organizational codes were needed as part of the content classification scheme to define the quarter page under consideration:

(1) Panel — code identifying the panel to which a quarter page belongs:

Code for Panel A = 1
Code for Panel B = 2
Code for Panel C = 3.

(2) Issue — code identifying the issue to which a quarter page belongs:

Code for Issue 1 = 1
Code for Issue 2 = 2
Code for Issue 3 = 3
Code for Issue 4 = 4
Code for Issue 5 = 5
Code for Issue 6 = 6.

(3) Page — code identifying the page on which a quarter is found:

Code for Page = 1 to n; where n is the number of the miniaturized page in the questionnaire.

(4) Quarter — code designating the quarter page which is under consideration:

Code for top left hand quarter = 1
Code for top right hand quarter = 2
Code for bottom left hand quarter = 3
Code for bottom right hand quarter = 4.

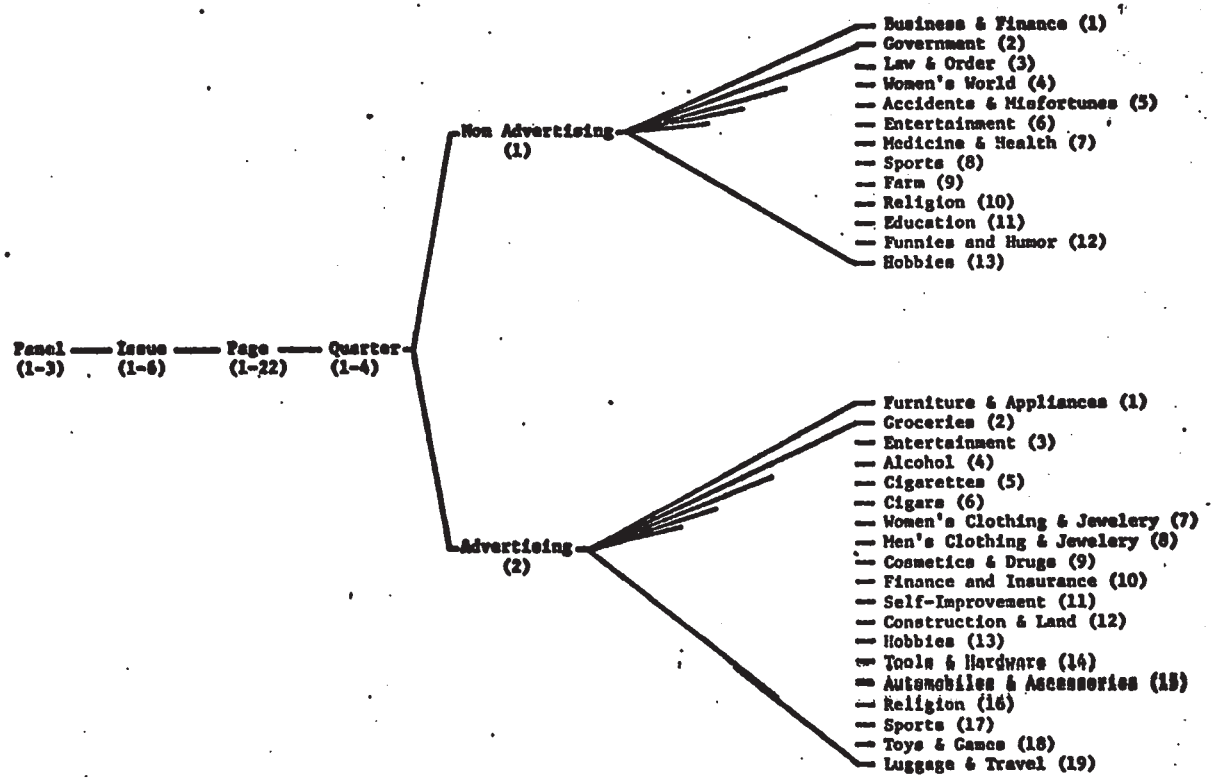
The complete content classification scheme is shown diagrammatically in Figure 5-2.

Content Analysis. The content analysis allocated items from each quarter page to categories in the content classification scheme. The categories did not provide for the mutually exclusive classification of every report. Many items dealt with complex situations that cut across more than one category; for example, a report about the government assisting a business firm that was working on a farming problem. Fortunately, such reports were either written in a way that placed so much emphasis on one aspect of the situation that the classification was never in doubt or the item was so complex in the interrelationships it developed that it had to be left as unclassifiable. A quarter page that contained an unclassifiable item became an unclassifiable quarter and was eliminated from further consideration.

The individual classifications assigned to items were aggregated to develop a classification for a complete quarter page. Through this process some quarters containing one item or several similar items were assigned a single classification code; other quarters containing dissimilar or unclassifiable items were eliminated from further consideration.

Figure 3-2

The Content Classification Scheme



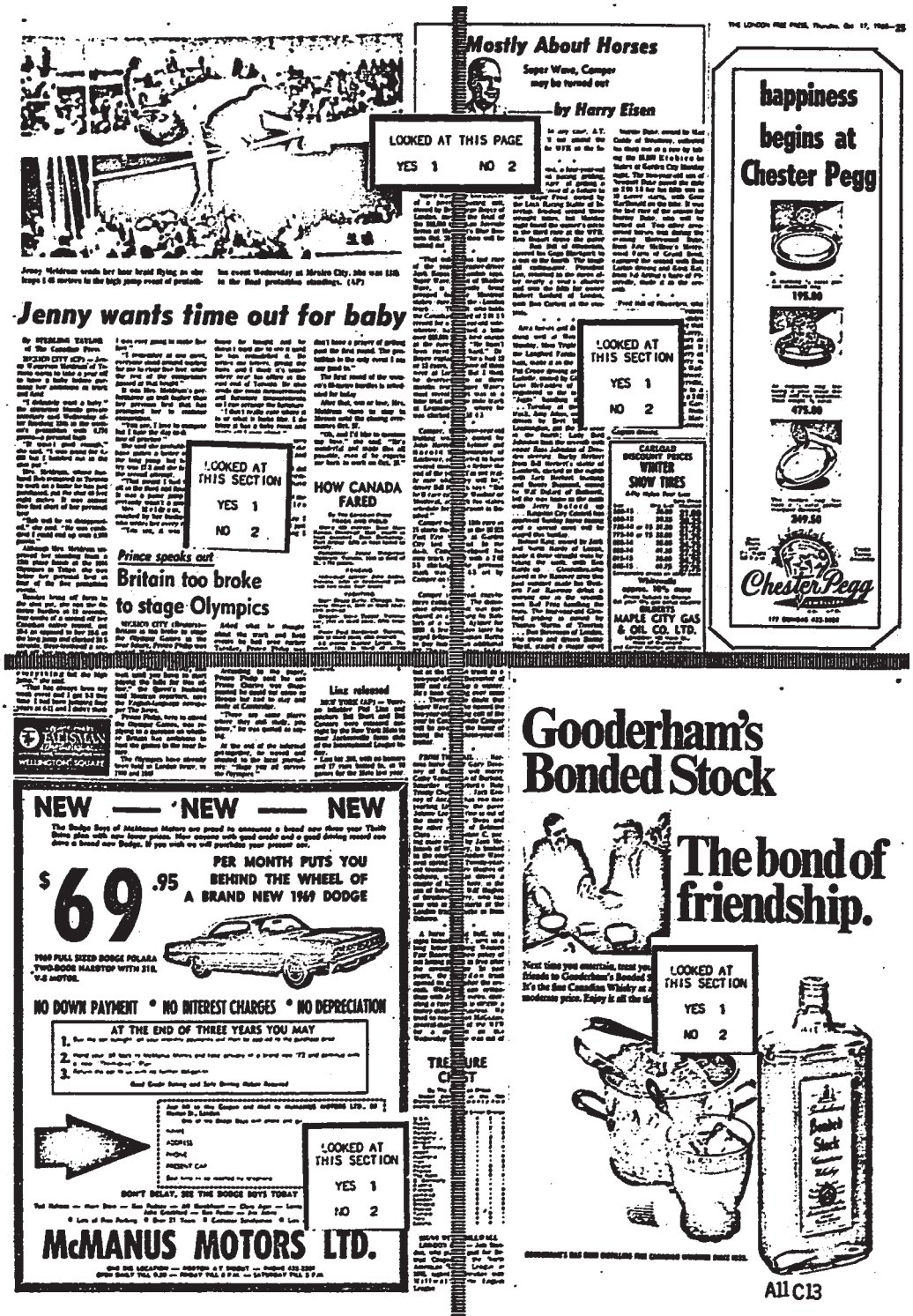
Implementation of the Content Analysis. In practice, two variations of the content analysis were employed. Because the London Free Press has a nine-column layout, the vertical dividing line on the test pages split the middle of the fifth column. The splitting frequently left a large advertisement beside a half-column of editorial content, thus preventing it from comprising a classifiable quarter. A respondent who reported looking at such a quarter could be reporting on the editorial material in the half-column; however, the advertisement filling the other four columns so dominates the quarter that it seems more probable that he was reporting on the advertisement.

In order to account for this situation, the single content classification rule was rigorously adhered to in the first analysis while a relaxed rule, allowing some infringement on a quarter page by alien material, was followed in the second one. The first procedure was referred to as the rigorous classification, the second as the relaxed classification. Figure 5-3 shows a test page affected by the application of the different rules.

In the rigorous procedure a classifiable quarter must contain, without exception, only items of the same content coding. In Figure 5-3 the top left-hand quarter supports such a single classification: nonadvertising, sports. The top right-hand quarter and bottom quarters all contain a combination of advertising and non-

Figure 5-3

Sample Content Classification Page



advertising materials. Ignoring the organizational codes, the example in Figure 5-3 receives the following classification under the rigorous rules:

Quarter 1 - nonadvertising, sports
Quarter 2 - not classifiable
Quarter 3 - not classifiable
Quarter 4 - not classifiable.

In the relaxed process, quarter 1 does not change. Quarter 2 is still not classifiable. An affirmative response to this quarter may refer to the Chester Pegg advertisement, the Maple City Gas advertisement, or the horse column, or to some combination of these items. Quarter 3, primarily taken up by the McManus Motors advertisement, is also left unclassifiable. This decision is based on —

(1) The size of the advertisement — the McManus advertisement is somewhat smaller than most advertisements given a relaxed classification. It is wide enough but not tall enough.

(2) The nature of the infringing material — the presence of one complete advertisement and one complete news item in the infringing material exceeds the intent of the relaxed rules and precludes the classification of the quarter.

(3) The position of the question sticker — the divided fifth column contains two items immediately adjacent to the sticker. This highlighting of material to be ignored complicates the application of the relaxed rules.

Quarter 4 is a different situation from quarter 3. The Gooderham's advertisement completely fills the vertical space in

the quarter page and leaves only the right-hand half of column five infringing on the possible advertising, alcohol classification. The position of the question sticker highlights the advertisement rather than the material in column five. On this basis, quarter 4 is classified as advertising, alcohol, and the example page becomes:

Quarter 1 - nonadvertising, sports
Quarter 2 - non classifiable
Quarter 3 - non classifiable
Quarter 4 - advertising, alcohol.

Internal consistency is of paramount importance in the classifications made under the relaxed rules. The previous example illustrates the types of problems encountered. Substantial internal comparison from page to page and issue to issue was used in attempting to maintain consistency in the application of the relaxed classification rules.

Results of the Content Classification Procedures

The rigorous content analysis resulted in identifying 249 classifiable quarters which were allocated among 10 classification categories. Of the 249 quarters, 90 fell in Panel A, 71 in Panel B, and 88 in Panel C. None of the panels supported all ten content sections. Table 5-1 shows the classification results for the rigorous rules. Note that the cigarette and cigar advertising classifications have been combined as the tobacco products advertising

Table 5-1

Rigorous Content Classification Results

	Content Classification Category	Panel A	Panel B	Panel C	Totals
I.	Nonadvertising				
	1 Business and Finance	20 quarters	13 quarters	-	33 quarters
	2 Government	8	7	-	15
	3 Sports	-	11	-	11
II.	Advertising				
	1 Furniture and Appliances	20	18	19	57
	2 Groceries	6	-	6	12
	3 Liquor	-	-	7	7
	4 Tobacco Products	12	-	-	12
	5 Women's Clothing Jewelery	13	14	14	41
	6 Automobiles & Accessories	11	8	28	47
	7 Classifieds	-	-	14	14
	Totals	90	71	88	249

category. This combination is used to reduce the number of small sections in the classification scheme as the selectivity testing procedure is weakened by the presence of small sections.

Application of the relaxed criteria resulted in the identification of 526 classifiable quarters. These quarters were allocated among 14 classification categories. As before, none of the panels supported all 14 categories and the allocations to Panels A, B, and C were 177, 171, and 178 quarters, respectively. The results of the relaxed classification rules are shown in Table 5-2.

A comparison of Figure 5-2, the complete content classification scheme, and Tables 5-1 and 5-2, the classification results, shows that many possible content sections received no allocation of classifiable quarters. The newspaper items coded to these sections never comprised a complete quarter page.

Readership Profiles: The Dependent Variable Base

For each respondent a readership profile was established. The profile indicates the number of quarters that a respondent reported looking at in each section. Profiles were established for both the rigorous and relaxed content classification results. The profiles are the primary data input to the selective reading analysis.

Table 5-2

Relaxed Content Classification Results

	Content Classification Category	Panel A	Panel B	Panel C	Totals
I.	Nonadvertising				
1	Business & Finance	28 quarters	20 quarters	-	48 quarters
2	Government	26	25	17	68
3	Women's World	10	19	10	39
4	Sports	14	23	15	52
II.	Advertising				
1	Furniture & Appliances	24	25	28	77
2	Groceries	7	-	9	16
3	Movie Theatres	-	6	7	13
4	Liquor	18	10	19	47
5	Cigars	6	-	-	6
6	Cigarettes	6	-	-	6
7	Women's Clothing & Jewelery	12	14	13	39
8	Men's Clothing & Jewelery	10	11	9	30
9	Automobiles & Accessories	16	18	36	70
10	Classifieds	-	-	15	15
	Totals	177	171	178	526

A profile is created by iterating through the similarly classified quarter pages for each content section and by keeping track of the number of quarters a respondent looked at as well as the total number of quarters in the section. The total number of quarters in any section represents the maximum amount of reading possible in that section and is referred to as the "possible reading" level. The number of quarters that a respondent actually looked at in any section is referred to as the "observed reading" level. Figure 5-1 shows the development of the readership profiles through the merging of the content classification scheme and the quarter page reading results. It also shows how the profiles fit into the analytical procedures of Chapter VI. The mathematical derivation of the observed and possible reading levels is given in that chapter as part of the main data matrix.

The dependent variable for the multiple regression analysis is based on the readership profiles; its mathematical character is quite complex and is also derived in Chapter VI. This variable, the selectivity index, is a normalized ratio indicating the amount of selectivity that a respondent demonstrates in each section. It is comparable from respondent to respondent as long as the number of sections and the possible reading level in each section is constant. The index has a range from - 0.5 to + 0.5.

Development of the Independent Variables

The independent variables for the multiple regression analysis are taken from the recruitment, additional interest, and follow-up questionnaires. These variables include both scaled and single item indicators. Several of the measures are based on field tested scales as reported in Appendix II. Others were constructed by the research house in response to areas of interest specified by the newspaper industry. The latter measures were not developed using rigorous techniques of scale construction but they seem to have sufficient face validity to justify their use.

Since many of the scales suffered from some missing responses, a decision was needed concerning either disregarding all incomplete response sets or using the responses given as the best indicator of a scale score. The decision depends on the quality and nature of the scale involved. Assuming the scale is unidimensional and that it demonstrates good reliability, then relatively fewer responses can be accepted as indicative of the score. No standard guidelines are available for this decision and a response base of 75% or greater was accepted as a complete scale in this study. This level was chosen as it included all respondents who seemed seriously to undertake completing the questionnaires. Below the 75% level there were no significant response groupings except for the nonresponse

category. Table 5-3 illustrates the frequency distribution of response rates to the independent variable. Any variables not listed in this figure are single item indicators.

Statistically, the effect of using this process is to assign the respondent's average score on answered scale items to each unanswered item. Response values obtained are used to estimate responses not given. Table 5-4 summarizes the information concerning the independent variables. It shows the number of items in the scale, the percentage response base required, the score range, and the number of usable responses in total and for each panel.

Table 5-3

Frequency Distribution of Response Rates For Scaled Independent Variables — All Respondents

Independent Variable Measures	Response Base Percentage																			
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 to 100
Personality Traits:																				
-Self-confidence	398	1	0	0	0	0	0	0	0	0	1	3	0	8	0	12	9	0	25	763
-Cognitive Structure	399	0	0	0	0	0	0	0	1	0	1	2	1	4	0	12	26	4	31	739
-Social Recognition	399	0	0	0	0	0	0	0	0	0	2	2	2	2	2	14	30	7	37	725
-Understanding	399	0	0	0	0	0	0	1	2	0	0	3	2	0	0	32	16	17	65	683
-Manifest Anxiety	398	1	0	0	0	0	0	1	0	0	3	0	2	1	0	27	14	11	44	718
Opinion Measures:																				
-Furniture and Appliance Buying Intentions	23	0	7	0	1	0	2	0	3	0	0	9	0	7	0	5	0	50	0	1113
-Newspaper Rating	409	0	1	0	0	1	0	1	0	0	2	0	1	0	0	7	0	35	0	763
-Advertising Rating	116	13	0	15	0	14	0	16	13	0	17	0	11	0	15	0	27	0	58	905
-Liberalism	397	0	0	0	0	0	1	1	1	0	1	0	27	3	1	2	9	5	15	757
-Newspaper Coverage	90	0	0	3	0	0	2	0	0	0	35	0	0	102	0	0	316	0	0	672
-Newspaper Source	90	0	0	0	0	0	5	0	12	0	0	34	0	106	0	0	169	0	228	576
-Newspaper Personality	128	7	4	0	0	5	3	0	2	2	3	4	2	2	5	29	4	9	29	982
Leisure Interests																				
-Hobbies	83	0	0	21	0	0	0	24	0	0	0	20	0	0	0	24	0	0	0	1048
-Sports	65	8	17	4	8	1	6	2	0	1	33	9	5	4	1	0	3	2	19	1032

Table 3-4

Summary of Independent Variable Information

	Scale Items	% Base	Score Range	Usable Responses A	B	C	Totals
Personality Traits:							
-Self-confidence	12	75	1.00 - 2.00	278	279	252	809
-Cognitive Structure	20	75	1.00 - 2.00	279	280	253	812
-Social Recognition	20	75	1.00 - 2.00	279	281	253	813
-Understanding	20	75	1.00 - 2.00	279	281	253	813
-Manifest Anxiety	20	75	1.00 - 2.00	279	281	253	814
Opinion Measures:							
-Furniture and Appliance Buying Intentions	9	75	1.00 - 4.00	373	382	413	1168
-Automobile Buying Intentions	1	100	1.00 - 4.00	402	404	414	1220
-Newspaper Rating	8	75	1.00 - 6.00	280	275	250	805
-Advertising Rating	11	75	1.00 - 6.00	345	337	308	990
-Liberalism	26	75	1.00 - 6.00	271	274	243	788
-Newspaper Coverage	6	100	0.00 - 1.00	219	224	229	672
-Newspaper Source	8	75	0.00 - 1.00	330	334	309	973
-Newspaper Personality	13	75	1.00 - 6.00	354	357	342	1053
Leisure Interests:							
-Hobbies	5	80	1.00 - 3.00	357	360	355	1072
-Sports	13	75	1.00 - 6.00	364	351	341	1056
Demographic Characteristics:							
-Age	1	100	1,2,3, - ,8	401	404	414	1219
-Sex	1	100	1,2	400	404	414	1218
-Income	1	100	1,2,3, - ,9	329	316	306	951
-Education	1	100	1,2,3, - ,8	398	401	411	1210
Purchase Record:							
-Automobiles and Accessories	3	100	1.00 - 2.00	402	404	414	1220
-Household Appliances	3	100	1.00 - 2.00	402	404	414	1220
-Cigars and Cigarettes	3	100	1.00 - 2.00	402	404	414	1220
-Groceries	3	100	1.00 - 2.00	402	404	414	1220
-Men's Clothing	3	100	1.00 - 2.00	402	404	414	1220
-Women's Clothing	3	100	1.00 - 2.00	402	404	414	1220
Product Use:							
-Cigars	1	100	1,2	331	326	0	657
-Cigarettes	1	100	1,2	331	326	0	657
-Liquor	1	100	1,2	331	326	0	657
-Movies	3	100	0.00 - 27.0	402	404	414	1220

CHAPTER VI

ANALYTICAL METHODS

In presenting the details of the analytical methods, the first three sections of this chapter focus on the test for selectivity in reading, the last ones consider the multiple regression analysis.

The Main Data Matrix

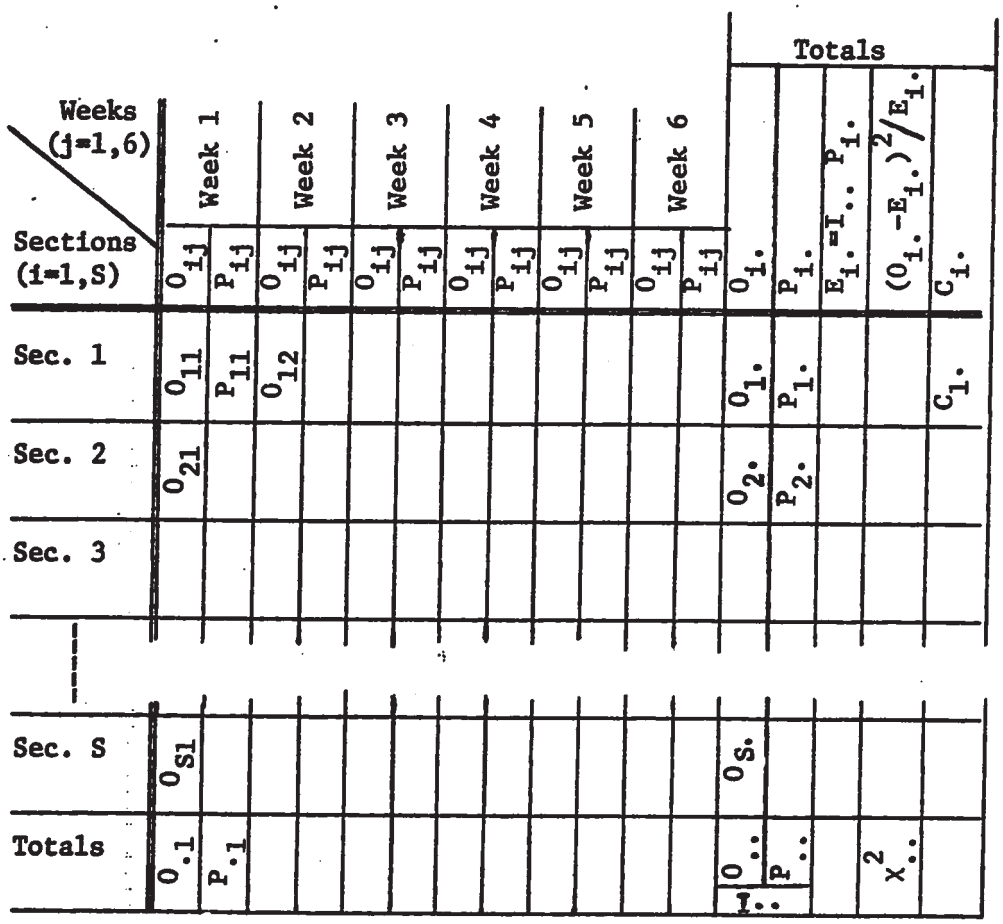
The first step in the analytical method was the development of the main data matrix. The matrix consists of a cross-tabulation of the content sections of the newspaper against the weekly reading profiles of the respondents. Figure 6-1 shows a generalized version of the matrix. The key points are —

(1) Each respondent has a matrix;
(2) The principal columns of the matrix are organized by the weeks of the study plus a Totals or horizontal aggregation column;
(3) Each principal column is broken into subcolumns;
(4) The rows of the matrix are organized by the content sections of the newspaper. There is one row for each usable section plus a Totals or vertical aggregation row.

Separate versions of the matrix were established for both the rigorous and relaxed content classification results.

Figure 6-1

Main Data Matrix For Respondent "n"



Observed Reading. The first subcolumn of the main data matrix is designated O_{ij} for the weeks and $O_{i.}$ for the Totals.[1] This subcolumn records the level of observed reading for each section. The observed reading score is determined by aggregating the response values for each quarter page contained in a section.

The response values, RV_{ij}'s, are 1 for a "Yes" response and Ø for a "No". The number of times that a respondent reports looking at the quarters in a section can be determined by:

$$O_{ij} = \sum_{i=x} \sum_{j=y} RV_{ij}$$

Where x defines the section of interest and y defines the week or interest.

Possible Reading. For any given section/week combination, the maximum possible reading level is given by P_{ij}:

$$P_{ij} = O_{ij}\Big|_{max}$$

This value is recorded in the second subcolumn of the data matrix.

Expected Reading. The χ^2 goodness-of-fit test requires an estimate of the reading distribution expected on the basis of chance. This estimate is designated $E_{i.}$. If the newspaper were read at random, it would be expected that the distribution of reading among the

---

[1] The standard "dot" notation is used for an aggregated subscript.

sections would be in proportion to the reading opportunities available in the sections. Mathematically, the following must hold:

$$E_{i.} = f(P_{i.})$$

The estimate of expected reading must also account for the fact that there are "heavy" and "light" newspaper readers. Heavy readers read most of the newspaper; light readers only a small amount of it. The readership index, $I_{..}$ accounts for the influence of heavy and light reading:

$$I_{..} = \frac{O_{..}}{P_{..}} = \frac{\text{Total Observed Reading}}{\text{Total Possible Reading}}$$

The expected reading function can now be given in its specific form:

$$E_{i.} = I_{..}P_{i.}$$

The expected reading level in any section is the product of the readership index and the possible reading level in that section. This value is contained in the third subcolumn of the Totals column.

χ^2 Determination. The $\chi^2_{..}$ goodness-of-fit value is calculated from the observed and expected reading levels:

$$\chi^2_{..} = \sum_{i=1}^{S} \frac{(O_{i.} - E_{i.})^2}{E_{i.}}$$

This value is the summation of the fourth subcolumn of the Totals column.

The Selectivity Index. A measure that retains the algebraic sign associated with seeking out or avoiding a section is needed to investigate the influence of personal attributes on selective reading. The selectivity index, $C_{i.}$, the last entry in the main data matrix, serves as that measure.

Consider the first three subcolumns of the Totals column in Figure 6-1. The term $(O_{i.} - E_{i.})$ is an index of the type needed but it is not comparable from one section to another. The reason is that the range of the term is dependent on $P_{i.}$ which varies between sections. The mathematical appendix at the end of this chapter proves that the range of the term is given by

$$R_{i.} = 2\left[P_{i.} - \frac{P_{i.}^2}{P_{..}}\right]$$

and, using this range to normalize $(O_{i.} - E_{i.})$, yields a selectivity index comparable from section to section and respondent to respondent:

$$C_{i.} = \frac{(O_{i.} - E_{i.})}{R_{i.}}$$

Sample Calculations

The following simplified example illustrates the calculations associated with the main data matrix and the tests for statistical significance.

Possible Reading Matrix. Assume that the content classification of a hypothetical three-section, three-issue newspaper yields the following possible reading pattern. The values in this matrix become the P_{ij}'s in the main data matrix.

Weeks (j)⟶

Sections (i) ↓

	Week 1	Week 2	Week 3	Totals
Sec. 1	10	20	20	50
Sec. 2	15	10	5	30
Sec. 3	5	10	5	20
Totals	30	40	30	100

Observed Reading Patterns. Assume that the hypothetical newspaper is read by an audience of three people. Their reading profiles are given below. These values become the O_{ij} values in the main data matrix.

Person 1

	Week 1	Week 2	Week 3	Totals
Sec. 1	6	10	14	30
Sec. 2	5	4	1	10
Sec. 3	3	5	2	10
Totals	14	19	17	50

Person 2

	Week 1	Week 2	Week 3	Totals
Sec. 1	2	4	3	9
Sec. 2	3	0	1	4
Sec. 3	0	1	1	2
Totals	5	5	5	15

Person 3

	Week 1	Week 2	Week 3	Totals
Sec. 1	10	19	16	45
Sec. 2	8	5	2	15
Sec. 3	2	1	2	5
Totals	20	25	20	65

Completion of the Main Matrix. The possible and observed reading patterns constitute the primary entries in the main data

matrix. All other entries are derived from them. Figures 6-2, 6-3, and 6-4 show the completed main data matrices for Persons 1, 2, and 3, respectively. The following is a brief review:

$$E_{i.} = I_{..} P_{i.}$$

$$\chi^2_{..} = \sum_{i=1}^{3} \frac{(O_{i.} - E_{i.})^2}{E_{i.}}$$

$$C_{i.} = \frac{(O_{i.} - E_{i.})}{2\left[P_{i.} - \frac{P_{i.}^2}{P_{..}}\right]}$$

Testing the Hypothetical People. The criterion for distinguishing selective from nonselective readers is whether or not a respondent's reading pattern departs significantly from the pattern expected on a random basis. The null and alternate hypotheses are

$$H_o : \chi^2_{..} = \emptyset$$

$$H_1 : \chi^2_{..} > \emptyset$$

The testing model is

Figure 6-2

Main Data Matrix For Hypothetical Reader #1

	Week 1		Week 2		Week 3		Totals				
	O_{ij}	P_{ij}	O_{ij}	P_{ij}	O_{ij}	P_{ij}	$O_{i.}$	$P_{i.}$	$E_{i.}$	$(O_{i.}-E_{i.})^2/E_{i.}$	$C_{i.}$
Section 1	6	10	10	20	14	20	30	50	25	$25/25$	0.10
Section 2	5	15	4	10	1	5	10	30	15	$25/15$	-.12
Section 3	3	5	5	10	2	5	10	20	10	$0/10$	0.00
Totals	14	30	19	40	17		50	100		$\chi^2_{..}=2.67$	
							$I_{..}=0.50$				

Figure 6-3

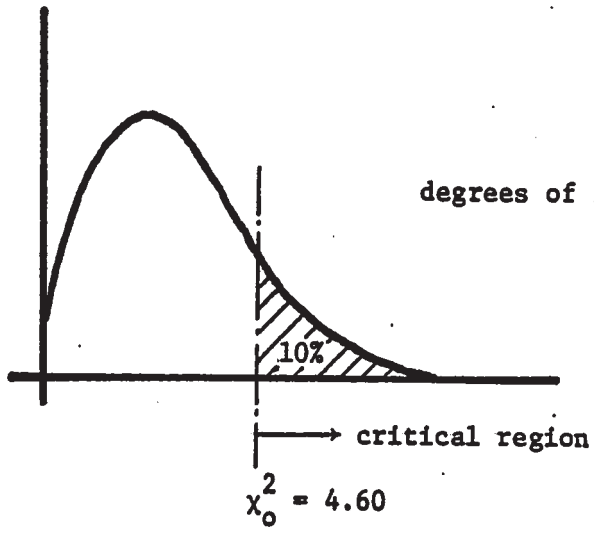
Main Data Matrix For Hypothetical Reader #2

	Week 1		Week 2		Week 3		Totals				
	O_{ij}	P_{ij}	O_{ij}	P_{ij}	O_{ij}	P_{ij}	$O_{i.}$	$P_{i.}$	$E_{i.}$	$(O_{i.}-E_{i.})^2/E_{i.}$	$C_{i.}$
Section 1	5	10	4	20	4	20	13	50	8	25/8	0.10
Section 2	0	15	0	10	0	5	0	30	4	16/4	-.10
Section 3	0	5	1	10	1	5	2	20	3	1/3	-.03
Totals	5	30	5	40	5	30	15	100		$\chi^2_{..}$=7.46	
							$I_{..}$ =0.15				

Figure 6-4

Main Data Matrix For Hypothetical Reader #3

	Week 1		Week 2		Week 3		Totals				
	O_{ij}	P_{ij}	O_{ij}	P_{ij}	O_{ij}	P_{ij}	$O_{i\cdot}$	$P_{i\cdot}$	$E_{i\cdot}$	$(O_{i\cdot}-E_{i\cdot})^2/E_{i\cdot}$	$C_{i\cdot}$
Section 1	10	10	19	20	16	20	45	50	32	$169/32$	0.26
Section 2	8	15	5	10	2	5	15	30	20	$25/20$	-.12
Section 3	2	5	1	10	2	5	5	20	13	$64/13$	-.25
Totals	20	30	25	40	20	30	65	100		$\chi^2_{..}=11.46$	
							$I_{..}=0.65$				



Rejection of the null hypothesis results in a reader being deemed selective. Acceptance results in the reader being deemed nonselective. The conclusions for the hypothetical audience are as follows:

Person 1: $\chi^2_{..} = 2.67$

$\chi^2_o = 4.60$

$\therefore$ accept the null hypothesis and deem the reader nonselective;

Person 2: $\chi^2_{..} = 7.46$

$\chi^2_o = 4.60$

$\therefore$ reject the null hypothesis and deem the reader selective;

Person 3: $\chi^2_{..} = 11.46$

$\chi^2_{o} = 4.60$

$\therefore$ reject the null hypothesis and deem the reader selective.

Significance of the Selective Reader Classifications. The model for the selective reading tests used a critical region of $\alpha = 10\%$. Thus, one must expect that 10% of the readers tested may be designated as selective on a chance basis. Test 100 readers sampled from a population where reading patterns are known to be nonselective, expect 10 erroneous selective classifications due to the stochastic nature of the model.

The distribution of reading patterns in the population from which this sample was drawn remains unknown. Therefore, it is necessary to determine whether the sample findings represent significantly more selective reader classifications than could appear by chance. A contingency table analysis can be used to test for significance in the sample results. For example, suppose tests on 1000 people yielded 300 selective and 700 nonselective readers. The expected number of chance selective classifications is 100, with α at the 10% level. These figures can be placed in a contingency table as follows and tested for significance by standard contingency table methods.

	Selective	Nonselective	
Actual Sample	300	700	1000
Nonselective Sample	100	900	1000
	400	1600	2000

Completion of this test is the last step in the analysis concerning the presence of selective reading patterns in the main data matrices.

Implementation of the Selectivity Testing Procedure

In operation, the selectivity testing procedure encroached on the conventional assumptions concerning the χ^2 test. The problem was small values in the expected reading distributions. This difficulty was caused by the relatively light reading of many respondents coupled with the small number of classifiable quarters in some content sections.

The conventional requirement that expected frequencies in the χ^2 test be 5 or more is overly conservative. If the degrees of freedom are greater than 5 or 6, expectations as small as 2 do not

produce misleading results.[1] The tabulated χ^2 values at the 5% level are reasonably accurate when two expectations are as small as 1.0, provided the degrees of freedom are 6 or greater. In such a case, the tabulated 5% value actually occurs at the 5.69% level and the discrepancy decreases with increasing degrees of freedom.[2] The correction for continuity is not needed in tables having more than 1 degree of freedom and some expectations greater than 5.[3]

In light of this evidence, two versions of the χ^2 test were implemented; first, a liberal version which extended the test to its justifiable limit by using distributions containing two unity expectations, and second, a conservative version which accepted only distributions in which all expectations were greater than two. In both cases, the critical region was specified at the 5% level, a percentage chosen because of the supporting evidence concerning two unity expectations.

The factors contributing to small expectations are low readership indices and few classifiable quarters per section. To meet the minimum expected distribution requirements of the χ^2 tests, the

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[1] Q. McNemar, Psychological Statistics (3rd ed.; New York: John Wiley and Sons, Inc., 1966), p. 218.

[2] W. Cochran, "The χ^2 Correction for Continuity," Iowa State College Journal of Science, XVI (1942), pp. 421-437.

[3] W. Cochran, "The χ^2 Test of Goodness of Fit," Annals of Mathematical Statistics, XXIII (1952), pp. 315-345.

magnitude of the usable readership index was restricted. This variable was selected for constraints because —

(1) At very low readership levels, expectations from even the largest content sections would violate the tests.

(2) The relatively scarce test resource was content sections: the usefulness of the findings would be severely limited if only one or two sections were available.

(3) The readership index distributions were relatively normal and a large portion of the sample would remain after discarding the lower readership levels.

The minimum usable readership indices for the rigorous content classification scheme under the liberal χ^2 test were 17% for panel A, 15% for B, and 17% for C. Under the conservative test they were 34%, 29%, and 34%, respectively. For the relaxed classification scheme the figures were 17%, 17%, and 15% under the liberal test and 34%, 34%, and 29% under the conservative test. Table 6-1 summarizes this data.

The elimination of light readers from the selectivity tests influences the results of those tests. An inspection of the data shows that light readership frequently results from the reading of only one or two sections. Light readers are generally selective readers; their elimination shifts the remaining sample towards less selectivity than might otherwise be present. This shift provides a conservative influence on the results.

Table 6-1

Summary of Selectivity Testing Information

Type of Classification	Panel	Degrees of Freedom In χ^2 Test	χ^2 Value At The 5% Significance Level	Minimum Allowable Readership Index In χ^2 Test	
				Liberal Test	Conservative Test
Rigorous	A	6	12.59	17%	34%
	B	5	11.07	15	29
	C	6	11.07	17	34
Relaxed	A	11	19.68	17	34
	B	10	16.92	17	34
	C	11	18.31	15	29

The Regression Analysis

The secondary research hypotheses were investigated by means of a multiple regression analysis. This analytical method was chosen because it facilitated testing the variables one at a time as well as jointly. The analysis was applied to all readers deemed selective in the selectivity testing procedure.

The Dependent Variables. Two types of selectivity were investigated in the regression analysis: general selectivity and specific selectivity. Specific selectivity deals with the degree of positive or negative selectivity in each newspaper section. The selectivity index, $C_{i.}$, is the dependent variable. For general selectivity, a measure applicable across groups of sections is required. This measure is derived from the selectivity index. A large value of the index indicates a high degree of selectivity while the sign tells whether it is positive or negative; a small magnitude is indicative of slight selectivity with the sign playing the same role. Therefore, if the signs are ignored and the magnitude of two or more indices are summed, then the magnitude of the sum is indicative of the reader's general selectivity across the combination of sections. This modulus sum is used as the dependent measure of general selectivity.

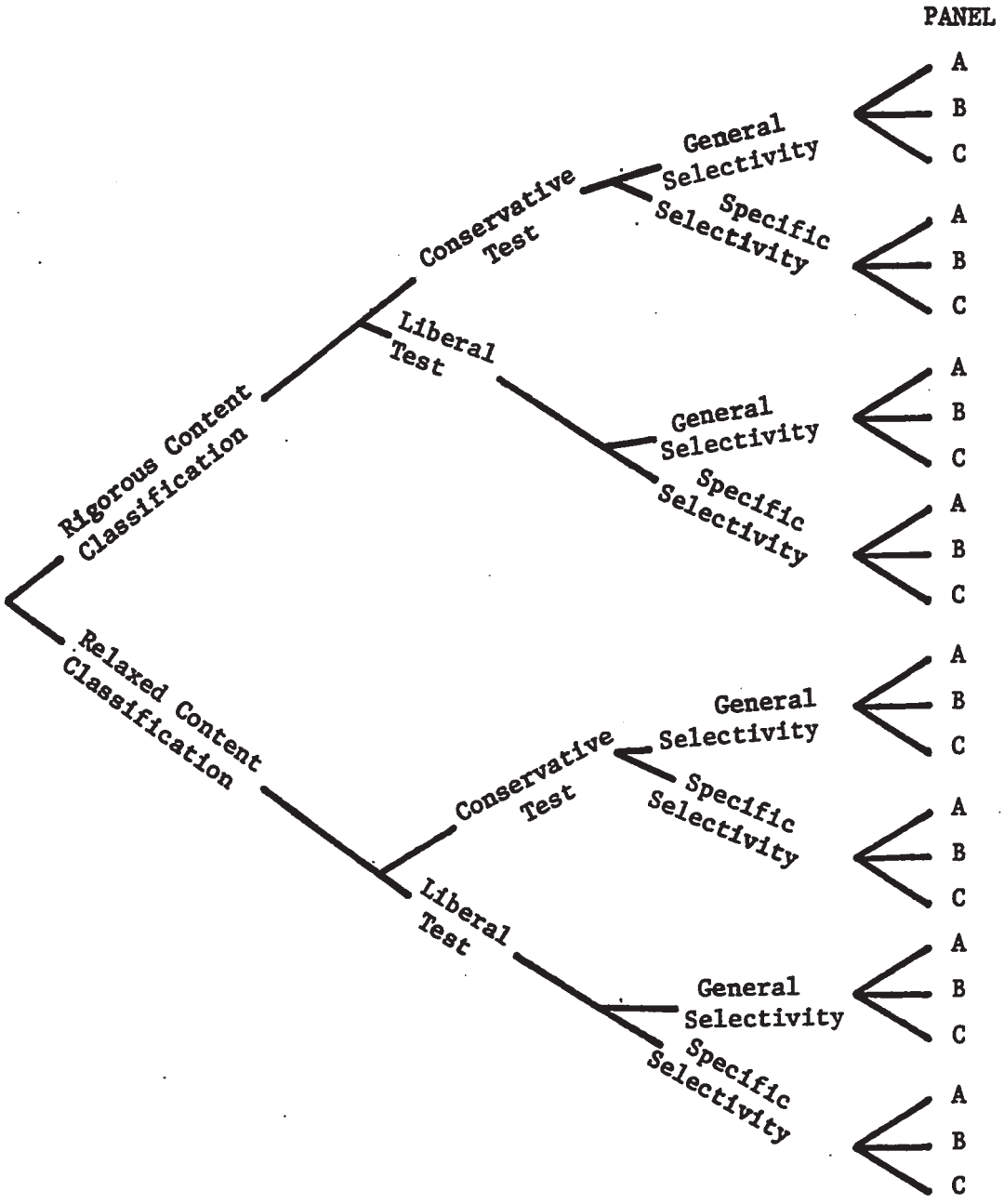
Sample Subsets for the Multiple Regression Analysis. The sample was partitioned into three subsamples as a result of the split-run advertising treatments. Each subsample received a unique

newspaper which resulted in a unique content classification scheme, thereby producing a unique set of dependent variables. Each content classification scheme was produced in two versions - rigorous and relaxed - thus doubling the number of dependent variables. Two different types of dependent variables - specific and general - were developed, again doubling the number of regression sets. Finally, the last doubling resulted from the two types of χ^2 tests - liberal and conservative. In total there were 24 different sample subsets of dependent variables for the regression runs. Figure 6-5 illustrates the combinations of different dependent variable groupings.

Cleaning the Regression Data. Each variable for each respondent has been treated as a separate entity to this point in the analysis. No attempt has been made to screen a respondent's score on one scale because he did not complete another. There is no internal consistency in the disaggregated data file. Some respondents deemed selective may have completed only the miniaturized newspaper questionnaires and may have left the additional interest and follow-up items unanswered. Conversely, a complete set of attribute data may exist for some respondents who completed only a small portion of the miniaturized test pages and were thereby deemed nonselective. The multiple regression investigation is concerned only with respondents deemed selective and the multiple regression program requires a complete variable set for each respondent permitted

Figure 6-5

Multiple Regression Dependent Variable Groupings



in the analysis.[1]

The data base, therefore, had to be cleaned before the implementation of the regression analysis. All nonselective readers and all selective readers without the appropriate internally consistent variable set were removed from the data file. Table 6-2 summarizes the relevant information for the 24 regression groupings.

The Regression Models. A linear regression model was used to express the hypothesized relationships between selective reading and the predispositions. The model took the general form

$$C = \alpha + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n + e$$

where

C = the degree of selectivity for the newspaper section in question.

X_1 to X_n = the independent variable measures hypothesized to relate to the degree of selectivity.

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[1] This statement is not precisely true. The regression package used in this analysis operated on the correlation matrix generated by the input subroutine. If the input routine encounters raw data having missing values, it is possible to over-ride the abort function and force the calculation of the best possible correlation matrix. Operations on a matrix so generated are in essence working with missing data but they are subject to an important constraint. Any results that depend on the degrees of freedom in the analysis are only approximate. The number of observations from variable to variable are different and an estimate of the effective number of observations must be made. This procedure becomes more and more tenuous as the number of variables in the analysis and the spread in the number of observations per variable increase. An attempt to implement this procedure with the data of this study proved entirely fruitless.

Table 6-2

Internally Complete Sample Subsets

Content Classification Scheme	Nature of χ^2 Test	Type of Selectivity	Panel	Sample Size
Rigorous	Conservative	General	A	27
			B	39
			C	11
		Specific	A	41
			B	68
			C	25
	Liberal	General	A	50
			B	59
			C	28
		Specific	A	89
			B	110
			C	68
Relaxed	Conservative	General	A	30
			B	49
			C	28
		Specific	A	53
			B	72
			C	4
	Liberal	General	A	61
			B	78
			C	51
		Specific	A	119
			B	141
			C	15

α, β_1 to β_n = the population parameter to be estimated from the sample information.

e = the stochastic error term.

This particular formulation was chosen because —

(1) It facilitated tests of each variable after the influence of the others had been accounted for

(2) It provided for assessing the contribution of the variables to the regression either singly or jointly

(3) No theoretical background provided sufficient detail to support a different formulation or to support the use of nonlinear relationships.

The null hypothesis for the analysis stated that the regression coefficients were zero. The alternate hypotheses stated that they were either greater or less than zero depending on the direction given in the secondary hypotheses formulations. For direct associations the hypotheses were

$$H_o: \beta = \emptyset$$

$$H_1: \beta > \emptyset$$

For inverse associations, they were

$$H_o: \beta = \emptyset$$

$$H_1: \beta < \emptyset$$

The significance tests on the independent variables used the $\underline{t}$ distribution. The F test was used on the multiple correlation coefficient.

MATHEMATICAL APPENDIX TO CHAPTER VI

This appendix provides the detailed mathematical derivation of the selectivity index, $C_{i\cdot}$. Assume the table given below represents the first three subcolumns of the Totals column in the main data matrix and that there are only three sections of interest.

	0	P	E = IP
Sec. 1	0_1	P_1	E_1
Sec. 2	0_2	P_2	E_2
Sec. 3	0_3	P_3	E_3
Totals	0_T	P_T	E_T
	$I = \frac{0_T}{P_T}$		

For any section of the table, the signs and magnitude of the term (0 - E) are an index of the type (i.e. positive or negative) and amount of selectivity. However, (0 - E) for one section is not comparable to (0 - E) for another. The range (minimum to maximum) of the term is dependent on P and there is no reason to assume that P will be the same for each section. To make the (0 - E)'s comparable, the range of the index must be determined so that the term can be normalized.

Consider first the problem of determining the maximum positive value of (O - E) for any of the sections, for example, section one. The term $(O_1 - E_1)$ has its maximum value when O_1 is as large as possible, corresponding to the seeking-out of section one, and simultaneously E_1 is as small as possible. As a starting point in the positive maximization of $(O_1 - E_1)$, let O_1 assume its maximum value:

$$O_1 = O_1\Big|_{\max} = P_1$$

This is a judgmental starting point based on the nature of the objective function and the fact that little is known about the behavior of E_1.

It is now necessary to determine the minimum value of E_1, given O_1 at its maximum level. It is known that

$$E_1 = IP_1 = \frac{O_T}{P_T} P_1$$

However, regardless of observed readership levels, P_1 and P_T are constant - fixed by the contents of the newspaper. Therefore, E_1 is directly proportional to O_T and, within the constraint on O_1, E_1 will be minimized when O_T is minimized.

The table shows that

$$O_T = O_1 + O_2 + O_3$$

and given

$$O_1 = O_1\Big|_{max} = P_1$$

then O_T will be minimized when

$$O_2 = O_2\Big|_{min} = \emptyset$$

$$O_3 = O_3\Big|_{min} = \emptyset$$

This minimization of O_T holds for any value of O_1 and not just for $O_1\Big|_{max}$. Thus, the initial assumption does not constrain the solution to a special case.

Using the relationships that

$$E_1 = IP_1$$

and

$$I = \frac{O_T}{P_T}$$

it can be shown that

$$E_1\Big|_{min} = \frac{O_T\Big|_{min}}{P_T} P_1$$

but given

$$O_1 = O_1\Big|_{max} = P_1$$

and

$$O_2 = O_3 = \emptyset$$

then $$O_T\Big|_{min} = O_1 + O_2 + O_3 = P_1$$

and $$\therefore E_1\Big|_{min} = \frac{P_1}{P_T} \times P_1 = \frac{P_1^2}{P_T}$$

This means that the maximum positive value of $(O_1 - E_1)$ is given by

$$(O_1 - E_1)_{max} = P_1 - \frac{P_1^2}{P_T}$$

as $$O_1\Big|_{max} = P_1$$

and $$E_1\Big]_{min}\Big|O_1\Big]_{max} = \frac{P_1^2}{P_T}$$

This result can be verified by inspection of the original table. If O_2 or O_3 or both were greater than $\emptyset$, then O_T would be greater than O_1. This means that the value of the index I would increase and so would the value of E_1. Therefore, for any given value of O_1, the term $(O_1 - E_1)$ would decrease in positive magnitude. Similarly, if O_1 were less than P_1. — say αP_1, where $100\% < \alpha \leq 0\%$ — then E_1 also would decrease by $\alpha\%$.

$$E_1 = IP_1$$

$$I = \frac{O_1}{P_T} = \frac{\alpha P_1}{P_T} = \frac{\alpha P_1}{P_T}$$

$$\therefore E_1 = \alpha \frac{P_1^2}{P_T}$$

But $O_1 > E_1$

as long as $O_2 = O_3 = \emptyset$ and $O_1 \neq \emptyset$

Thus $\alpha O_1 > \alpha E_1$

so that $(O_1 - \alpha O_1) > (E_1 - \alpha E_1)$

or $(O_1 - E_1) > (\alpha O_1 - \alpha E_1)$

and as $\alpha < 100\%$, then $(O_1 - E_1)$ is at its maximum value when $O_1 = P_1$.

It is now necessary to determine the maximum negative value (i.e. the minimum value) of (O - E) for any section. Again, using section one as the example, this minimum value corresponds to the maximum negative selection or maximum avoidance of section one. It seems reasonable to start with O_1, at its minimum value. This choice is consistent with the idea of maximum avoidance of section one. Therefore let

$$O_1 = O_1\Big|_{min} = \emptyset$$

In order to minimize the term $(0_1 - E_1)$, the task is to find the maximum positive value of E_1 given that $0_1 = \emptyset$.

As before, it is known that

$$E_1 = IP_1 = \frac{0_T}{P_T} P_1$$

but P_T and P_1 are constant for any given situation and therefore E_1 is proportional to 0_T. Thus, maximizing 0_T within the constraint that $0_1 = \emptyset$ becomes the objective. This means that 0_2 and 0_3 should have their largest value as

$$0_T = 0_1 + 0_2 + 0_3$$

and consequently 0_2 and 0_3 equal

$$0_2 = 0_2\Big|_{max} = P_2$$

$$0_3 = 0_3\Big|_{max} = P_3$$

This holds for any value of 0_1 and not just $0_1\Big|_{min}$; therefore, the solution represents the general case.

Using the equations

$$E_1 = IP_1$$

$$I = \frac{0_T}{P_T}$$

and knowing that

$$O_T = O_1 + O_2 + O_3$$

$$= \emptyset + P_2 + P_3$$

$$= P_2 + P_3$$

as well as $P_T = P_1 + P_2 + P_3$

then $O_T = P_T - P_1$

and therefore

$$E_1\Big|_{max} = IP_1$$

$$= \frac{O_T}{P_T} P_1$$

$$= \frac{(P_T - P_1)\, P_1}{P_T}$$

$$= \frac{P_1 - P_1^2}{P_T}$$

The solution to the minimum value of $(O_1 - E_1)$ thus becomes

$$[O_1 - E_1]_{min} = \emptyset - \left[P_1 - \frac{P_1^2}{P_T} \right]$$

$$= - P_1 + \frac{P_1^2}{P_T}$$

This result can be confirmed by inspection of the original table. If $O_2 < P_2$ and/or $O_3 < P_3$, then the value of O_T decreases

for any given value of O_1. Conjointly the value of I decreases. A decrease in I yields a decrease in E_1 and, as a result, the term $(O_1 - E_1)$ becomes less negative.

On the other hand, if $O_1 > \emptyset$, were increased to $\alpha\%$ of P_1 so that $O_1 = \alpha P_1$, $(100\% \leq \alpha < 0\%)$, then E_1 would increase by less than αP_1 and the term $(O_1 - E_1)$ once again becomes less negative The reason that E_1 increases by less than αP_1 is as follows:

$$O_T = O_1 + O_2 + O_3$$

which becomes

$$O_T = \alpha P_1 + P_2 + P_3$$

but

$$P_T = P_1 + P_2 + P_3$$

Then, by transportation and substitution,

$$O_T = P_T + P_1 (\alpha - 1)$$

Returning to the formula

$$E_1 = IP_1$$

$$= \frac{O_T}{P_T} P_1$$

the following results occur:

$$E_1 = \frac{[P_T + P_1\ (\alpha-1)]}{P_T}\ P_1$$

$$= \left[P_1 - \frac{P_1^2}{P_T}\right] + \left[(\alpha P_1)\ (\frac{P_1}{P_T})\right]$$

In this equation the brackets are used to show that the first term, $P_1 - \frac{P_1^2}{P_T}$, is the term which represents the minimum value of E_1; while the second term, $(\alpha P_1)(\frac{P_1}{P_T})$, which has two components, reflects the proposed increase in O_1 to a value of αP_1 and also reflects the proportionality between O_1 and E_1. The important factors to note are that the proportionality term, $\frac{P_1}{P_T}$, is less than one and therefore

$$(\alpha P_1)\ (\frac{P_1}{P_T}) < \alpha\ P_1$$

establishes the conclusion about the increase in E_1.

These results can be generalized for any section and the procedure can be applied to a matrix of any number of sections. In a generalized form the findings may be stated for any given section (i):

$$[O_i - E_i]_{max} = P_i - \frac{P_i^2}{P_T}$$

and this value relates to maximum positive selectivity or seeking-out of the section. Also

$$[O_i - E_i]_{min} = -\left[P_i - \frac{P_i^2}{P_T}\right]$$

is the value related to maximum negative selectivity or avoidance of the section. Combining these two values, the range of selectivity for any section (i) is given by

$$R_i = 2\left[P_i - \frac{P_i^2}{P_T}\right]$$

and the selectivity index, C, for section (i) is given by

$$C_i = \frac{(O_i - E_i)}{R_i}$$

In the main data matrix, this value may be calculated for any section (i) by the following formula:

$$C_{i\cdot} = \frac{(O_{i\cdot} - E_{i\cdot})}{R_{i\cdot}}$$

where

$$R_{i\cdot} = 2\left[P_{i\cdot} - \frac{P_{i\cdot}^2}{P_{\cdot\cdot}}\right]$$

CHAPTER VII

RESULTS OF THE HYPOTHESIS TESTING

This chapter presents the findings from the data analysis: first, the results of the principal hypothesis tests for selective newspaper reading, and second, the results of the secondary hypotheses tests concerning the variables influencing selective reading.

The Principal Hypothesis Tests

Testing the principal hypothesis involved the application of a goodness-of-fit test to the reading profiles of each respondent. If the respondent's reading pattern significantly departed from the pattern that might be expected on a chance basis, the respondent was declared selective. The testing procedure was applied in two versions — liberal and conservative — to both content classification schemes — relaxed and rigorous. The number and magnitude of allowable small expectations varied between the tests. The conservative one required that all expectations be greater than 2.0 while the liberal one allowed two expectations as small as unity.

The results of the principal hypothesis tests are summarized in Table 7-1. The number of testable readers ranged from a high of 911 (75% of the sample) to a low of 402 (32% of the sample) for the relaxed/liberal and the rigorous/conservative tests, respectively. The number of testable readers was less than the total sample due to the constraints placed on the expected reading distributions. The number of testable readers decreased as the requirements of the tests became more stringent.

Many respondents eliminated from the selectivity tests were clearly selective readers; they had read in only one or two sections. Their high degree of selectivity caused low readership indices and consequent elimination from the tests. All nontestable readers as well as all nonreaders were automatically deemed nonselective in order to maintain a conservative influence in the classification results.

The proportion of testable readers deemed selective ran between 57% and 76% with the relaxed/conservative test accounting for the largest result. In numbers, the selective readers ranged from a high of 685 for the least restrictive test to a low of 227 for the most restrictive one. In each test the proportion of readers found selective was significantly greater than the proportion that could be expected on a chance basis.

Table 7-1

Summary Statistics From The Principal Hypothesis Test

Content Classification	χ^2 Test	Total Sample	Testable Readers		Selective Readers			Classification Significance Test [a]
			No.	%	No.	% of Sample	% of Testable	
Relaxed	Lib.	1220	911	75	685	56	75	752
Rigorous	Lib.	1220	725	60	464	38	64	388
Relaxed	Con.	1220	451	37	341	28	76	234
Rigorous	Con.	1220	402	32	227	19	57	109

[a] All values significant at the 1% level.

The Secondary Hypotheses Tests

The secondary hypotheses tests covering general selectivity and specific selectivity were implemented by means of a stepwise multiple regression analysis performed on each proposed model. The models took the general form

$$C = \alpha + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n + e$$

where C = the degree of selectivity for the newspaper section in question

X_i = the independent variable measure hypothesized to relate to selectivity, i = 1,n.

α, β_i = the population parameters to be estimated from the sample information, i = 1,n.

e = the stochastic error term

The least squares sample estimates were used to make statistical inferences about the unknown population parameters. The null hypotheses, that the parameters were zero, H_o: $\beta = \emptyset$, were tested against one-tailed alternatives at the 5% level.

Valuable information can be lost when only those results that are statistically significant are reported.[1] This is especially

[1] Wonnacott and Wonnacott, p. 265.

true when the null hypotheses are introduced merely on the basis of convention. Therefore, the regression results for this study are reported in two ways

(1) When a sample estimate is significant, its numerical value is reported along with its t value and its Beta value.[1]

(2) When a sample estimate is nonsignificant, its sign is reported provided that sign remains constant in both the bivariate and multivariate contexts.

The coefficients of multiple determination are corrected for shrinkage[2] before reporting and their F probabilities are given.

The regression tables contain as many as 12 regression results in some cases. These results all stem from the three original samples but they also reflect the use of the two separate content classification schemes and the two different selectivity testing procedures. The dependent variable is specified in the table headings; the independent variables are reported according to the abbreviations given in Figure 7-1. Each regression table shows only those independent variables hypothesized to relate to the dependent variable for the table. The direction of the hypothesis is indicated

[1] McNemar, p. 173.

[2] D. Montgomery and D. Morrison, Adusting R^2, A Marketing Science Institute Technical Report (Cambridge: Marketing Institute, 1971).

by a plus or minus sign below the independent variable name.

The consistency of an independent variable's sign across the different subsamples is as important as its relative magnitude in any one equation. A variable that has some significant results but suffers from many sign changes is of less value than a variable that is never significant but holds a constant sign across all subsamples. Due to the importance of these sign patterns the regression tables are not collapsed even when there is a high degree of similarity in the findings.

The General Selectivity Hypotheses

Tables 7-2 through 7-4 report the general selectivity findings. The three dependent variables are general selectivity in the non-advertising sections, general selectivity in the advertising sections, and general selectivity in the total newspaper contents. These multiple section dependent variables are derived by summing the absolute values of the single section selectivity indices for each section in the group. The modulus so derived is large for high degrees of general selectivity and small for low degrees of general selectivity. The independent variables in these models differ only slightly. Each model contains the personality traits, one or more of the newspaper evaluation scales, the liberalism scale, and the age scale. The

Figure 7-1

Abbreviations Used For The Independent Variable Names In The Regression Tables

Personality Traits:

- Self-confidence -S/C
- Cognitive Structure -C/S
- Understanding -U
- Manifest Anxiety -M/A

Opinion Measures:

- Furniture and Appliance Buying Intentions -FABI
- Automobile Buying Intentions -CBI
- Newspaper Rating -NR
- Advertising Rating -A/R
- Liberalism -L
- Newspaper Coverage -C
- Newspaper Source -S
- Newspaper Personality -P

Leisure Interests:

- Hobbies -HOB
- Sports -SPRT

Demographic Characteristics:

- Age -A
- Sex -SX
- Income -$
- Education -ED

Purchase Record:

- Automobiles and Accessories -AAP
- Cigars and Cigarettes -CCP
- Groceries -GP
- Household Appliances -HAP
- Men's Clothing -MCP
- Women's Clothing -WCP

Product Usage:

- Cigars -GARS
- Cigarettes -CIGS
- Liquor -LIQ
- Movie Attendance -M-AT

results of these regressions are reported in the next three sections and subsequently summarized.

Regression Results for General Selectivity in the Nonadvertising Sections (Table 7-2).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Newspaper Rating	NR	-
2.	Social Recognition	S/R	+
3.	Cognitive Structure	C/S	-
4.	Understanding	U	-
5.	Manifest Anxiety	M/A	+
6.	Self-confidence	S/C	-
7.	Liberalism	L	-
8.	Newspaper Coverage	C	-
9.	Newspaper Source	S	-
10.	Newspaper Personality	P	-
11.	Age	A	-

Data are available for only 10 of the 12 possible regressions as the nonadvertising sections are absent from the rigorous content classification scheme for panel C. The results for three of the newspaper evaluation scales offer consistent support for the hypothesized relationships: the newspaper rating offers mild evidence

Table 7-2

Regression Results For General Selectivity In The NonAdvertising Sections

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: χ^2 Test	Subsample Characteristics: Sample Size	R^2 F-Prob	Beta and Regression Coefficients and t-values[b]: Variable Names / Hypothesized Signs	NR (-)	S/R (+)	C/S (-)	U (-)	M/A (+)	S/C (-)	L (-)	C (-)	S (-)	P (-)	A (-)
A	Relaxed	Liberal	61	.18 .000	Beta β t		-.22 -.26 2.01		(-)	(+)	-.31 -.24 2.55	(-)	(-)	-.42 -.33 3.27	(-)	0.25 0.03 1.87
	Relaxed	Conservative	30	.01 .025	Beta β t	(-)	(-)		(-)		(-)	(-)	(-)	-.41 -.26 2.35		
	Rigorous	Liberal	50	.00 .000	Beta β t		(-)		(+)	(+)	(-)	(-)		(-)	(-)	
	Rigorous	Conservative	27	.01 .092	Beta β t	(-)	(+)	(+)	(+)		(-)	-.31 -.09 1.73		(-)	(+)	
B	Relaxed	Liberal	78	.01 .012	Beta β t			(-)	(-)	(-)		(-)	-.28 -.19 2.56	(-)	(-)	(-)
	Relaxed	Conservative	49	.01 .004	Beta β t		(-)		(+)		(+)	(-)	-.40 -.23 3.02	(-)	(+)	(+)
	Rigorous	Liberal	59	.06 .001	Beta β t		(+)	-.25 -.20 2.02	(-)	(-)	(-)	(-)		-.46 -.22 3.76	(+)	
	Rigorous	Conservative	39	.00 .000	Beta β t	(-)	(+)	(-)			(-)	(-)		(-)	(+)	(+)
C	Relaxed	Liberal	51	.01 .023	Beta β t		(+)		(+)		(+)	(-)	-.24 -.20 1.74	(-)	(-)	0.28 0.03 2.38
	Relaxed	Conservative	28	.01 .061	Beta β t		(+)	(-)	(+)	-.35 -.29 1.94	(+)	(-)	(-)	(-)	(-)	(+)

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

on three occasions, newspaper coverage and newspaper source each provide three instances of significant support as well as mild evidence. However, the results for newspaper personality are inconclusive - the variable is never significant and the sign fluctuates between five minuses and four pluses. Similarly the results for the personality traits are inconclusive due to sign changes and lack of significance. The possible exception is cognitive structure; of the four minus signs in support of the hypothesis, one is significant. It is only positive once. On the other hand, liberalism gives across-the-board support for the hypothesized relationship and is significant once. Age generally refutes its hypothesis. It is significant twice, both times with a positive sign. After correction, the coefficients of multiple determination for these models range from 18% to 1%. The best model contains the independent variables: newspaper sources, self-confidence, age, and social recognition in order of their relative importance. Newspaper source and self-confidence support the proposed hypotheses, the other two variables refute them.

Regression Results for General Selectivity in the Advertising Sections (Table 7-3).

Table 7-3

Regression Results For General Selectivity In The Advertising Sections

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: X^2 Test	Subsample Characteristics: Sample Size	R^2 [a] F-Prob	Beta and Regression Coefficients and t-values[b]: Variable Names / Hypothesized Signs	S/R +	C/S -	U -	M/A +	S/C -	L -	S -	P -	A/R -	A -
A	Relaxed	Liberal	61	.14 .000	Beta β t	(+)		0.26 0.51 2.32	(+)			-.21 -.27 1.66		-.26 -.09 2.04	(+)
	Relaxed	Conservative	30	.14 .001	Beta β t	(-)		0.36 0.68 2.37		(+)		(-)	(-)	-.41 -.15 2.62	(+)
	Rigorous	Liberal	50	.02 .006	Beta β t	(-)		(+)	(-)			-.26 -.25 1.78	(-)	-.26 -.07 1.93	(+)
	Rigorous	Conservative	27	.01 .006	Beta β t	(-)		(+)		(+)	(+)	(-)		-.52 -.13 3.00	(+)
B	Relaxed	Liberal	75	.00 .000	Beta β t	(+)	(+)	(-)		(-)	(-)	(-)	(-)		(-)
	Relaxed	Conservative	49	.00 .000	Beta β t	(+)	(+)	(-)		(+)	(-)	(+)		(+)	(+)
	Rigorous	Liberal	59	.01 .012	Beta β t	(-)	0.24 0.23 2.01		(-)		(-)	(-)	(+)	(-)	0.19 0.02 1.81
	Rigorous	Conservative	39	.00 .000	Beta β t	(-)	(+)			(+)	(+)	(+)	(-)	(+)	(+)
C	Relaxed	Liberal	51	.01 .009	Beta β t	(+)	(+)	-.28 -.53 1.99		-.26 -.30 1.91	(+)		(-)	(-)	(-)
	Relaxed	Conservative	28	.03 .004	Beta β t					(-)	(+)	-.39 -.43 2.41	(-)		-.49 -.07 3.10
	Rigorous	Liberal	28	.01 .038	Beta β t	(-)	(-)	(-)	(+)		0.39 0.18 2.17	(-)	(-)		(-)
	Rigorous	Conservative	11	.01 .025	Beta β t			(+)	(+)	-.49 -.30 2.11	(+)	(+)	-.68 -.13 3.03	(-)	(+)

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Social Recognition	S/R	+
2.	Cognitive Structure	C/S	-
3.	Understanding	U	-
4.	Manifest Anxiety	M/A	+
5.	Self-confidence	S/C	-
6.	Liberalism	L	-
7.	Newspaper Source	S	-
8.	Newspaper Personality	P	-
9.	Advertising Rating	A/R	-
10.	Age	A	-

In all 12 regressions the personality traits are again inconclusive in their support of the hypotheses. The variables are significant a few more times than in Table 7-2 but the signs still alternate between plus and minus. The exception, as before, is cognitive structure. It has only one sign change but this time tends to refute rather than support the hypothesized relationship. Similarly, liberalism and age do not show any consistent support for the hypotheses; in fact, the weight of the evidence goes against the proposed relationships. On the other hand, the newspaper variables — source, personality, and advertising rating — strongly support their negative hypotheses. The significant coefficients are all of the correct sign and only a few incorrect signs appear in the mild evidence. The

percentage of the variance explained by these models ranges from 14% to 1% after the correction for shrinkage. The best explanatory power is shared by two models. The first contains the variables advertising rating, understanding, and newspaper source while the second contains understanding, and advertising rating. In each case the variables are mentioned in order of relative importance and in each case understanding is of the wrong sign.

Regression Results for General Selectivity in the Total Newspaper Contents (Table 7-4).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Social Recognition	S/R	+
2.	Cognitive Structure	C/S	-
3.	Understanding	U	-
4.	Manifest Anxiety	M/A	+
5.	Self-confidence	S/C	-
6.	Liberalism	L	-
7.	Newspaper Source	S	-
8.	Newspaper Personality	P	-
9.	Age	A	-

Only 10 regressions are available due to missing rigorous classifications in Panel C. The personality traits are never

Table 7-4

Regression Results For General Selectivity In The Total Newspaper Contents

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: χ^2 Test	Subsample Characteristics: Sample Size	R^2 [a] / F-Prob	Beta and Regression: Variable Names / Hypothesized Signs	Coefficients and t-values[b]: S/R (+)	C/S (-)	U (-)	M/A (+)	S/C (-)	L (-)	S (-)	P (-)	A (-)
A	Relaxed	Liberal	61	.12 .000	Beta β t	(-)		(+)				-.37 -.64 3.04	(-)	0.23 0.06 1.96
	Relaxed	Conservative	30	.06 .016	Beta β t	(-)		(+)		(+)	(-)	-.43 -.70 2.54	(-)	(+)
	Rigorous	Liberal	50	.04 .001	Beta β t	(-)		(+)	(-)			-.44 -.46 3.41	(-)	(+)
	Rigorous	Conservative	27	.01 .012	Beta β t	(-)		(+)	(-)	(+)		-.48 -.38 2.70	(-)	(+)
B	Relaxed	Liberal	78	.01 .099	Beta β t	(+)	(+)	(-)	(-)	(-)	(-)	-.18 -.26 1.65	(-)	(-)
	Relaxed	Conservative	49	.00 .000	Beta β t	(-)	(+)	(+)		(+)	(-)	(-)	(+)	(+)
	Rigorous	Liberal	59	.01 .004	Beta β t		(+)	(-)	(-)	(-)	(-)	-.37 -.30 3.30	(+)	(+)
	Rigorous	Conservative	39	.01 .069	Beta β t	(-)	(+)	(+)	(-)		(-)	(-)	0.28 0.07 1.85	(+)
C	Relaxed	Liberal	51	.00 .000	Beta β t	(+)		(-)		(-)	(-)	(-)	(-)	(-)
	Relaxed	Conservative	28	.15 .006	Beta β t	(+)	(-)		(-)	(+)		-.55 -.72 3.42	-.33 -.10 2.16	-.30 -.05 1.99

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

significant in the results. Social recognition, cognitive structure, and understanding continue the pattern of reversing signs. Manifest anxiety has consistency in sign but refutes its hypothesis. Similarily, age largely refutes the proposed relationship. It has seven plus signs out of ten with one positive and one negative significant relationship. In comparison, newspaper source and personality provide support for the proposed relationships. The source sign is consistently negative and the variable is significant in seven of ten possible regressions; the personality sign is negative seven of ten times and the variable is significant twice: once positive, once negative. In the same vein, liberalism supports its hypothesis across the board although it is never significant. The multiple coefficients of determination for these results, after correction, range from 15% to 1%. The variables in the best model are newspaper source, newspaper personality, and age with all signs supporting the hypothesized relationships. The newspaper source scale is the most important, relatively, with personality and age contributing about equally to the model.

Summary of the General Selectivity Findings

The most important variables in the general selectivity regressions are the scales concerning newspaper evaluation. These scales include: newspaper rating (NR), advertising rating (A/R), newspaper coverage (C), newspaper source (S), and newspaper

personality (P). The hypotheses were that persons rating the newspaper highly would turn to the newspaper frequently as a source of information and consequently would be less generally selective in reading. These hypotheses were borne out in the findings.

The liberalism (L) variable offered reasonably consistent support for a similar hypothesis — that persons more liberal in viewpoint would read more information and thus would be less generally selective. This variable, while showing the correct sign on most runs, was significant only twice.

The hypothesis concerning age — that younger readers would be more generally selective than older readers — was largely refuted. Two of five significant coefficients had the incorrect sign and 15 of 21 signs were wrong in the mild evidence.

The personality traits did not offer consistent support for or against the hypotheses. These variables were infrequently significant and their signs oscillated between plus and minus. These results, while disappointing, are typical for formulations of this nature. More sophisticated conceptual frameworks are needed to shed light on the role of personality traits in behavioral studies.[1]

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[1]W. Tucker, Foundations for a Theory of Consumer Behavior (New York: Holt, Rinehart and Winston, 1967), p. 138.

...[1]continued

The proportion of variance explained by some of the models is as large as 20%. This amount of explanation is very encouraging when compared with similar studies directed at predicting brand loyalty or brand buying behavior especially since no elaborate transgenerations were experimented with in search of possible findings.

The Specific Selectivity Hypotheses

Tables 7-5 through 7-19 report the specific selectivity findings. The dependent variables in these regressions are the selectivity indices derived for each content section in both the rigorous and relaxed content classification schemes. The independent variables are selected from the opinion measures, leisure interests, demogaphics, and purchase and product use data. The fifteen sets of regressions are discussed in the next sections and followed by a summary.

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[1]...continued from last page

R. Brody and S. Cunningham, "Personality Variables and Consumer Decision Process," Journal of Marketing Research, V (1968), pp.50-57.

D. Sparks and W. Tucker, "A Multivariate Analysis of Personality and Product Use," Journal of Marketing Research, VIII (1971), pp. 67-70.

J. Fry, "Personality Variables and Cigarette Brand Choice," Journal of Marketing Research, VIII (1971), pp. 298-304.

H. Kassarjian, "Personality and Consumer Behavior: A Review," Journal of Marketing Research, VIII (1971), pp. 409-418.

Regression Results for Specific Selectivity in the Business and Finance Section (Table 7-5).

	Independent Variable	Variable Symbols	Hypothesized Signs
1.	Sex	SX	-
2.	Income	$	+
3.	Education	ED	+

Regression results are available for Panels A and B. All signs for both the mild and significant evidence are correct with sex as the most important variable. Income, however, is significant only once and education does not achieve significance at all. The multiple R^2's for these models are quite large even after correction for shrinkage, ranging from a high of 56% to a low of 18%. The best models contain sex as the only significant variable.

Regression Results for Specific Selectivity in the Government Section (Table 7-6).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Sex	SX	-
2.	Income	$	+
3.	Education	ED	+

Table 7-3

Regression Results For Specific Selectivity In The Business and Finance Section

Subsample Characteristics					Beta and Regression	Coefficients and t-values[b]		
Original Panel	Classification Scheme	χ^2 Test	Sample Size	R^2 [a] F-Prob	Variable Names / Hypothesized Signs	SX −	$ +	KD +
A	Relaxed	Liberal	119	.27 .000	Beta β t	−.54 −.17 6.80	(+)	(+)
	Relaxed	Conservative	53	.56 .000	Beta β t	−.77 −.32 8.48		(+)
	Rigorous	Liberal	89	.41 .000	Beta β t	−.65 −.27 7.95		(+)
	Rigorous	Conservative	41	.56 .000	Beta β t	−.78 −.38 7.39		(+)
B	Relaxed	Liberal	141	.24 .000	Beta β t	−.46 −.13 6.30	0.12 0.01 1.86	(+)
	Relaxed	Conservative	72	.18 .000	Beta β t	−.43 −.13 4.17	(+)	(+)
	Rigorous	Liberal	110	.24 .000	Beta β t	−.50 −.17 5.97	(+)	(+)
	Rigorous	Conservative	68	.26 .000	Beta β t	−.67 −.20 5.41	(+)	(+)

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

Table 7-6

Regression Results For Specific Selectivity In The Government Section

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: χ^2 Test	Subsample Characteristics: Sample Size	R^2 [a] F-Prob	Beta and Regression: Variable Names / Hypothesized Signs	Coefficients and t-values[b]: SX (−)	$ (+)	ED (+)
A	Relaxed	Liberal	119	.04 .007	Beta β t	−.24 −.05 2.77	(+)	(+)
	Relaxed	Conservative	53	.01 .088	Beta β t	(−)		0.55 0.20 1.72
	Rigorous	Liberal	89	.06 .006	Beta β t	−.27 −.08 2.80	(+)	(+)
	Rigorous	Conservative	41	.08 .020	Beta β t	−.35 −.10 2.40	(+)	(+)
B	Relaxed	Liberal	141	.14 .000	Beta β t	−.35 −.07 4.35	−.16 −.01 2.73	
	Relaxed	Conservative	72	.07 .007	Beta β t	−.33 −.06 2.78	(−)	
	Rigorous	Liberal	110	.09 .002	Beta β t	−.03 −.08 3.25	−.23 −.02 2.26	(−)
	Rigorous	Conservative	68	.06 .014	Beta β t	−.27 −.07 2.50	(−)	
C	Relaxed	Liberal	126	.05 .004	Beta β t	−.26 −.07 2.99	(−)	(+)
	Relaxed	Conservative	66	.03 .052	Beta β t	−.24 −.07 1.96	(−)	(+)

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

Only 10 regressions are available due to missing data in the rigorous classification of Panel C. Sex and education offer almost unanimous support with sex being the most important variable. It is significant in every regression save one and always has the predicted sign. Similarly, education has the correct sign on all but one occasion but it is only significant once. In contrast, income has inconclusive results due to sign changes but the majority of the evidence is against the proposed hypotheses. For these results the multiple coefficients of determination are in the range of 14% to 1% after correction. The best model contains the terms sex and income but income is of the wrong sign.

Regression Results for Specific Selectivity in the Women's World Section (Table 7-7).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Hobbies	HOB	+
2.	Sex	SX	+
3.	Income	$	-
4.	Education	ED	-

The six regressions for the relaxed classification in each panel are available. Support for the hypotheses is virtually unanimous and, again, sex is the most important variable. It is significant in all runs and has the correct sign on each occasion.

Table 7-7

Regression Results For Specific Selectivity In The Women's Section

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: X^2 Test	Subsample Characteristics: Sample Size	R^2 [a] F-Prob	Beta and Regression: Variable Names / Hypothesized Signs	Coefficients and t-values [b]: HOB (+)	SX (+)	$ (-)	ED (-)
A	Relaxed	Liberal	119	.47 .000	Beta β t	0.15 0.06 2.08	0.61 0.24 7.61	-.10 -.01 1.79	(+)
	Relaxed	Conservative	53	.73 .000	Beta β t	(+)	0.87 0.36 10.00		(+)
B	Relaxed	Liberal	141	.59 .000	Beta β t	0.12 0.16 1.70	0.69 0.25 9.90		(-)
	Relaxed	Conservative	72	.65 .000	Beta β t	0.37 0.16 4.08	0.50 0.20 5.36		
C	Relaxed	Liberal	126	.48 .000	Beta β t	0.37 0.15 4.90	0.42 0.16 5.86	-.10 -.01 2.17	-.17 -.03 2.21
	Relaxed	Conservative	66	.51 .000	Beta β t	0.20 0.09 2.14	0.56 0.22 5.72	(-)	-.21 -.04 2.36

[a] Corrected for shrinkage.

[b] Significant at the 5% level, one-tail.

Similarly, hobbies is significant five of six times and has the predicted sign in all runs. Income and education are each significant twice and have further mild evidence in support of the hypotheses. Education has two nonsignificant results of the incorrect sign. The coefficients of multiple determination are large for these models. They range from 73% to 47%. The best model contains the single significant variable, sex.

Regression Results for Specific Selectivity in the Sports Section (Table 7-8).

	Independent Variable	Variable Symbols	Hypothesized Signs
1.	Sports	SPRT	+
2.	Sex	SX	-

Eight regressions are available giving unanimous support for the hypotheses. Both variables are significant and of the correct sign in reach regression. Sex is the more important variable but only by a small margin. The multiple R^2 in these models ranges from 62% to 38% after correction for shrinkage.

Regression Results for Specific Selectivity in the Furniture and Appliance Advertising Section (Table 7-9).

Table 7-8

Regression Results For Specific Selectivity In The Sports Section

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: χ^2 Test	Subsample Characteristics: Sample Size	R^2 [a] F-Prob	Beta and Regression Coefficients and t-values [b]: Variable Names / Hypothesized Signs	SPRT +	SX -
A	Relaxed	Liberal	119	.58 .000	Beta β t	0.44 0.22 6.84	-.48 -.17 7.59
	Relaxed	Conservative	53	.45 .000	Beta β t	0.21 0.11 1.85	-.58 -.19 5.26
B	Relaxed	Liberal	141	.49 .000	Beta β t	0.27 0.13 4.17	-.56 -.18 8.39
	Relaxed	Conservative	72	.59 .000	Beta β t	0.32 0.18 3.87	-.58 -.22 7.28
	Rigorous	Liberal	110	.49 .000	Beta β t	0.24 0.14 3.63	-.27 -.23 7.54
	Rigorous	Conservative	68	.62 .000	Beta β t	0.31 0.19 3.62	-.59 -.27 6.94
C	Relaxed	Liberal	126	.42 .000	Beta β t	0.25 0.13 3.57	-.53 -.19 7.54
	Relaxed	Conservative	66	.38 .000	Beta β t	0.27 0.16 2.68	-.48 -.18 4.89

[a] Corrected for shrinkage.

[b] Significant at the 5% level, one-tail.

Table 7-9

Regression Results For Specific Selectivity In The Furniture and Appliance Advertising Section

Subsample Characteristics					Beta and Regression	Coefficients and t-values[b]		
Original Panel	Classification Scheme	χ^2 Test	Sample Size	R^2 [a] F-Prob	Variable Names / Hypothesized Signs	HAP +	FABI +	SX +
A	Relaxed	Liberal	119	.34 .000	Beta β t	-.14 -.12 1.76	0.16 0.06 2.29	0.52 0.14 7.08
	Relaxed	Conservative	53	.53 .000	Beta β t	(-)	0.26 0.11 2.89	0.67 0.22 7.65
	Rigorous	Liberal	89	.42 .000	Beta β t	(-)	0.17 0.08 2.16	0.60 0.20 7.65
	Rigorous	Conservative	41	.52 .000	Beta β t	(-)	0.24 0.11 2.24	0.69 0.26 6.17
B	Relaxed	Liberal	141	.26 .000	Beta β t	0.18 0.14 2.62	-.14 -.05 1.82	0.45 0.10 6.29
	Relaxed	Conservative	72	.27 .000	Beta β t	0.19 0.21 2.45	(-)	0.50 0.13 4.95
	Rigorous	Liberal	110	.49 .000	Beta β t	(+)	(-)	0.70 0.21 10.00
	Rigorous	Conservative	68	.27 .000	Beta β t	(+)	(-)	0.76 0.26 9.85
C	Relaxed	Liberal	126	.19 .000	Beta β t	(-)	(+)	0.45 0.09 5.61
	Relaxed	Conservative	66	.18 .000	Beta β t		(-)	0.44 0.11 4.15
	Rigorous	Liberal	68	.27 .000	Beta β t	(-)	(-)	0.56 0.17 5.14
	Rigorous	Conservative	25	.14 .020	Beta β t	(-)		0.46 0.20 2.49

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Household Appliance Purchases	HAP	+
2.	Furniture and Appliance Buying Intentions	FABI	+
3.	Sex	SX	+

With the exception of sex, the regression results for all 12 models in this section are inconclusive. The furniture and appliance buying intentions scale and the household appliances purchase scale show no consistency in the results. Even though the majority of significant terms support the hypotheses, there are also significant terms of the wrong sign. Sign changes appear in the mild evidence as well. Sex is significant and supports its hypotheses in all regressions. The percentage of variance explained by these models ranges from 58% to 14% with the best model containing sex as the only significant variable.

Regression Results for Specific Selectivity in the Grocery Advertising Section (Table 7-10).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Grocery Purchases	GP	+
2.	Sex	SX	+

The eight available regressions present virtually unanimous support for the hypotheses concerning grocery advertising. Sex is

Table 7-10

Regression Results For Specific Selectivity In The Grocery Advertising Section

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: χ^2 Test	Subsample Characteristics: Sample Size	R^2 [a] F-Prob	Beta and Regression: Variable Names / Hypothesized Signs	Coefficients and t-values [b]: GP +	Coefficients and t-values [b]: SX +
A	Relaxed	Liberal	119	.30 .000	Beta β t		0.59 0.16 7.22
	Relaxed	Conservative	53	.47 .000	Beta β t	(+)	0.69 0.24 6.85
	Rigorous	Liberal	89	.23 .000	Beta β t	(+)	0.48 0.16 5.27
	Rigorous	Conservative	41	.42 .000	Beta β t	(+)	0.64 0.27 5.39
C	Relaxed	Liberal	126	.03 .021	Beta β t	(+)	0.18 0.04 2.31
	Relaxed	Conservative	66	.00 .000	Beta β t	(+)	(+)
	Rigorous	Liberal	68	.00 .000	Beta β t	(+)	(-)
	Rigorous	Conservative	25	.00 .000	Beta β t	(+)	(+)

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

the more important variable and is significant in five of the eight regressions. Two of the nonsignificant results have the correct sign, one the incorrect sign. On the other hand, the grocery purchase variable is never significant but has mild supporting evidence in all but one regression. The multiple R^2 for these results ranges from 47% to 3% and the best model contains only the variable sex.

Regression Results for Specific Selectivity in the Movie Advertising Section (Table 7-11).

	Independent Variables	Variables Symbols	Hypothesized Signs
1.	Education	ED	-
2.	Movie Attendance	M-AT	+

Four regressions for the relaxed classifications in Panels B and C are available. The movie attendance score strongly supports the proposed hypothesis and is significant on three of the four occasions. In contrast, education completely refutes its hypothesis. This variable is significant in only one run. The percentage of variance explained by these models ranges from 14% to 6%. The best equation contains both terms which are of approximately equal weight.

Table 7-11

Regression Results For Specific Selectivity in the Movie Advertising Section

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: χ^2 Test	Subsample Characteristics: Sample Size	R^2 [a] F-Prob	Beta and Regression: Variable Names / Hypothesized Signs	Coefficients and t-values [b]: ED -	Coefficients and t-values [b]: M-AT +
B	Relaxed	Liberal	141	.06 .002	Beta β t	(+)	0.27 0.06 3.12
	Relaxed	Conservative	72	.00 .000	Beta β t	(+)	(+)
C	Relaxed	Liberal	126	.10 .000	Beta β t	(+)	0.32 0.06 3.95
	Relaxed	Conservative	66	.14 .007	Beta β t	0.26 0.04 1.98	0.31 0.05 2.44

[a] Corrected for shrinkage.

[b] Significant at the 5% level, one-tail.

Regression Results for Specific Selectivity in the Liquor Advertising Section (Table 7-12).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Sex	SX	-
2.	Liquor Usage	L/U	+

The eight regressions give complete support for the hypothesized relationships. Sex is significant in three runs and gives mild evidence in another four. The liquor use variable is available in only four of the eight runs but it is significant in two and gives mild evidence in two. The multiple coefficients of determination range from 28% to 2% in this case and the best model contains both variables with sex being the more important one.

Regression Results for Specific Selectivity in the Tobacco Advertising Section (Table 7-13).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Cigarette and Cigar Purchases	CCP	+
2.	Sex	SX	-
3.	Cigarette Usage	S/U	+
4.	Cigar Usage	C/U	+

Table 7-12

. Regression Results For Specific Selectivity In The Liquor Advertising Section

Subsample Characteristics					Beta and Regression	Coefficients and t-values[b]	
Original Panel	Classification Scheme	X^2 Test	Sample Size	R^2 [a] F-Prob	Variable Names / Hypothesized Signs	SX -	L/U +
A	Relaxed	Liberal	119	.13 .000	Beta β t	-.27 -.04 3.44	0.17 0.03 1.98
	Relaxed	Conservative	53	.28 .000	Beta β t	-.46 -.07 3.53	0.25 0.04 2.14
B	Relaxed	Liberal	141	.00 .000	Beta β t	(-)	(+)
	Relaxed	Conservative	72	.00 .000	Beta β t	(-)	(+)
C	Relaxed	Liberal	126	.02 .050	Beta β t	-.14 -.02 1.96	N.A.[c]
	Relaxed	Conservative	66	.00 .000	Beta β t		
	Rigorous	Liberal	68	.00 .000	Beta β t	(-)	
	Rigorous	Conservative	25	.00 .000	Beta β t	(-)	

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.
[c] This variable not available for panel C.

Table 7-13

Regression Results For Specific Selectivity In The Tobacco Advertising Sections

Subsample Characteristics					Beta and Regression	Coefficients and t-values[b]			
Original Panel	Classification Scheme	X^2 Test	Sample Size	R^2 [a] F-Prob	Variable Names / Hypothesized Signs	CCP +	SX -	C/U +	G/U +
A	Rigorous	Liberal	89	.03 .024	Beta β t	(+)	(-)	(+)	0.25 0.06 2.26
	Rigorous	Conservative	41	.00 .000	Beta β t	(+)	(-)	(-)	(+)

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

The two regressions available from Panel A for this section show good support for the hypotheses.[1] The cigarette and cigar purchase data and the sex data support the proposed relationship although they are never significant. Similarly, the cigar usage variable supports its hypothesis and is significant once. The cigarette usage variable, on the other hand, gives inconclusive results. The coefficient of multiple determination is small, .03, but significant.

Regression Results for Specific Selectivity in the Cigar Advertising Section (Table 7-14).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Cigarette and Cigar Purchases	CCP	+
2.	Sex	SX	-
3.	Cigar Usage	G/U	+

Two regressions for the relaxed classification in Panel A are available. Two of the three variables used in the model lend good support to the hypotheses. Sex and cigar usage are both

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[1] In the rigorous content classification scheme the cigar advertising and the cigarette advertising sections were aggregated to minimize the number of small sections in the classification results; see p. 92.

Table 7-14

Regression Results For Specific Selectivity In The Cigar Advertising Section

Subsample Characteristics				R^2 [a]	Beta and Regression	Coefficients and t-values[b]		
Original Panel	Classification Scheme	χ^2 Test	Sample Size	F-Prob	Variable Names	CCP	SX	G/U
					Hypothesized Signs	+	-	+
A	Relaxed	Liberal	119	.12	Beta	(-)	-.21	0.22
				.000	β		-.04	0.06
					t		2.16	1.97
	Relaxed	Conservative	53	.24	Beta	(-)	-.32	0.30
				.000	β		-.07	0.11
					t		2.35	2.25

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

significant and of the correct signs while the cigarette and cigar purchase scale gives mild evidence of the wrong sign. The two multiples R^2's are 24% and 12% and each model contains sex and cigar usage with the variables having approximately equal importance.

Regression Results for Specific Selectivity in the Cigarette Advertising Section (Table 7-15).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Cigarette and Cigar Purchases	CCP	+
2.	Cigarette Usage	C/U	+

The results of the two regressions support the hypotheses although there is only one significant coefficient. The cigarette and cigar purchase score supports a single nonsignificant result while cigarette use supports one significant and one nonsignificant result. The proportion of variance explained is quite small, 4%, but significant.

Regression Results for Specific Selectivity in the Women's Clothing and Jewelery Advertising Section (Table 7-16).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Women's Clothing Purchases	WCP	+
2.	Sex	SX	+

Table 7-15

Regression Results For Specific Selectivity In The Cigarette Advertising Section

Subsample Characteristics					Beta and Regression	Coefficients and t-values[b]	
Original Panel	Classification Scheme	χ^2 Test	Sample Size	R^2 [a] F-Prob	Variable Names / Hypothesized Signs	CCP +	C/U +
A	Relaxed	Liberal	119	.04 .017	Beta β t		0.25 0.04 2.40
	Relaxed	Conservative	53	.00 .000	Beta β t	(+)	(+)

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

Table 7-16

Regression Results For Specific Selectivity In The Women's Clothing and Jewelery Advertising Section

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: χ^2 Test	Subsample Characteristics: Sample Size	R^2 [a] F-Prob	Beta and Regression: Variable Names / Hypothesized Signs	Coefficients and t-values[b]: WCP +	Coefficients and t-values[b]: SX +
A	Relaxed	Liberal	119	.42 .00	Beta β t		0.63 0.21 9.17
	Relaxed	Conservative	53	.60 .000	Beta β t	(+)	0.78 0.29 8.88
	Rigorous	Liberal	89	.30 .000	Beta β t	(+)	0.55 0.15 6.19
	Rigorous	Conservative	41	.34 .000	Beta β t	(+)	0.58 0.18 4.64
B	Relaxed	Liberal	141	.47 .000	Beta β t	0.14 0.07 2.18	0.64 0.18 9.91
	Relaxed	Conservative	72	.56 .000	Beta β t	0.19 0.11 2.41	0.68 0.23 8.60
	Rigorous	Liberal	110	.54 .000	Beta β t	0.13 0.08 1.89	0.69 0.22 10.00
	Rigorous	Conservative	68	.62 .000	Beta β t	0.13 0.09 1.66	0.74 0.28 9.51
C	Relaxed	Liberal	126	.47 .000	Beta β t	0.12 0.06 1.67	0.62 0.20 9.03
	Relaxed	Conservative	66	.53 .000	Beta β t	(+)	0.72 0.27 8.74
	Rigorous	Liberal	68	.57 .000	Beta β t	0.18 0.11 2.11	0.72 0.28 8.33
	Rigorous	Conservative	25	.62 .000	Beta β t	(+)	0.78 0.36 6.44

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

All 12 regressions offer unanimous and strong support for the hypothesized relationships. Sex is significant in all twelve regressions and women's clothing purchases is significant in six equations and offers mild support in five more. The multiple coefficient of determination for these models range from .62 to .30 with two different models offering similar high explanation percentages. One model contains both terms with sex as the more important while the other contains only sex.

Regression Results for Specific Selectivity in the Men's Clothing and Jewelery Advertising Section (Table 7-17).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Men's Clothing Purchases	MCP	+
2.	Sex	SX	-

Relaxed classification results are available for each panel in this section — six regressions in all. The men's clothing purchase data supports the predicted relationship in all of the regressions. It is significant once. However, the sex variable completely refutes the proposed hypothesis. According to these results, women — not men — tend to read the men's clothing advertisements. The sex variable is significant and of the wrong sign in all of the equations. The percentage of variance explained in these results is from a high of 23% to a low of 4%. The best

Table 7-17

Regression Results For Specific Selectivity In The Men's Clothing And Jewelery Advertising Section

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: X^2 Test	Subsample Characteristics: Sample Size	R^2 [a] / F-Prob	Beta and Regression: Variable Names / Hypothesized Signs	Coefficients and t-values [b]: MCP +	Coefficients and t-values [b]: SX -
A	Relaxed	Liberal	119	.16 .000	Beta β t	(+)	0.40 0.10 4.80
	Relaxed	Conservative	53	.23 .000	Beta β t	(+)	0.46 0.14 4.05
B	Relaxed	Liberal	141	.05 .018	Beta β t	0.14 0.07 1.79	0.21 0.05 2.42
	Relaxed	Conservative	72	.04 .066	Beta β t	(+)	0.23 0.06 1.85
C	Relaxed	Liberal	126	.08 .001	Beta β t	(+)	0.31 0.08 3.52
	Relaxed	Conservative	66	.07 .018	Beta β t	(+)	0.27 0.08 2.42

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

equation contains both terms with sex the more important variable.

Regression Results for Specific Selectivity in the Automobiles and Accessory Advertising Section (Table 7-18).

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Automobile and Accessory Purchases	AAP	+
2.	Car buying intentions	CBI	+
3.	Sex	SX	-

In the 12 regressions for this section, the sex and automobile and accessory purchase scores offer consistent support for the hypothesized relationships. Sex is significant in every equation and although the purchase score offers mild support in nine of the twelve possible regressions, it is never significant. In contrast, the car buying intention score does not provide any conclusive evidence concerning its hypothesis. The variable is never significant and its sign swings between plus and minus. The coefficients of multiple determination range from 46% to 8% for these results with the best equation containing sex as the only significant variable.

Regression Results for Specific Selectivity in the Classified Advertisements (Table 7-19).

Table 7-18

Regression Results For Specific Selectivity In The Automobile And Accessory Advertising Section

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: X^2 Test	Subsample Characteristics: Sample Size	R^2 [a] F-Prob	Beta and Regression: Variable Names / Hypothesized Signs	Coefficients and t-values[b]: AAP (+)	CBI (+)	SX (-)
A	Relaxed	Liberal	119	.23 .000	Beta β t		(-)	-.48 -.08 6.01
	Relaxed	Conservative	53	.23 .000	Beta β t		(-)	-.46 -.10 4.18
	Rigorous	Liberal	89	.09 .002	Beta β t		(-)	-.34 -.07 3.25
	Rigorous	Conservative	41	.08 .020	Beta β t	(+)	(-)	-.35 -.10 2.41
B	Relaxed	Liberal	141	.21 .000	Beta β t	(+)	(+)	-.45 -.10 6.22
	Relaxed	Conservative	72	.29 .000	Beta β t	(+)	(+)	-.58 -.15 5.57
	Rigorous	Liberal	110	.15 .000	Beta β t	(+)	(+)	-.37 -.11 4.69
	Rigorous	Conservative	68	.20 .000	Beta β t	(+)	(+)	-.47 -.14 4.31
C	Relaxed	Liberal	126	.22 .000	Beta β t	(+)	(-)	-.45 -.09 6.04
	Relaxed	Conservative	66	.28 .000	Beta β t	(+)	(-)	-.52 -.13 5.30
	Rigorous	Liberal	68	.46 .000	Beta β t	(+)		-.71 -.23 7.78
	Rigorous	Conservative	25	.26 .003	Beta β t	(+)	(-)	-.61 -.23 3.32

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

Table 7-19

Regression Results for Specific Selectivity In The Classified Advertising Section

Original Panel	Subsample Characteristics: Classification Scheme	Subsample Characteristics: χ^2 Test	Subsample Characteristics: Sample Size	R^2 [a] F-Prob	Beta and Regression Variable Names / Hypothesized Signs	Coefficients and t-values [b]: FABI +	CBI +	HAP +	AAP +
C	Relaxed	Liberal	126	.00 .000	Beta β t	(-)	(-)	(+)	(+)
	Relaxed	Conservative	66	.00 .000	Beta β t	(+)	(-)		(+)
	Rigorous	Liberal	68	.00 .000	Beta β t	(+)	(+)		(+)
	Rigorous	Conservative	25	.00 .000	Beta β t	(-)	(+)		(+)

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

	Independent Variables	Variable Symbols	Hypothesized Signs
1.	Furniture and Appliance Buying Intentions	ABI	+
2.	Car Buying Intentions	CBI	+
3.	Household Appliance Purchases	HAP	+
4.	Automobile and Accessory Purchases	AAP	+

The four regression results for Panel C are available and offer moderate support for the proposed relationships. No significant results are present, but the household appliance purchase score and the automobile and accessory purchase score show consistent mild support for the hypotheses. On the other hand, the furniture and appliance buying intentions score and the car buying intentions score show no conclusive evidence for or against the hypotheses. These variables have two signs of each type. All the coefficients of multiple determination are, of course, zero.

Summary of the Specific Selectivity Findings

Overall, the regression results offer considerable support for the hypotheses as proposed. The majority of the independent variables show consistent and strong evidence in the equations to which they contribute. No startling, counter-intuitive results are uncovered that defy explanation and contaminate the results. The only disap-

pointing feature of the analysis is the relative importance of the more obvious associations when it was hoped that some subtle relationships might show through. Sex, for example, frequently overwhelmed any other variables in a three- or four-term equation.

A summary statement covering 104 regressions for 15 dependent and 18 independent variables is necessarily oversimplified. Some of the results would not suffer at all if a single equation were substituted for a complete table, others would lose their entire character from any attempt to collapse the findings.

The results in the nonadvertising sections — business and finance, government, women's world, and sports — are particularly strong. Although sex (SX) is by far the most important variable, the hobbies (HOB) score is strongly significant in the women's world section as is the sporting interest (SPRT) score in the sports section. On the other hand, income ($) and education (ED) are less important in these equations and are less often significant.

The advertising sections also show good support for the proposed hypotheses. Sex again is the key discriminator — almost always significant and of the right sign. The buying intentions data, however, are somewhat weaker in their support of selective advertising reading; this weakness is consistent with the difficulties encountered by Katona in similar studies focusing on

buying expectations.[1] Product usage and purchase history lend stronger and more consistent support to selective advertising reading, which gives general confirmation in the direction of Festinger's cognitive dissonance theory.[2] The few remaining variables were neither significant nor consistent in their relationship to advertising reading. In all, these results are very encouraging and they strongly reinforce the notion of predispositional influence in the selection of newspaper information.

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[1]G. Katona, The Powerful Consumer (New York: McGraw-Hill Book Company, 1960), pp. 54-67.

J. Howard, Marketing Theory (Boston: Allyn and Bacon, 1965), pp. 85-93.

G. Katona, The Mass Consumption Society (New York: McGraw-Hill Book Company, 1964), pp. 71-97.

[2]Festinger, pp. 123-176.

Howard, pp. 142-145.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

The theoretical and empirical aspects of the study are here summarized along with a consideration of the practical importance of the findings and a discussion of the implications for further research.

The Principal Research Hypothesis

The primary objective of this study was to determine whether or not newspaper readers demonstrate systematic patterns of choice and avoidance in the information they select from the daily newspaper. Since the research concerning the selective mental processes is considered important in the formation of communications audiences, it has served as a theoretical base for this study. The findings to date generally conclude that most communications audiences over-represent persons having favorable predispositions towards the information being presented, and under-represent persons with unfavorable predispositions. The relative degree of over-representation or under-representation of different audience segments is

accepted as the manifestation of selectivity. Since selectivity is an intervening variable, not directly observable, its existence must be inferred from a surrogate behavioral measure.

The principal hypothesis reflected these factors. It proposed that a reader demonstrates systematic patterns in the information he reads from the newspaper. The operational testing criterion was whether the individual's reading pattern significantly departed from the pattern that might be expected on a chance basis. A probability model established the expected reading distribution which was then compared with the observed reading distribution. The distributions were based on a content analysis procedure that allocated each quarter newspaper page to an exhaustive content classification scheme. The algebraic difference between an individual's observed reading level and expected reading level in any given newspaper section constituted the necessary surrogate measure for selectivity.

The surrogate measure in this form was of little value as its sampling distribution was unknown; however, a simple algebraic operation allowed this measure to be mapped into a statistic known to have a Chi-square sampling distribution. It was then possible to implement a goodness-of-fit test using the hypothesis that each reader was nonselective. A reader was accepted as selective if, and only if, the sample estimate of the statistic allowed rejection of the null hypothesis.

The detail of the theoretical background for the principal hypothesis was taken from the communications literature and the research on perceptual psychology and memory responses, both of which contained evidence supporting the existence of selectivity and identifying the causal role of the selective forces or predispositions. The findings from these areas were organized in terms of three processes: the intake, storage, and recall of information. In each process, the selective forces were cast in the role of causal influences: positive predispositions were reasoned to support acceptance of information; negative predispositions to cause rejection of information. Refinements, based on the theory of assimilation and contrast, were added to provide for varying degrees of alignment between the predispositions and the material under consideration and also to allow for predispositions of varying strengths.

The general theoretical development was summarized in a model of information consumption subsequently made specific to newspaper reading. The specific analysis converted each general theory process into a newspaper reading activity and from this specific analysis the principal research hypothesis was stated.

Testing the Principal Hypothesis. The tests of the principal hypothesis were executed from the main data matrix for each newspaper reader. Among other things, the main data matrix contained

the observed and expected reading distributions from which the surrogate measure for selectivity was derived.

For each respondent, there were, in fact, two main data matrices: one based on the rigorous content classification scheme, the other on the relaxed scheme. It was found that the matrices had many small values in the expected reading distributions and this condition strained the underlying assumptions of the goodness-of-fit test. However, it was found that only minor errors were introduced into the findings when the test was implemented with all expectations greater than 2.0 and with the two exceptions as small as unity, the errors in the results were still tolerable. Both versions of the test were employed; the first was referred to as the conservative test and the second as the liberal test. Restrictions were put on the minimum usable level of the readership index in order to meet the criteria on small expectations. Readers not meeting these requirements were, in the interests of conservatism, automatically deemed nonselective. A summary of the results of the principal hypothesis tests is shown in Table 8-1.

The number of testable readers was larger for the liberal test than for the conservative test because smaller expectations were permitted in the liberal configuration. The relaxed content classification scheme provided more testable readers than the rigorous scheme due to the addition of new content sections and the

Table 8-1

Summary Of The Principal Hypothesis Testing Results

Content Classification Scheme	Nature of χ^2 Test	Number of Testable Readers	Number of Readers Deemed Selective	Percentage of Readers Deemed Selective
Relaxed	Liberal	911	685	75%
	Conservative	451	341	76%
Rigorous	Liberal	725	464	64%
	Conservative	402	227	57%

increased number of classifiable quarters in old sections. A large proportion of the testable readers supported the selective reading hypothesis and in each case this proportion proved to be significantly higher than could be expected by chance. The readers deemed selective constituted the sample subsets for the investigation of the secondary research hypotheses.

Conclusions Concerning the Principal Research Hypothesis. The principal hypothesis tests established that a large number of the studied London Free Press readers had reading patterns significantly different from the patterns that might be expected on the basis of random reading. Readers in this number were deemed selective readers; others were deemed nonselective. Furthermore, the number of readers deemed selective was significantly greater than the number that could be expected on a chance basis if the studied group were a nonselective group.

These conclusions were supported for each classification scheme and testing method implemented, in spite of the fact that many readers deemed nonselective were so specified not on the basis of research evidence but on the basis of limitations in the testing procedure. Therefore, in practical terms, within the scope of the definitions used in this study, this means that the frequency of occurrence of selective reading patterns among the studied London

Free Press readers makes it highly improbable that the studied readers constitute a sample of nonselective readers.

The Secondary Research Hypotheses

From the research on perceptual psychology and memory responses the selective forces or predispositions were identified as causal factors in the operation of the selective mental processes. The background theory incorporated a number of factors into the concept of predispositions; these factors included: needs, instincts, drives, feelings, moods, attitudes, interests, intentions, and preferences. For the secondary hypotheses a set of scales was selected from these factors to serve as the independent variables in multiple regression analyses designed to investigate the causal role of the predispositions in selectivity. The independent variable scales included a group of personal attribute measures and demographic characteristics chosen on the basis of previous research evidence, availability, and intuitive appeal.

The dependent variables in the regression analyses were measures of selectivity in newspaper reading. These dependent values were based on the surrogate measure for selectivity as given by the algebraic difference between an individual's observed reading level and expected reading level for any newspaper section. To make these values comparable from reader to reader and from section

to section the surrogate measure was normalized through division by the maximum range of the algebraic deviation. It was proven that this range was a function of the possible reading level in the particular section under consideration and the total possible reading level across all sections. The dependent values so generated were referred to as the selectivity indices and each reader had a selectivity index for each newspaper section.

A second type of dependent variable was developed by aggregating the absolute values of three specific groups of selectivity indices. The aggregation groups consisted of the advertising sections, the nonadvertising sections, and the total newspaper contents. The dependent variable measures developed by this aggregation process were referred to as the general selectivity measures because they covered more than one specific type of newspaper section. The selectivity indices were referred to as the specific selectivity measures.

Linear models were formulated to investigate the relationships between the predispositional independent variables and the selectivity related dependent variables. The linear models took the general form

$$C = \alpha + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n$$

Where C = the dependent variable measure of selectivity, either specific or general

X_1 to X_n = the independent variables hypothesized to relate to the selectivity measures

α, β_1 to β_n = the population parameters to be estimated from the sample information

e = the stochastic error term.

Least squares regression was used to estimate the model coefficients. This formulation was chosen since it facilitated individual tests on each variable after the influence of the others had been accounted for and since it provided for assessing the contribution of the variables to the equation either singly or jointly.

Testing the Secondary Hypotheses. The tests of secondary hypotheses were accomplished through the significance results for the sample estimates of the model coefficients. In each case the null hypotheses were that the coefficient was zero and the alternative hypotheses were the appropriate one-tailed specification depending on the sign of the proposed relationship. A total of 136 regression models involving 18 dependent variables and 32 independents was run. The number of equations was large because there were sample subsets from three sample panels, a rigorous and relaxed content classification scheme, and a liberal and conservative

goodness-of-fit test. Thus, there were twelve possible regressions for each dependent variable. Tables 8-2, 8-3, and 8-4 show summary charts of the best regression results for general selectivity and specific selectivity as judged by the percentage of variance explained in the dependent variable.

For any given model the tables indicate the hypothesized sign of the variables proposed for the equation and the numerical value of the Beta coefficients for each variable that achieves significance at the 5% level, one-tail. In addition, the signs of the variables that fail to achieve significance but which hold their signs constant in both the bivariate and multivariate configurations are reported along with the sample size, the coefficient of multiple determination corrected for shrinkage, and the F significance probability for the overall regression.

In the general selectivity runs the newspaper evaluation variables were the most powerful and consistent components of the equations. These variables included the newspaper rating, the newspaper coverage score, the newspaper source score, the newspaper personality score and the advertising rating. The hypotheses for these variables were of the nature that higher evaluations of the newspaper would lead to less general selectivity in reading. It was reasoned that persons rating the newspaper highly would turn to the newspaper for more and greater varieties of information and thus

Table 8-2

Summary Regression Results For General Selectivity

Dependent Variable	Sample Size	R^2 [a] F-Prob	Independent Variable	Beta Coefficients[b]											
				Newspaper Rating	Newspaper Coverage	Newspaper Source	Newspaper Personality	Advertising Rating	Social Recognition	Cognitive Structure	Understanding	Manifest Anxiety	Self-confidence	Liberalism	Age
Nonadvertising Sections	61	.18 .000	Hypothesized Sign	-	-	-	-		+	-	-	+	-	-	-
			Results		(-)	-.42	(-)		-.22		(-)	(+)	-.31	(-)	.26
Advertising Sections	61	.14 .000	Hypothesized Sign			-	-	-	+	-	-	+	-	-	-
			Results			-.21		-.26	(+)		-.26	(+)			(+)
Total Newspaper Contents	28	.15 .000	Hypothesized Sign			-	-		+	-	-	+	-	-	-
			Results			-.55	-.33		(+)	(-)		(+)	(+)		-.30

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

Table 8-3

Summary Regression Results For Specific Selectivity In The Nonadvertising Sections

Dependent Variable	Sample Size	R^2 [a] F-Prob	Independent Variable	Beta Coefficients[b] Sex	Income	Education	Sports	Hobbies
Business and Finance	41	.56 .000	Hypothesized Sign	-	+	+		
			Results	-.78		(+)		
Government	141	.14 .000	Hypothesized Sign	-	+	+		
			Results	-.35	-.16			
Women's World	53	.73	Hypothesized Sign	+	-	-		+
			Results	.87		(-)		(+)
Sports	68	.62 .000	Hypothesized Sign	-			+	
			Results	-.59			.31	

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

Table 8-4

Summary Regression Results For Specific Selectivity In The Advertising Sections

Dependent Variable	Sample Size	R^2 [a] F-Prob	Independent Variable	Beta Coefficients[b] Household appliance purchases	Furniture and appliance buying intentions	Sex	Grocery purchases	Education	Movie attendance	Liquor usage	Cigarette and cigar purchases	Cigarette usage	Cigar usage	Women's clothing purchases	Men's clothing purchases	Automobile and accessory purchases	Car buying intentions
Furniture and Appliances	68	.58 .000	Hypothesized Sign	+	+	+											
			Results	(+)	(-)	.76											
Groceries	53	.47 .000	Hypothesized Sign			+	+										
			Results			.69	(+)										
Movies	66	.14 .000	Hypothesized Sign					-	+								
			Results					.26	.31					--			
Liquor	53	.28 .000	Hypothesized Sign			-				+							
			Results			-.46				.25							
Tobacco Products	89	.03 .024	Hypothesized Sign			-					+	+	+				
			Results			(-)					(+)	(+)	.25				
Cigars	53	.24 .000	Hypothesized Sign			-					+		+				
			Results			-.32					(-)		.30				
Cigarettes	119	.04 .017	Hypothesized Sign								+	+					
			Results									.25					
Women's Clothing and Jewelery	68	.62 .000	Hypothesized Sign			+								+			
			Results			-.74								.13			
Men's Clothing and Jewelery	53	.23 .000	Hypothesized Sign			-									+		
			Results			.46									(+)		
Automobiles and Accessories	68	.46 .000	Hypothesized Sign			-										+	+
			Results			-.71										(+)	
Classified Advertisements	126	.00 .000	Hypothesized Sign	+	+											+	+
			Results														

[a] Corrected for shrinkage.
[b] Significant at the 5% level, one-tail.

would be less selective readers. Although the source variable was strongest in supporting these hypotheses (Table 8-2), the other variables offered virtually consistent support for them even though they were not as frequently significant.

The personality variables made almost no contribution to the general selectivity runs. These variables were infrequently significant and their signs oscillated between plus and minus. A few trends in opposition to this general situation were present but none was of great importance. The personality trait results must be accepted as inconclusive in this study possibly due to over-simplified formulations, inappropriate measures, or perhaps both.

The liberalism scale offered almost consistent support for a hypothesis that a more liberal outlook would be associated with less selective reading. Unfortunately, this variable was not often significant. The age variable soundly refuted the hypothesis that younger readers would be more selective readers. The strong support that appears in Table 8-2 did not generally occur.

The support for the specific selectivity hypotheses (Tables 8-3 and 8-4) was generally strong with the majority of the variables having the predicted sign. Unfortunately, the more obvious associations between selective reading and such variables as sex, income, and education accounted for a large percentage of the variance explained by any of the models when it was hoped that some

of the more subtle relationships would be stronger. The overall results, however, are very encouraging for a first attempt to assess the predispositional factors affecting newspaper reading.

Conclusions Concerning the Secondary Research Hypotheses. Within the constraints imposed by the selected subsamples of the studied London Free Press readers and the limited range of variables considered, the scope, consistency, and significance of the findings offer general support for the role of the selective forces or predispositions in influencing the choice of information from the newspaper. This evidence, combined with the selective reading results from the principal hypothesis tests, means that the investigated subsamples of the London Free Press readers studied cannot be considered as uniform groups of selective readers, all choosing the same types of newspaper information and rejecting other types. They must be considered as several different groups of selective readers, each group choosing different kinds of newspaper information to varying degrees depending on the influence of their predispositions. Each segment, in essence, forms an intra-newspaper audience segment for information of a specific type.

Generalization of the Findings

There are two important considerations with respect to the generalization of the findings. The first concerns the problem of

projecting the sample results back to the parent population, and the second concerns the extension of the work to other newspapers.

Projection of the Sample Results to the Parent Population. The parent population for this study was defined as all persons in the greater London area who lived in a home delivery zone for the newspaper and who were 15 years of age and older. Sampling from this population was accomplished through a two-stage, area-type, probability design.[1] Careful controls were instituted to maintain representativeness in the sample; multiple call-backs were insisted upon for not-at-homes and purposive substitution was not permitted in replacing nonrespondents.

From this base, it seems appropriate to employ the sample findings from the principal hypothesis tests in concluding that the parent population is not a nonselective population. This conclusion is based on the extremely small probability that the high proportion of sample readers deemed selective could have arisen by chance in a nonselective group. However, as is shown in the mathematical appendix at the end of this chapter, the sample proportion of selective readers cannot be used as an estimate of the population

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[1] Although the resulting sample was not probabilistic in the most rigorous sense of the word, the quality of the sample was very high and for all intents and purposes it can be considered to have a probability nature.

proportion because the expected value of the sample proportion is a biased estimator of the population proportion. It is important to note, though, that the mathematical appendix establishes that the sample proportion underestimates the population proportion and to that extent there is a conservative influence in the findings.

The projection of the secondary hypotheses results back to the parent population is a more uncertain procedure than the projections associated with the principal hypothesis. In conducting the secondary tests, only those sample readers deemed selective were eligible for testing and, within that set, only those readers who provided complete personal attribute data could be used. While there is no reason to expect systematic differences between the selective readers in the sample and the selective readers in the population, there may be systematic differences between selective readers who will provide extensive personal attribute information and those who will not. The possibility of these differences increases the risk in accepting the sample evidence as representative of the parent population. Within this limitation, the sample support for the proposition that the predispositions influence the selection of newspaper information is so pervasive that it seems justifiable to conclude that the selective readers in the parent population are influenced by their predispositions in the choice of newspaper information.

Extension of the Findings to Other Newspapers. The extension of the findings to other newspapers transcends the sample/population relationship and concerns the generalization of the hypotheses and the theory to the universe of daily newspapers. This generalization is important because the practical significance of the study centres on the modification of newspaper audience assessment procedures; the value of this modification would be questionable if the idea applied to only one newspaper.

The hypotheses tested in this study were based on a body of theory from the areas of perceptual psychology and memory responses. There is no apparent reason that the theoretical development cannot be considered as appropriate to any newspaper since its formulation does not rest on particular aspects of the newspaper studied. So too is the principal hypothesis directly transferable. The secondary hypotheses, on the other hand, are more closely bound to the London Free Press through the content classification schemes. For this reason, the direct transfer of the secondary hypotheses would require a close screening in terms of the content sections of another newspaper; however, conceptually there is no reason to doubt the extension of the secondary principle. In addition, the empirical support for the hypotheses reinforces a conviction that they are sound hypotheses; that they reflect the way that newspaper information is consumed and that they are based on an adequate body

of theory. Therefore, it seems reasonable to expect further supporting empirical evidence when replications of this work are carried out in other newspapers.

Practical Importance of the Research Findings

The practical significance of these findings lies in their impact on the area of newspaper audience assessment. The evidence of predispositionally based selective reading patterns in the newspaper identifies a conceptual error in the current procedures for measuring newspaper audiences. This error stems from the practice of viewing a newspaper reader as an exhaustive reader; that is, from the practice of viewing a reader who reads any part of the newspaper as a reader who reads the whole newspaper. It is on the basis of this viewpoint that the current procedures for assessing newspaper audiences erroneously report readers as members of the audience for portions of the newspaper that they did not read. This error results in inaccurate and inappropriate statements about newspaper audience statistics such as reach (duplicated audience), net reach (unduplicated audience), and average frequency of exposure, as well as in misconceptions about newspaper audience composition. To the extent that placing advertisements

before the right people is the essence of audience evaluation,[1] this error can lead to the inappropriate use of a medium. The following paragraphs comment in detail on a method of eliminating the errors from these measures.[2]

Newspaper Audience Measurement. Resolving the question of audience assessment under conditions of selective newspaper reading is a relatively complex matter. A selective readership matrix of the type shown in Figure 8-1 must be established from

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[1] P. Kotler, "Towards an Explicit Model for Media Selection," Journal of Advertising Research, IV (1964), pp. 34-41.

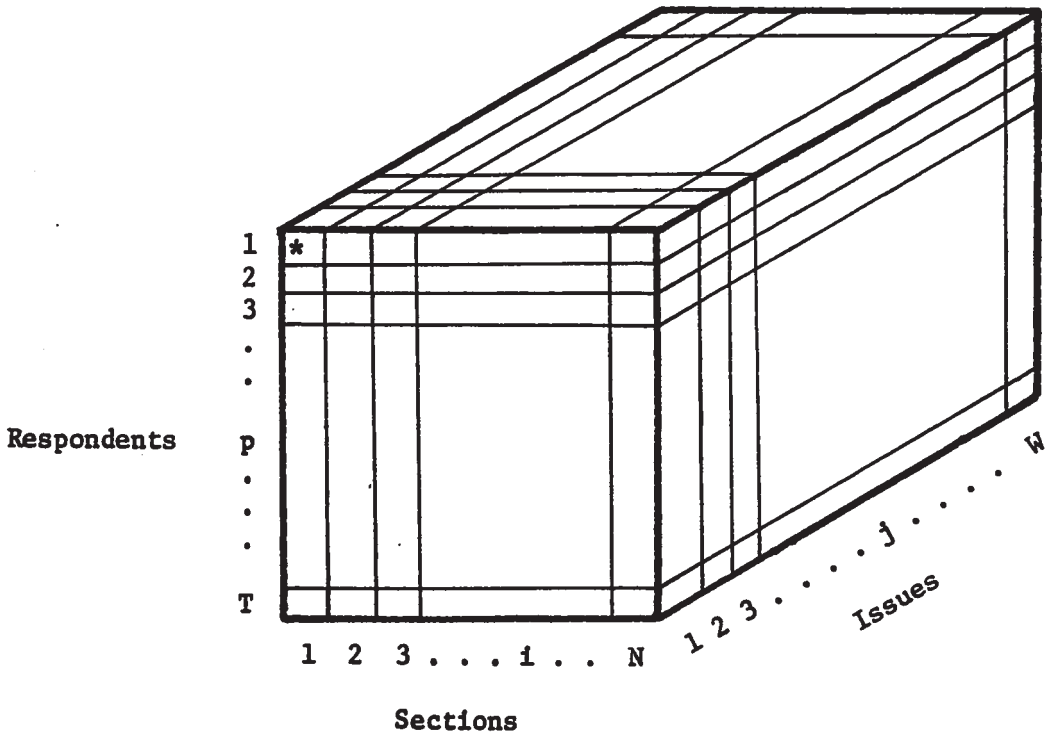
[2] The development of a method for correctly assessing newspaper audiences has an interesting parallel in the research of the "Agostini tradition". The "Agostini research" focused on the elimination of print media audience duplication errors that resulted from overlapping audience segments across multiple publications while this research focuses on the elimination of duplication errors resulting from overlapping audience segments within a publication.

J. Agostini, "How to Estimate Unduplicated Audiences," Journal of Advertising Research, I (1961), pp. 11-14.

P. Hoffmans, "Measuring the Cumulative Net Coverage of any Combination of Media," Journal of Marketing Research, III (1966), pp. 269-278.

J. Claycamp and C. McClelland, "Estimating Reach and the Magic of K," Journal of Advertising Research, VIII (1968), pp. 44-51.

Figure 8-1



* Each cell in the data block is filled with the appropriate RS_{ijp} = 1 or Ø. There are [(T)(W)(N)] such entries.

the main data matrices for each respondent. The matrix contains the readership status (RS_{ijp}) for each respondent p, in each section i, for each issue j. (There are a total of T respondents, N sections, and W issues.) The value of RS_{ijp} is either one or zero depending on whether the respondent is a reader or a nonreader of the section in the issue in question. With the matrix established, an accurate duplicated audience figure can be determined for each section or combination of sections. This duplicated audience figure does not automatically aggregate across different sections of the newspaper as the old measure did but such aggregations can be made if they are desirable. Referring to Figure 8-1, the duplicated audience figure for any section i over W issues is as indicated below:[1]

$$DA_{i\cdot\cdot} = \sum_{j=1}^{W} \sum_{p=1}^{T} RS_{ijp}$$

Similarly the duplicated audience for all the sections of the newspaper over all the issues can be calculated:

$$DA_{\cdots} = \sum_{i=1}^{N} \sum_{j=1}^{W} \sum_{p=1}^{T} RS_{ijp}$$

---

[1]The standard algebraic convention of representing an aggregated subscript by the dot (·) notation is assumed:

$$x_{\cdot} = \sum_{i=1}^{n} x_i$$

Now, to determine a correct value for the unduplicated audience figure, two possible sources of reading duplication must be eliminated from the duplicated audience measure: first, duplication arising from successive readership of sections across issues and second, duplication arising from multiple section readership within an issue. The result of eliminating these two sources of duplication is an unduplicated audience measure that indicates the aggregate of all readers for a section or a combination of sections across a number of issues who have looked at the material at least once but who are counted only once in the aggregation process.

Consider first, the problem of eliminating duplication resulting from successive exposure to the same section over issues. Referring to Figure 8-1:

$$RS_{i \cdot p} = \begin{cases} \emptyset & \text{if } \sum_{j=1}^{W} RS_{ijp} = \emptyset \\ 1 & \text{if } \sum_{j=1}^{W} RS_{ijp} \neq \emptyset \end{cases}$$

where,

$RS_{i \cdot p}$ = readership status of respondent p in section i over W issues: 1 for having read section i at least once; $\emptyset$ if not.

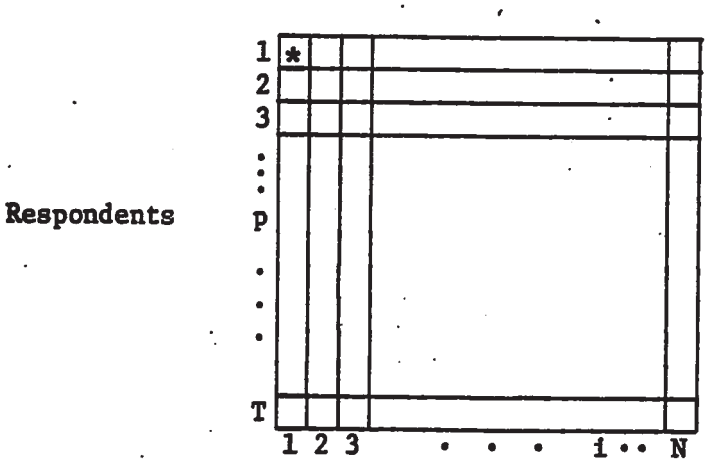
The result of this process (Figure 8-2) is a section/respondent matrix indicating whether or not each person reads a section at least once over the issues concerned. In order to calculate the unduplicated audience for any section with duplication over time eliminated, it is only necessary to sum $RS_{i \cdot p}$ over T, the number of respondents. For example, the unduplicated audience for any section i becomes:

$$UDA_{i\cdot\cdot} = \sum_{p=1}^{T} RS_{i \cdot p}$$

However, merely aggregating the unduplicated audiences for individual sections with duplication over time eliminated will not yield the correct unduplicated audience for those sections taken as a set; the second duplication problem still remains. Respondents who read more than one of the sections are double-counted.

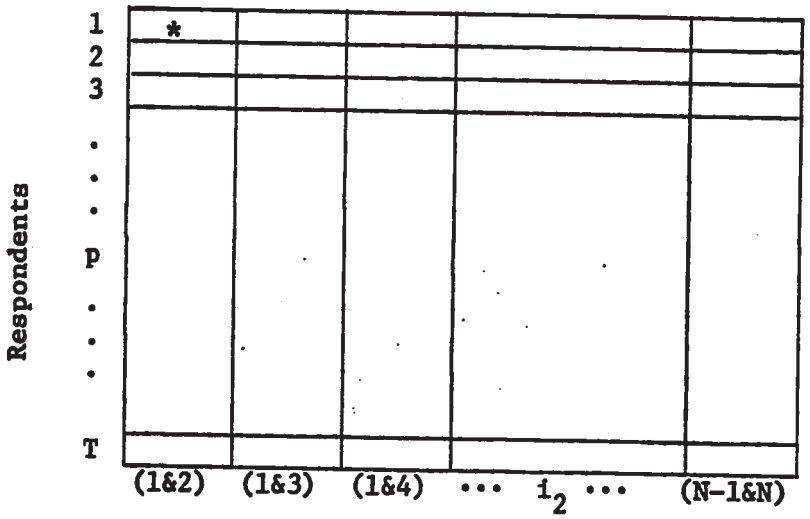
The elimination of duplication resulting from multiple section readership within an issue (or across issues) requires returning to Figure 8-1 and developing matrices similar to Figure 8-2 but for sections taken in various combinations rather than just one at a time. Figure 8-3 illustrates the readership matrix for

Figure 8-2



* Each cell in the matrix is filled with the appropriate $RS_{i \cdot p} = 1$ or $\emptyset$. There are [(T) (N)] such entries.

Figure 8-3



* Each cell in matrix filled with the appropriate $RS_{i_2 \cdot p} = 1$ or $\emptyset$. There are $\left[(T)\left(\frac{N!}{2!(N-2)!}\right)\right]$ such entries.

sections taken in pairs with duplication over issues eliminated.[1] From matrices similar to that in Figure 8-3, it is then possible to calculate the unduplicated audience for any combination of sections. These figures represent the intersection of audience segments associated with the newspaper sections:[2]

$$UDA_{i_2\cdot\cdot} = \sum_{p=1}^{T} RS_{i_2\cdot p}$$

$$UDA_{i_3\cdot\cdot} = \sum_{p=1}^{T} RS_{i_3\cdot p}$$

$$\vdots$$

$$UDA_{i_N\cdot\cdot} = \sum_{p=1}^{T} RS_{i_N\cdot p}$$

---

[1] A multiple subscripting procedure was needed to denote sections taken in pairs, triplets, and so on. As shown in Figure 8-3, it was decided to sub-subscript the section subscript, i, in order to accomplish this task. As a result, the following applies:

i = subscript for sections considered one at a time.
i_2 = subscript for sections considered in pairs.
i_3 = subscript for sections considered in triplets.
$\vdots$
i_N = subscript for sections considered N at a time.

[2] Intersection has specific inference to the conjunction as a logical connective.

where

$UDA_{i_2..}$ = unduplicated intersection of audiences for sections taken in pairs

$UDA_{i_3..}$ = unduplicated intersection of audiences for sections taken in threes

$UDA_{i_N..}$ = unduplicated intersection of audiences for sections taken all together.

The correct unduplicated audience figure for any set of sections in the newspaper can be determined from the values of the unduplicated audience for the individual sections of the newspaper with duplication overtime eliminated and the unduplicated intersection of those audiences. The set of sections might constitute all the sections in the newspaper if the unduplicated audience for the entire newspaper were of interest; or it might constitute any subset thereof. Regardless of composition, the calculation procedure remains the same and amounts to finding the union among the sections of concern.[1] For example, the unduplicated audience for a whole newspaper consisting of N sections is given by

$$UDA... = UDA_1.. \cup UDA_2.. \cup - - - \cup UDA_N..$$

---

[1]Union is taken to be based on the inclusive disjunction.

$$= \left[\sum_{i=1}^{N} UDA_{i..} \right] - \left[\frac{N!}{2!(N-2)!} \sum_{i_2=1} UDA_{i_2..} \right] + \left[\frac{N!}{3!(N-3)!} \sum_{i_3=1} UDA_{i_3..} \right] \cdots$$

$$\cdots - (-1)^N \left[\frac{N!}{N!(N-N)!} \sum_{i_N=1} UDA_{i_N..} \right]$$

The foregoing analysis demonstrates how the procedures for assessing newspaper audiences can be modified to account for selective newspaper reading. The evaluation of newspaper audiences should only be made through the more accurate section by section - analysis under conditions of selective reading.

The Effect of the Selective Calculation Procedures on Audience Data. The following simplified example is designed to show the dramatic effects that the modified procedures can have on audience figures and to aid in visualizing the operation of the process. Assume that a hypothetical daily newspaper is made up of three sections (A, B, and C) and that the readership of the sections in a given issue is as follows:

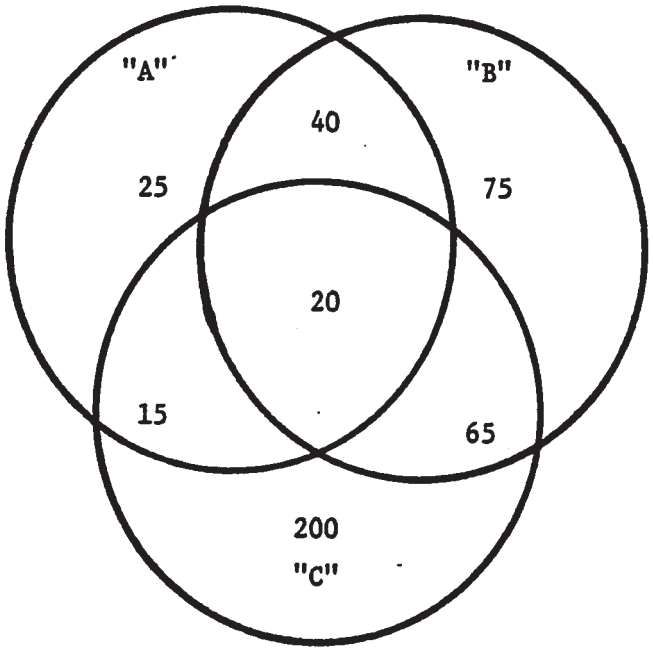
(1) readership of sections
   (a) 100 people read section A
   (b) 200 people read section B
   (c) 300 people read section C

(2) readership of section pairs
   (a) 60 people read sections A and B
   (b) 85 people read sections B and C
   (c) 35 people read sections C and A

(3) readership of section triplets
   (a) 20 people read sections A, B, and C.

The Venn diagram (Figure 8-4) illustrates the proposed reading patterns:

Figure 8-4



For the sake of simplicity, assume that the readership pattern on the next issue of this hypothetical newspaper is exactly the same. The same one hundred people read section A and so on. Given this situation, the measures of reach, net reach, and average frequency of exposure over the two issues of the hypothetical paper for the various sections and combinations of sections as calculated by the new procedure are as follows:

Table 8-5

	Sections or Section Combinations	Reach	Net Reach	Frequency
1.	Audience for section A	200	100	2.0
2.	Audience for section B	400	200	2.0
3.	Audience for section C	600	300	2.0
4.	Audience for sections A and B combined	600	240	2.5
5.	Audience for sections B and C combined	1000	415	2.4
6.	Audience for sections C and A combined	800	365	2.2
7.	Audience for sections A, B, and C combined	1200	440	2.7

The values of reach, net reach, and average frequency of exposure that would have resulted from the old method of calculation are 1200, 600, and 2.0, respectively. Note that the old set of figures does not correspond to any of the sets of figures representing the selective audiences. The old reach figure will always overstate all but the most aggregate level of the combined sections reach measure. Net reach calculated

by the old method will always overstate even the highest possible value of the true net reach under conditions of selective readership because duplication across newspaper sections is not eliminated; it is merely ignored.

The amount of overstatement in the old figures is a function of the amount of selectivity in reading. If all readers read all sections then there would be no selectivity and no overstatement because the situation would represent the assumptions on which the old calculations are based. On the other hand, if there were extreme selectivity, such that the intersections between all sections became empty, then the amount of overstatement would be at its maximum. The two situations can be viewed as the degree to which the circles in the Venn diagram (Figure 8-4) overlap. When the circles are completely superimposed there is no selectivity in reading and no overstatement in the old figures but when the circles are mutually exclusive the maximum amount of overstatement exists. Thus, any evaluation of the audience of this hypothesized newspaper -- in order to decide advertising placement, for example -- would be improved by the use of the audience data based on the new methods of calculation. Not only will the specification of audience size be more realistic but, to the extent that attribute differences between A readers, and B readers, and C readers can be used to zero-in on customer targets, the quality of the audience would be increased.

In summary, it is clear that —

(1) The existing procedures for determining reach, net reach, and average frequency of exposure result in inaccurate and inappropriate statements about audience size for the newspaper

(2) Media evaluation procedures that fail to take account of possible attribute differences between intra-newspaper audience segments are missing a critical dimension of audience character.

Possible Directions for Further Investigation

Three important areas for further research can be identified from the work in this study. The first two relate to matters internal to the project; that is, to matters of improving upon or substantiating the work that has been done. The third area relates to matters external to the project; matters not addressed within the framework of the study but following directly from it.

Enrichment of the Theoretical Base. The theoretical development in this study rests squarely on the research from the areas of perceptual psychology and memory responses. The communications research serves as an additional input to identify specific variables involved in the processes. Since this research base is far from exhausted by the developments in this study, further investigation into these areas would undoubtedly enrich the explanatory base for the selective hypotheses.

Other research areas in the behavioral sciences hold promise of contributions to the theoretical base. In particular, the theory associated with search behavior might contribute some insights into the selective process. Since search theory largely relates to the identification and structuring of alternatives in decision situations, it is relatively easy to argue that the input function of the selective processes subsumes a search element. In addition, the understanding of the recognition process and the resultant acceptance/rejection decisions might well be enhanced through the incorporation of some concepts from search theory.

The occurrence of an acceptance/rejection decision, in turn, points directly to a consideration of decision theory for some useful inputs. Payoff matrices and outcome probabilities would be difficult to specify (probably impossible, given the state of the art) but conceptual thinking in these terms may add theoretical clarity to the analysis.

The general study of motivation in human behavior may also prove fruitful for further consideration. There is a wide variety of research in this area and, to the extent that selective reading is interpreted as one type of motivated behavior with the predispositions being the motivating factors, this research may contribute to an understanding of the overall process.

Until some exploratory work is carried out in these areas, no assurance of valuable contributions can be given. However, the general direction of the research findings from these areas suggests promising contributions to the theoretical base of the selective processes.

Refinement of the Data Measures and Analytical Procedures. This study works with some data measures and analytical procedures that have not been extensively used prior to this research. Unexpected peculiarities in the data base cause some of these measures and procedures to present greater problems than anticipated. Firstly, the quarter-page by quarter-page observed reading measure turns out to be a "macro-measure" relative to most of the items on a newspaper page. Secondly, a significant amount of data is sacrificed due to multiplicity in the types of items appearing in any given quarter. Two alternative courses of action seem feasible concerning this problem; one is to shrink the size of the measurement area, the other is to control the size of the newspaper items to be measured. Each of these steps has potential limitations. The former may increase the response burden on the sample members to the point where they will not complete large-scale questionnaires. The latter may so alter the standard lay-out mechanics for the newspaper that "normal" reading patterns will not occur. Experimental work is needed in order to determine the merits of these

alternatives. Thirdly, the nature of the response measure is of some concern. A simple aided recognition measure is used in this study; no checks are made on declared recognition. Overclaiming in recognition could be assessed by a control mechanism such as a "photographic substitution" for one of the test quarters in the preparation of the miniaturized newspaper questionnaires. Any recognition claims for a "substitute quarter" would reflect erroneous overstatements in recognition and a deduction procedure could be devised to reduce the inflation occurring in recognition.

The statistical methods used in assessing the existence of selective reading suffered from data adequacy problems. The high frequency of light reading precluded the analysis of many respondents. The power of the selective reader classification technique could not be determined. Some form of discriminant analysis might be designed to overcome these problems.

The major limitations of the secondary analysis centred around questions of model formulation and identification and selection of independent variables. Some "fishing trips" within the framework of the linear regression technique could probably be justified in terms of improving the proportion of variance explained through different combinations of variables. The predictive ability of the models might be improved by some variable transgenerations and/or the introduction of a nonlinear

analytical technique.

Recent studies have laid the foundation for some concern over both the nature of the independent variables and the simple one-stage type of analysis. The personality variables are particularly suspect on this dimension. Are measures designed for investigating abnormal social behavior applicable to the work in this study? Is a simple one-stage model a sufficiently complex formulation to capture the contribution of these variables? The results in this study seem to confirm a methodological inadequacy if any relationships do, in fact, exist.

Further Developments. There are two clear directions for further developments from the work in this study. The first is to apply the proposed method of newspaper audience assessment to determine the degree of improvement in audience data for media decisions. The second is to extend the research concept beyond the newspaper to other print media and, possibly, to the broadcast media.

Clearly, the most logical and direct action following from the work in this study is the implementation of the proposed method for assessing newspaper audiences under conditions of selective reading. However, the development of a generalized computer program for these calculations is a difficult undertaking. A matrix of respondents by issues and sections of any resonable size

quickly runs the program into core storage problems. Very crude and preliminary programming suggests differences in the range of 300 to 400% between the old reach measures and the new measures for a single newspaper section. Differences in the range of 20 to 100% appear common in terms of net reach. If magnitudes in these orders are supported by a rigorous analysis, the work will be well justified.

The development of a generalized computer program unfortunately will not provide the final answer. All indications are that this program, requiring considerable time on large, fast computers, will be very complex and expensive to run. To make the use of the new method feasible, estimation procedures will be required to replace the exact calculation procedures. With the exact results in hand and guidance from the "Agostini research", methods of estimation based on the single section and paired section readership should be relatively easy to develop. The complexities in the exact calculation methods will make this estimation process a necessity.

The idea of extending the concept to other print media and to the broadcast media has a fair degree of appeal. It seems reasonable that magazine readership should reflect the same kinds of predispositionally based audience segments found in the newspaper.

The segmentation effects may be even more structured for magazines than for newspapers. Time magazine, for example, may consist of separate audience segments for the domestic-business and domestic-economic news as compared the reports on education, medicine, the arts, and so on. Magazines with a fairly structured "story-format", such as Fortune, would require careful selection of test pages from the story material although the problems could clearly be handled within the existing methodology.

The idea of predispositionally based audience segments is also appealing in terms of the broadcast media. The opportunity-for-exposure measures based on program time segments probably reflect the nearest thing to audience segment measurement that has been accomplished in audience assessment. No attempt has yet been made by the broadcast media to trace the patterns of audience viewing from program to commercial break to program and these shifts might show some interesting patterns. Clearly, methodological problems exist in applying the concepts to the broadcast media but the use of tape-recorded materials for radio and video-taped materials for television may allow some progress to be made in these areas.

In summary, the selective reading hypotheses and their implications for audience assessment seem sufficiently interesting and important to justify the investment of further time and effort.

THE MATHEMATICAL APPENDIX TO CHAPTER VIII

The method of testing the principal hypothesis revealed some statistical questions which seem to be ignored in the literature on goodness-of-fit. These questions relate to the problem of the sample proportion of selective readers being a biased estimate of the population proportion and to the difficulties in removing that bias.

The sample proportion of selective readers was determined by the sequential application of a goodness-of-fit test under the null hypothesis that each reader was a nonselective reader. Under this hypothesis, the goodness-of-fit test produces a statistic that is distributed Chi-square with (K-1) degrees of freedom; K equals the number of content classifications in the test.[1] The critical region chosen for this distribution specifies the probability of a Type I error; the probability of misclassifying a nonselective reader as selective. This region was set at $\alpha = 5\%$ on the basis of Cochran's work on small expectations.[2]

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[1] J. Freund, Mathematical Statistics, (Englewood Cliffs: Prentice-Hall, Inc., 1962), pp. 285-86.

[2] W. Cochran, "The X^2 Correction for Continuity;" Iowa State College Journal of Science, XVI (1942), pp. 421-437.

The other possible error, a Type II error, specifies the probability of a selective reader being misclassified as non-selective. The literature covering goodness-of-fit simply avoids the mention of a Type II error and any attempt to establish a β value makes the reason for this avoidance apparent.[1] The problem stems from the fact that the alternative hypothesis is a composite of many hypotheses; furthermore, the analytical technique maps all the alternative hypotheses onto the same distribution as the one that is specified by the null hypothesis. This situation destroys the normal conceptualization associated with the Type II error and makes β impossible to define in standard power curve terms.

The only feasible way to deal with this problem is through a simulation designed to provide random observations from one of the possible alternative hypotheses; force these observations through the test applied under null hypothesis, and by enumeration,

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[1] R. Hogg and A. Craig, Introduction to Mathematical Statistics (2nd ed; New York: The Macmillan Company, 1965), p. 301.

J. Freund, Mathematical Statistics (Englewood Cliffs: Prentice-Hall Inc., 1962), pp. 285-286.

P. Hoel, Introduction to Mathematical Statistics (New York: John Wiley and Sons, Inc., 1962), pp. 244-250.

A. Mood and F. Graybill, Introduction to the Theory of Statistics (2nd ed.; New York: McGraw-Hill Book Company, Inc., 1963), pp. 308-311.

determine the probability that the null hypothesis would be accepted when an alternative is true. This procedure is complex, however, as it is not clear how the observations from a given alternative hypothesis should be weighted in determining the alternative distribution. The character of the alternative distribution is also unknown and there are no grounds on which to expect that it will be Chi-square.

The implementation of the simulation approach has two major limitations. First, there are a large number of alternative hypotheses. This number is a function of the number of newspaper sections, the number of items per section, and the intensity of a reader's reading. As any of these values increases the number of alternative hypotheses increases. Second, ranking the alternative hypotheses in terms of their difference from the null hypothesis would be an extremely difficult task. It is not clear what the criteria for ranking should be and, in the absence of a reliable method for ranking, it becomes impossible to order the β's and define the power function. Given the difficulties in the simulation technique, combined with the fact that increasing α was the only way to reduce β (the sample size was fixed by external constraints) the method was not implemented. This decision is defensible on the grounds that Type II errors are errors of conservatism and if errors must be accepted in the results, errors

of conservatism are preferred from the standpoint of confidence in the research findings.

From this point, it can be proven that there is bias in the procedure used to establish the sample proportion of selective readers. Let

- N = the size of the population
- n = the true number of selective readers in the population
- π = the true proportion of selective readers in the population, (n/N)
- x = the number of readers deemed selective by the classification procedure
- p = the proportion of readers deemed selective by the classification procedure, (x/N)
- α = magnitude of the Type I error
- β = magnitude of the Type II error.

The equation for the number of readers deemed selective by the classification procedure can then be written as

$$x = pN$$

$$= \pi N - \text{Bin}(\beta, \pi N) + \text{Bin}(\alpha, (1-\pi) N)$$

where Bin (θ, K) has the binomial probability distribution

$$P\ [\ \text{Bin}(\theta,K) = r\ ] = \binom{k}{r} \theta^r (1-\theta)^{k-r}$$

This simply means that the number of readers deemed selective by the classification process equals the true number of selective readers in the population less the number of selective readers misclassified as nonselective (the number of Type II errors) plus

the number of nonselective readers misclassified as selective (the number of Type I errors). The classification errors result from two Bernoulli processes with the probability of a success (making an error) being determined by α and β for the Type I and Type II errors, respectively.

The expected number of readers deemed selective by the classification procedure can now be written as

$$E(pN) = E(\pi N) - E(\text{Bin}(\beta, \pi N) + E(\text{Bin}(\alpha, (1-\pi)N))$$
$$= \pi N - \beta\pi N + \alpha(1-\pi)N$$
$$E(p) = \pi - (\alpha + \beta)\pi + \alpha$$

Furthermore, the variance in the number of readers deemed selective by the classification procedure can be written as

$$V(pN) = V(\pi N) - V(\text{Bin}(\beta, \pi N)) + V(\text{Bin}(\alpha, (1-\pi) N)$$
$$= \beta(1-\beta)\pi N + \alpha(1-\alpha)(1-\pi) N$$
$$\therefore V(p) = \beta(1-\beta)\pi + \alpha(1-\alpha)(1-\pi)$$

Bias is defined as

$$B = E(p) - \pi$$

but that quantity is now known to be

$$B = \alpha - (\alpha+\beta)\pi$$

and thus the amount of bias in the classification process for any population proportion can be specified in terms of α and β. Or,

an unbiased estimator of π, the population proportion, can be determined by

$$\frac{p-\alpha}{1-\alpha-\beta}$$

Unfortunately, this correction cannot be made because β is not known, and, for all practical purposes, is indeterminate.

Common sense argues that Type II errors should not be any more frequent, on average, than Type I errors. The factors influencing the departure of an observed reading pattern from some underlying model are probably very similar regardless of whether that model is a selective or nonselective model. These factors will include such things as the physical state of the newspaper when the reader receives it, the time available for reading, the activities that are going on around the reader, out-of-the-ordinary events being reported in the newspaper, and other such unaccounted for variables. If, in fact, α and β are somewhere near equal, then it can be proven that the classification procedure will underestimate the true population proportion if the true proportion is greater than one-half and conversely will overestimate the true population proportion if the true proportion is less than one-half. From Table 7-1 it can be seen that the estimated proportions based on the testable readers are all greater than 50% and hence the aforementioned conservatism in the results.

THE APPENDICES

APPENDIX I

THE STUDY QUESTIONNAIRES

1. Recruiting Questionnaire
2. Additional Interest Questionnaire
3. Follow-up Questionnaire

The Recruitment Questionnaire

Page 227 to Page 238

COMMUNICATIONS STUDY - RECRUITMENT

ORC INTERNATIONAL LIMITED

Project # _____

Assignment #_____

Hello. I am from Research House. We are doing a communication survey in this area. May I ask you a few questions. First, I have some questions about your household.

A. How many people are there in this household, including all children, babies, boarders, and any members who are now temporarily away, such as persons on business, vacation trips, etc.?

Total Household _____

How many are under 15 years? _____

How many are 15 years of age or over? _____

B. Would you please tell me the names and ages of all of the males living in this household aged 15 years or older, beginning with the eldest. (RECORD BELOW)

C. Next, would you please tell me the names and ages of all of the females living in this household aged 15 years or older, beginning with the eldest. (RECORD BELOW)

SELECTION GUIDE - TO SELECT ONE RESPONDENT
FOR INTERVIEW WITHIN THE HOUSEHOLD

DIRECTIONS: Write the names of all adult members 15 years of age and over (including boarders, etc.) living in this household in the spaces provided.

Begin with the males. Enter on line 1 the oldest male, on line 2 the next oldest male, on line 3 the next, and so on.

When you have listed all the males then write the name of the oldest female on the next line. Then the next oldest female, the next, and so on.

When you have listed all the men 15 years and over then all the women 15 years and over then interview the person on the lowest line that shows an 'X' opposite his or her name.

NAME	Check Age Group							Select Lowest Name Showing an 'X' Opposite
	15 to 17	18 to 19	20 to 24	25 to 34	35 to 44	45 to 54	55 and over	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								

D. Would you just tell me the ages of all the boys under 15 years of age?

E. Now, the ages of all girls under 15 years of age?

	No. of Boys	No. of Girls
10 to 14 years	_____	_____
5 to 9 years	_____	_____
2 to 4 years	_____	_____
Under 2 years	_____	_____

IF THE RESPONDENT IS SOMEONE OTHER THAN THE PERSON WHO GAVE YOU THE HOUSEHOLD INFORMATION, SAY:

May I speak to _____? REINTRODUCE YOURSELF.

IF NECESSARY, ASK FOR THE MOST CONVENIENT TIME TO CALL BACK TO SPEAK TO THE SELECTED RESPONDENT.

CALL BACK TIME?_____

We have been asked to find out how people like yourself react to all the sources of information and entertainment that are available to them and the amount of time you spend watching television, listening to the radio, reading the newspaper and magazines. We don't care how much or how little time you spend, or whether you spend any time at all - we are only interested in getting as accurate an assessment as possible.

Your name has been selected completely by chance and if you decide to cooperate, your answers along with the answers of hundreds of other people also chosen completely by chance, will be analysed to provide a complete picture of the viewing, reading, and listening habits of your community.

Here's what we'd like you to do. I have a few brief questions to ask now. Then one day each week for six weeks we'd want to contact you again. On these occasions I will leave a copy of an interview for you to fill in at your convenience and then I'll pick it up the following day. Each of the interviews will take just a few minutes to complete and the questions will be easily answered. We will do this for 6 Fridays: October 4, October 11, October 18, October 25, November 1, and November 8.

This is an important non-commercial study and one which we think you will find very interesting to participate in.

We will not attempt to pay you for your help but we will present you with a 'thank you' gift at the conclusion of the study. The approximate value of the gift will be $5.00.

Can we count on your cooperation?

Yes 1 No 2

Now, just a question or two about your household.

INTERVIEWER: CIRCLE ONE ANSWER IN Q. 1 FROM OBSERVATION

1. Respondent lives in:

1. Apartment or flat in detached or semi-detached house
2. 2 - 4 family duplex
3. Multi-apartment (walk-up)
4. Multi-apartment (elevator)

→ GO TO Q. 4.

5. Detached house
6. Semi-detached house
7. Row house

IF 5, 6 OR 7 CIRCLED, ASK:

2. Do you own or rent your home?

1. Own
2. Rent
3. Other (specify):_____
4. Don't know

3. Is your home heated by coal, gas, oil, or electricity?

1. Coal
2. Gas
3. Oil
4. Electricity
5. Other (specify):_____
6. Don't know

4. How many cars, if any, are owned by members of your household?

0. None ----------SKIP TO Q. 6
1. One
2. Two
3. Three
4. More than three (specify number):_____

5. For each car please tell me the following:

	CAR 1	CAR 2	CAR 3	CAR 4	CAR 5
(a) Make (WRITE IN)					
(b) Year/Model					
(c) Brought -New -Used					

IF MORE THAN ONE CAR, ASK:

(d) Is one of the cars principally for the use of the lady of the house?

1 Yes 2 No

6. How likely is it that some-one in your household will buy a car within the next twelve months? Would you say they —

1. Definitely will buy
2. Probably will buy
3. Probably will not buy
4. Definitely will not buy
5. Don't know

IF 1 OR 2 CIRCLED IN QUESTION 6, ASK:

7. Would it be a new car or a used car?

1. New
2. Used
3. Don't Know

8. Which of the following appliances do you have in your home?

	Have in Home
Refrigerator	1
Black and White Television	2
Colour Television	3
Dishwasher	4
Automatic Washer	5
Non-Automatic Washer	6
Dryer	7
Gas Range	8
Electric Range	9

FOR EACH APPLIANCE CIRCLED IN Q. 8, ASK:

9. Could you tell me how old your (NAME APPLIANCE) is? Would you say it is under 5 years old, between 5 - 10 years old?

	Under 5	Between 5 - 10	Over 10
Refrigerator	1	2	3
Black and White Television	1	2	3
Colour Television	1	2	3
Dishwasher	1	2	3
Automatic Washer	1	2	3
Non-Automatic Washer	1	2	3
Dryer	1	2	3
Gas Range	1	2	3
Electric Range	1	2	3

10. How likely is it that someone in your household will buy any of these appliances in the next 6 months. Would you say that someone defintely will buy a refrigerator, probably will buy, probably will not buy, definitely will not buy. How likely is it that someone will buy a coloured television set? How likely, etc. (ASK FOR ALL APPLIANCES LISTED BELOW)

	Definitely Will Buy	Probably Will Buy	Probably Won't Buy	Definitely Won't Buy	Don't Know
Refrigerator	1	2	3	4	5
Black & White Television	1	2	3	4	5
Colour Television	1	2	3	4	5
Dishwasher	1	2	3	4	5
Automatic Washer	1	2	3	4	5
Non-Automatic Washer	1	2	3	4	5
Dryer	1	2	3	4	5
Gas Range	1	2	3	4	5
Electric Range	1	2	3	4	5

The next few questions I'm going to ask will help us to put together a pattern of shopping and travelling in the London area.

11. First, which day of the week is your main shopping day? CIRCLE ONE ANSWER ONLY

Q. 11	Q. 12
1. Monday	1
2. Tuesday	2
3. Wednesday	3
4. Thursday	4
5. Friday	5
6. Saturday	6
7. No special day	7
No other day	8

12. On which other day do you sometimes shop for groceries?

CIRCLE ONE OR MORE ANSWERS

13. Do you usually shop in the:

1. Morning (9:00 a.m. - 12:00 a.m.)
2. Afternoon (12:00 a.m. - 6:00 p.m.)
3. Evening (6:00 p.m. - Closing)

14. How often does the head of your household receive his/her pay?

Q. 14		Q. 16
1	Once a week	1
2	Once every two weeks	2
3	Twice a month	3
4	Once a month	4
5	Other	5

15. If 'Head of Household' is a male ask: Does the lady of the house work full or part time?

1 Yes 2 No----------GO TO Q. 17

16. How often does she receive her pay?

17. Has anyone in your household travelled by air within the past six months?

1 Yes
2 No ------ GO TO Q. 20

IF YES ASK:

18. Did they travel for business or pleasure?

1 Business
2 Pleasure
3 Both

19. Did they travel in Canada, to Europe, to the United States, to the Caribbean, or where?

1 Canada
2 Europe
3 United States
4 Caribbean
5 Other (specify):_____

Finally, there are just a few questions for statistical purposes.

20. Are you married, single, widowed, divorced, or separated?

1 Married
2 Single
3 Widowed
4 Divorced
5 Separated
6 Not answered

21. Are you yourself employed outside the home?

1 Yes
2 No ---------- 3 Housewife
4 Student
5 Retired
6 Unemployed

IF YES ON Q. 21, ASK:

22. What kind of work do you do?

Type of Job: _____

Type of Company:_____

Were you born in Canada or in another country?

1 Born in Canada
2 Born outside Canada

IF BORN IN CANADA, ASK:

24. Were both your mother and your father born in Canada?

1 Both mother and father born in Canada
2 Mother or father (or both) born outside Canada

HAND RESPONDENT CARD A

25. Here is a card showing a number of national origins of Canadians. Which one of these do you consider to be your own national background?

1 English/Welsh
2 Scottish
3 Irish
4 French
5 Austrian
6 German
7 Italian
8 Dutch/Flemish
9 Scandinavian (Finland, Sweden, Norway, Denmark).
10 Russian
11 Ukrainian
12 Polish
13 Hungarian
14 Czech/Slovak
15 Chinese
16 Yugoslavian
17 Japanese
18 West Indian
19 American (U.S.)
20 Other (Please specify) _____
21 Don't know, refused

26. What was the last grade you completed in school?

1 No formal schooling
2 1st - 7th grade
3 Completed public school
4 High school incomplete
5 High school complete
6 College or university incomplete
7 College or university graduate
8 Post graduate work
9 Don't know, refused

27. In which age group should I check you?

READ GROUPS 1 to 7

1 15 to 19
2 20 to 24
3 25 to 34
4 35 to 44
5 45 to 54
6 55 to 64
7 65 years or older
8 Not reported

28. Please look at this card and give me the number which covers your total family income before taxes in 1968. Include your own income and that of any members of your immediate family who are living with you.

HAND RESPONDENT CARD 8

1 Under $2000 a year
2 $2000 - $2900
3 $3000 - $3900
4 $4000 - $4900
5 $5000 - $5900
6 $6000 - $6900
7 $7000 - $9999
8 $10000 - $14999
9 $15000 - and over
0 Don't Know, refused

29. What would be the best time for me to call and pick up the questionnaires that I will be dropping off for you to complete yourself?

1 Morning
2 Afternoon
3 Evening

IF YOU ARE NOT HOME WHEN I CALL WHERE WILL YOU LEAVE THEM

NOW SHOW RESPONDENT DEMONSTRATION NEWSPAPER, TELEVISION, AND RADIO REPORT.

RESPONDENTS NAME:_____

ADDRESS:_____

CITY:_____PHONE NO:_____

INTERVIEWERS NAME:_____

The Additional Interest Questionnaires

1. Sports Interest, page 240 to page 241

2. Newspaper Personality, page 242 to page 247

3. Advertising Rating, page 248 to page 251

ADDITIONAL INTEREST QUESTIONS

According to your interest in each of the following sports please check two boxes on each line, one to show your interest as a spectator in each sport, one to show your interest as a participant.

SPORTS

	Spectator			Participant		
	Keenly Interested	Passing Interest	Uninter-ested	Keenly Interested	Passing Interest	Uninter-ested
1. Baseball	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
2. Basketball	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
3. Bowling	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
4. Curling	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
5. Fishing	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
6. Football	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
7. Golf	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
8. Hockey	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐

SPORTS

	Spectator			Participant		
	Keenly Interested	Passing Interest	Uninter-ested	Keenly Interested	Passing Interest	Uninter-ested
9. Hunting	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
10. Skiing	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
11. Skin or Scuba diving	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
12. Swimming	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
13. Tennis	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐
14. Other (please write in) _____	1 ☐	2 ☐	3 ☐	1 ☐	2 ☐	3 ☐

ADDITIONAL INTEREST QUESTIONS

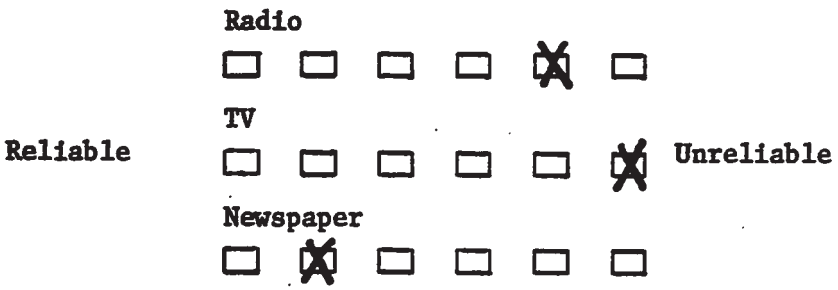
Try to think of TV, newspapers and radio as if they were people - three different people. Imagine these people are regular visitors to your home.

We would like you to express your opinion about these three "make believe" people in the following way:

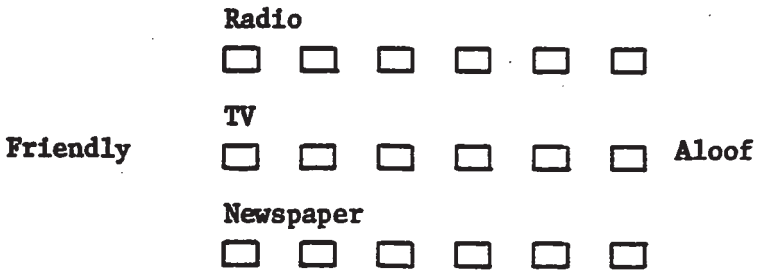
1. Consider the list of words below as representing some of your feelings about these "make believe" people.

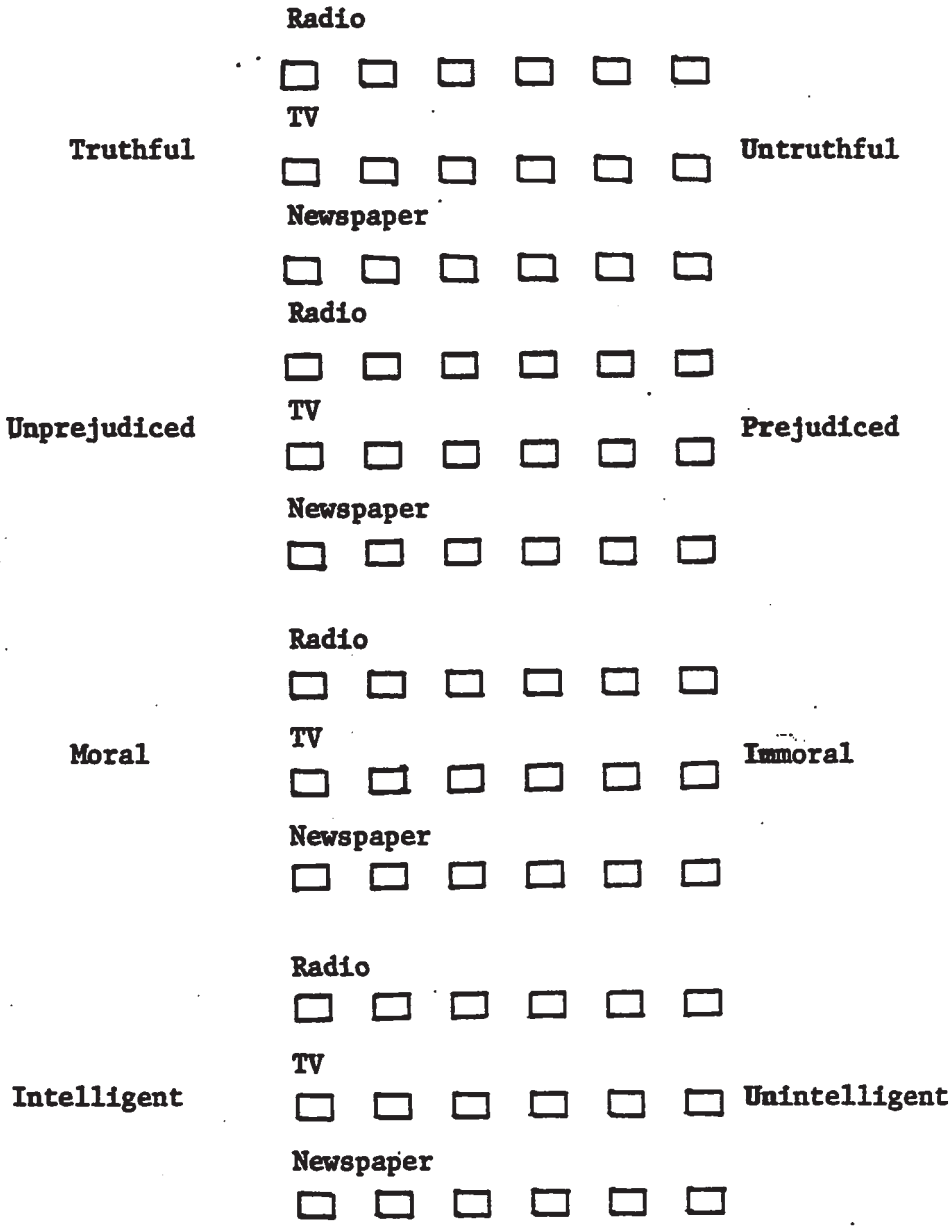
2. Check "X" the appropriate box on each line according to how much or how little of each characteristic you feel the "make believe" person has.

For example:



Such an answer would mean you feel the "newspaper person" is very reliable. The "radio and TV persons" are pretty unreliable but the "TV persons" a little more so than the "radio person".

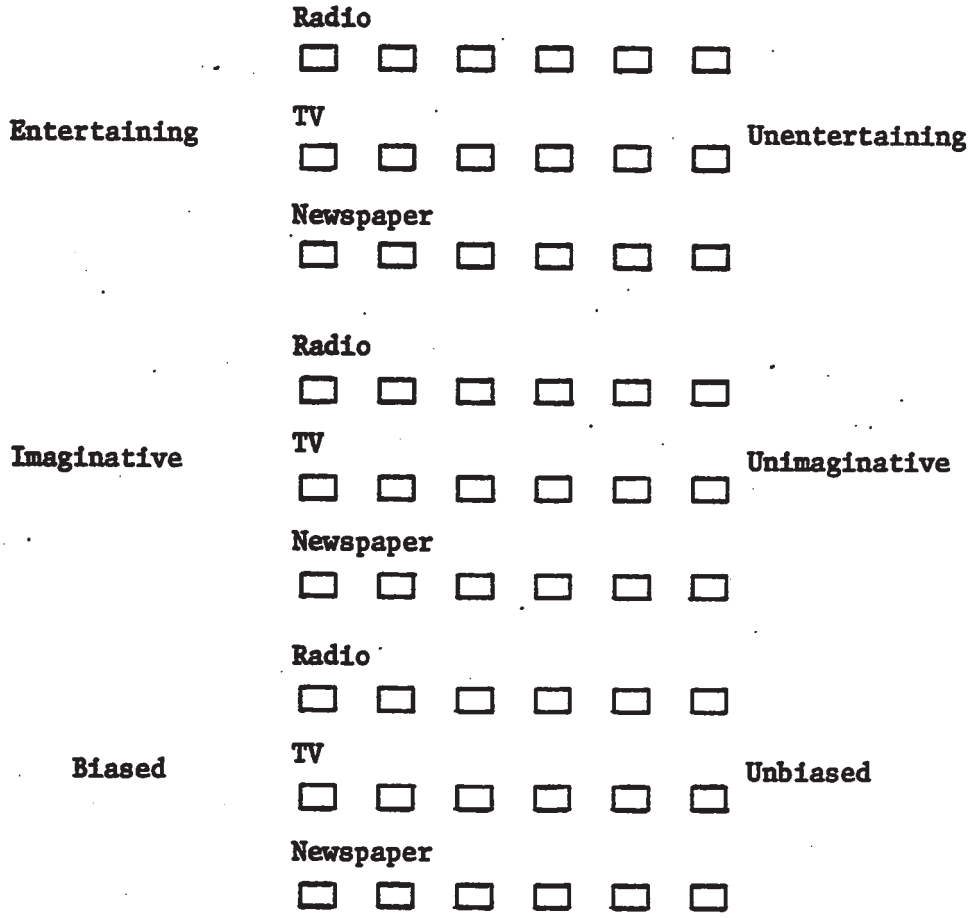



Radio
TV
Truthful
Untruthful
Newspaper
Radio
TV
Unprejudiced
Prejudiced
Newspaper
Radio
TV
Moral
Immoral
Newspaper
Radio
TV
Intelligent
Unintelligent
Newspaper

Neighbourly	Radio ☐ ☐ ☐ ☐ ☐ ☐ TV ☐ ☐ ☐ ☐ ☐ ☐ Newspaper ☐ ☐ ☐ ☐ ☐ ☐	Distant
Trustworthy	Radio ☐ ☐ ☐ ☐ ☐ ☐ TV ☐ ☐ ☐ ☐ ☐ ☐ Newspaper ☐ ☐ ☐ ☐ ☐ ☐	Untrustworthy
Thorough	Radio ☐ ☐ ☐ ☐ ☐ ☐ TV ☐ ☐ ☐ ☐ ☐ ☐ Newspaper ☐ ☐ ☐ ☐ ☐ ☐	Superficial
Tolerant	Radio ☐ ☐ ☐ ☐ ☐ ☐ TV ☐ ☐ ☐ ☐ ☐ ☐ Newspaper ☐ ☐ ☐ ☐ ☐ ☐	Intolerant

Religious	Radio / TV / Newspaper	Unreligious
Well Educated	Radio / TV / Newspaper	Poorly Educated
Attractive	Radio / TV / Newspaper	Unattractive
Sympathetic	Radio / TV / Newspaper	Unsympathetic
Honest	Radio / TV / Newspaper	Dishonest

Accurate	Radio TV Newspaper	Inaccurate
Fair	Radio TV Newspaper	Unfair
Good Judgment	Radio TV Newspaper	Poor Judgment
Interesting	Radio TV Newspaper	Uninteresting
Independent	Radio TV Newspaper	Easily Influenced


Radio
TV
Entertaining
Unentertaining
Newspaper
Radio
TV
Imaginative
Unimaginative
Newspaper
Radio
TV
Biased
Unbiased
Newspaper

ADDITIONAL INTEREST QUESTIONS

Below are descriptions that might be applied to advertising on TV, on the radio or in the newspaper.

We would like you to give your opinion about advertising by indicating how well you feel the description "fits" with your impressions of the advertising on the TV, radio or newspaper.

In answering to each description check "X" the appropriate box on each line according to how well you feel the description fits for TV, radio and newspaper.

For example

Has convincing ads.

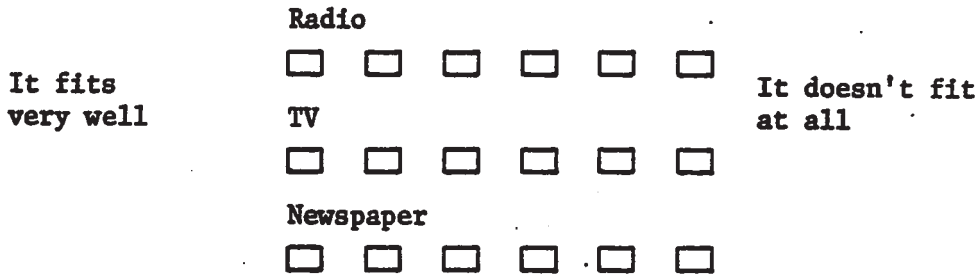
	Radio ☐ ☐ ☐ ☐ ☒ ☐	
It fits very well	TV ☒ ☐ ☐ ☐ ☐ ☐	It doesn't fit at all
	Newspaper ☐ ☒ ☐ ☐ ☐ ☐	

Such an answer would mean you feel T.V. has pretty convincing ads, followed closely by newspapers. However, you feel radio advertising is pretty unconvincing.

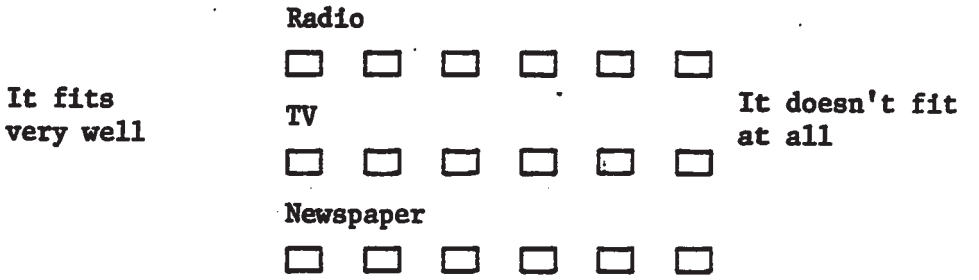
Is the first to introduce new products.

	Radio ☐ ☐ ☐ ☐ ☐ ☐	
It fits very well	TV ☐ ☐ ☐ ☐ ☐ ☐	It doesn't fit at all
	Newspaper ☐ ☐ ☐ ☐ ☐ ☐	

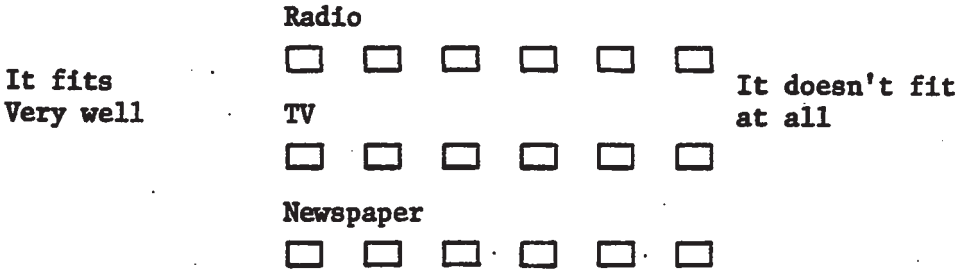
Has interesting and imaginative ads.



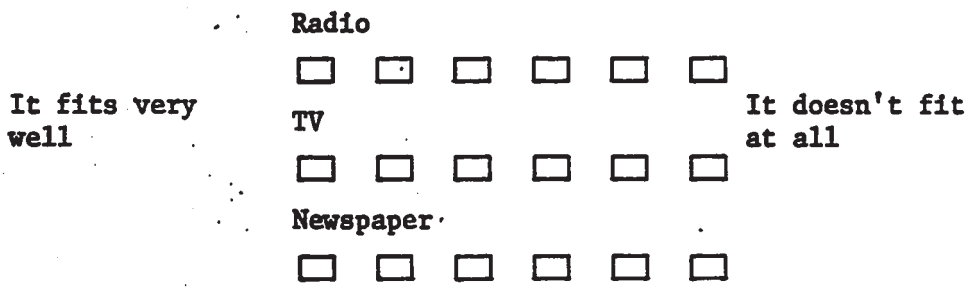
Gives a good description of the products I need.



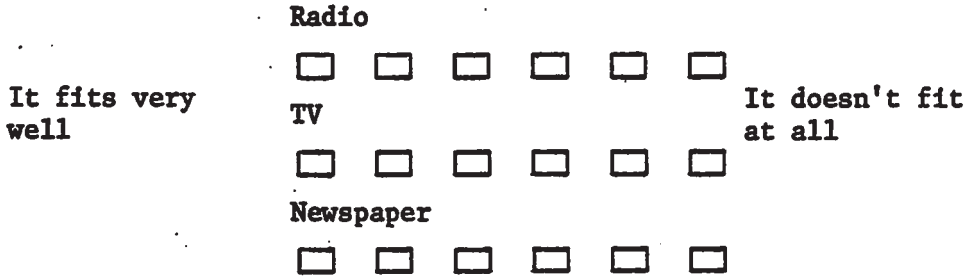
Shows good taste in the advertising it carries.



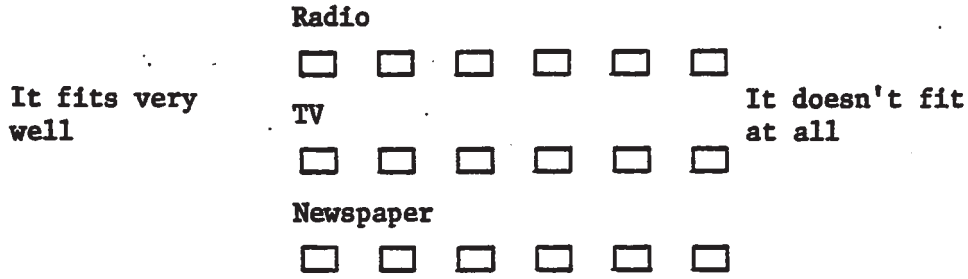
Carries advertising that can be trusted.



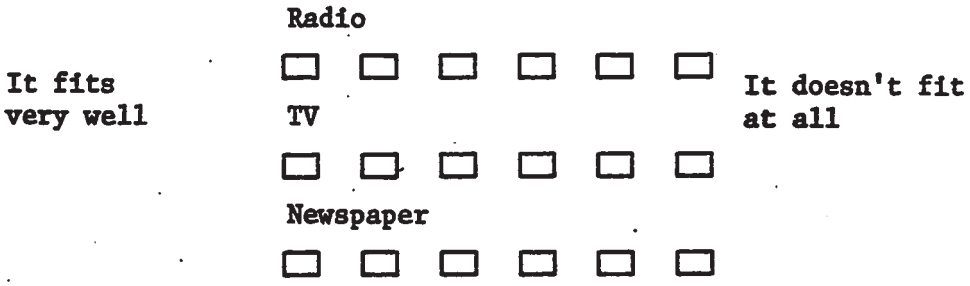
Tells you all you need to know in buying a new product.



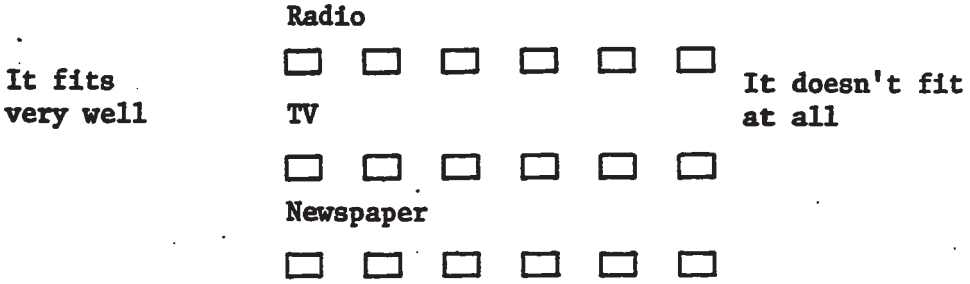
Sticks to the facts.



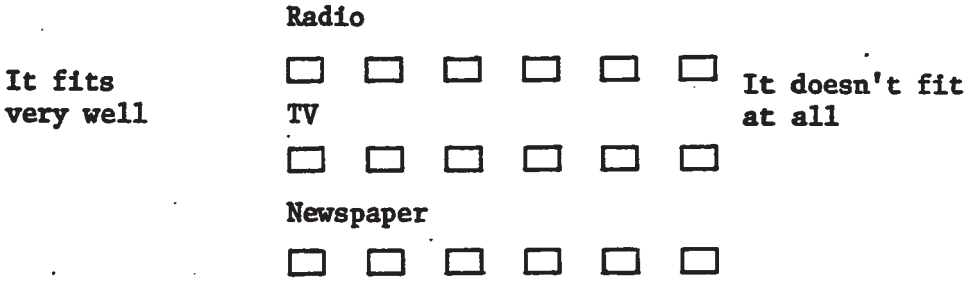
Gives useful information



Tells me where I can buy things.



Is meant for people like me.



The Follow-up Questionnaire

Page 253 to Page 270

COMMUNICATION SURVEY QUESTIONNAIRE

SCHOOL OF BUSINESS ADMINISTRATION

UNIVERSITY OF WESTERN ONTARIO

Some people read the newspaper for the news, others because of the columnists and features. Others read for the ads.

Please number the 4 categories given below according to how important a reason they are for <u>you</u> to read the newspaper. Number the most important reason '1', the second most '2', the third most '3' and the fourth most important reason for reading the newspaper '4'.

_____ Columnists

_____ News

_____ Ads

_____ Features

Do you read the London Free Press?

	Morning Edition	Evening Edition
Don't read	☐	☐
Twice a week or less	☐	☐
Three or four times a week	☐	☐
Five or six times a week	☐	☐

Do you read any paper other than the London Free Press?

	Morning Edition	Evening Edition
Don't read	☐	☐
Twice a week or less	☐	☐
Three or four times a week	☐	☐
Five or six times a week	☐	☐

The following are some statements concerning daily newspapers. Please check "X" the box which comes closest to representing your opinion. Check one box on each line.

	agree very much	agree on the whole	agree a little	disagree a little	disagree on the whole	disagree very much
1. The daily newspaper weakens the reader's critical powers by doing his political thinking for him.	☐	☐	☐	☐	☐	☐
2. Monopoly conditions in the newspaper industry have led to an irresponsible use of power.	☐	☐	☐	☐	☐	☐
3. The economic interests of the daily newspaper are usually different from those of most of its readers.	☐	☐	☐	☐	☐	☐
4. Newspapers are edited in the best interests of the general public.	☐	☐	☐	☐	☐	☐

	always	almost always	occasionally	not usually	hardly ever	never
5. Do the newspapers you read place too much emphasis on news of conflict.	☐	☐	☐	☐	☐	☐
6. Were the news stories you read in the 1968 campaign fair to both Stanfield and Trudeau.	☐	☐	☐	☐	☐	☐
7. Do you think that the daily newspaper is the best place to get news accurately.	☐	☐	☐	☐	☐	☐
8. Do you believe that the daily newspapers give fair and unprejudiced news about news involving negroes.	☐	☐	☐	☐	☐	☐

The following is a list of statement, some of which may be true for you and some of which may not be true for you.

If the statement is true for you, circle the letter 'T' at the right of that statement.

If the statement is not true for you, circle the letter 'F' at the right of that statement.

Work rapidly; don't spend a lot of time on any one statement.

There are no right or wrong answers, as every person is different.

		True	False
1.	I get discouraged easily.	T	F
2.	I consider it important to be held in high esteem by those I know.	T	F
3.	I live from day to day without trying to fit my activities into a pattern.	T	F
4.	Philosophical discussions are a waste of time.	T	F
5.	I believe I am no more nervous than most others.	T	F
6.	In general, I find it hard to talk when I meet new people.	T	F
7.	I give little thought to the impression I make on others.	T	F
8.	When I talk to a doctor, I want him to give me a detailed explanation of any illness I have.	T	F
9.	I often try to grasp the relationships between different things that happen.	T	F
10.	I work under a great deal of tension.	T	F
11.	I often feel self-conscious.	T	F
12.	I very much enjoy being complimented.	T	F

	True	False
13. It doesn't bother me to put aside anything I have been doing without finishing it.	T	F
14. I can't see how intellectuals get personal satisfaction from their impractical lives.	T	F
15. I cannot keep my mind on one thing.	T	F
16. I do not hesitate to put my abilities to test.	T	F
17. Social approval is unimportant to me.	T	F
18. I dont enjoy confused conversations where people are unsure of what they mean to say.	T	F
19. I do almost as much reading on my own as I did for classes when I was in school.	T	F
20. I am more sensitive than most other people.	T	F
21. I often feel dissatisfied with myself.	T	F
22. The good opinion of one's friends is one of the chief rewards for living a good life.	T	F
23. I tend to start right in on a new task without spending much time thinking about the best way to proceed.	T	F
24. If the relationships between theories and facts are not immediately evident, I see no point in trying to find them.	T	F
25. I frequently find myself worrying about something.	T	F

	True	False
26. I sometimes feel that there is nothing I can do well.	T	F
27. The opinions that important people have of me cause me little concern.	T	F
28. Before I ask a question, I figure out exactly what I know already and what it is I need to find out.	T	F
29. I have unlimited curiosity about many things.	T	F
30. I am usually calm and not easily upset.	T	F
31. I often would rather not express an opinion for fear of being thought ridiculous.	T	F
32. I constantly try to make people think highly of me.	T	F
33. When I need one thing at the store, I get it without thinking what else I may need soon.	T	F
34. When I was a child I showed no interest in books.	T	F
35. I feel anxiety about something or someone almost all the time.	T	F
36. I worry about being a success in life.	T	F
37. It seems foolish to me to worry about my public image.	T	F
38. It upsets me to go into a situation without knowing what I can expect from it.	T	F
39. I would very much like to know how and why natural events occur in the way they do.	T	F

	True	False
40. I am happy most of the time.	T	F
41. I often feel worried or bothered about what other people think of me.	T	F
42. Nothing would hurt me more than to have a bad reputation.	T	F
43. I like to be with people who are unpredictable.	T	F
44. Abstract ideas are of little use to me.	T	F
45. I have periods of such great restlessness that I cannot sit long in a chair.	T	F
46. I have difficulty making up my mind.	T	F
47. I will not go out of my way to behave in an approved way.	T	F
48. I won't answer a person's question until I am very clear as to what he is asking.	T	F
49. When I see a new invention, I attempt to find out how it works.	T	F
50. I have sometimes felt that difficulties were piling up so high that I could not overcome them.	T	F
51. I often feel rather useless.	T	F
52. When I am doing something, I often worry about what other people will think	T	F
53. I don't keep a very accurate account of my financial resources.	T	F
54. It is more important to me to be good at a sport than to know about literature and science.	T	F

	True	False
55. I find it hard to keep my mind on a task or job.	T	F
56. In general, I'm self-confident about my abilities.	T	F
57. I don't care if my clothes are unstylish as long as I like them.	T	F
58. I don't like situations that are uncertain.	T	F
59. I am more at home in an intellectual discussion than in a discussion of sports.	T	F
60. I am not unusually self conscious.	T	F
61. I try to get at least some sleep every night.	T	F
62. One of the things which spurs me on to do my best is the realization that I will be praised for my work.	T	F
63. I very seldom make detailed plans.	T	F
64. I really don't know what is involved in any of the latest cultural developments.	T	F
65. I am inclined to take things hard.	T	F
66. I make all my own clothes and shoes.	T	F
67. If I have done something well, I don't bother to call it to other people's attention.	T	F
68. I would never make something without having a good idea of what the finished product should look like.	T	F

	True	False
69. If I believe something is true, I try to prove that my theory will hold up in actual practice.	T	F
70. Life is a strain for me much of the time.	T	F
71. I rarely use food or drink of any kind.	T	F
72. I feel that my life would not be complete if I failed to gain distinction and social prestige.	T	F
73. When I take a vacation I like to go without detailed plans or time schedules.	T	F
74. I would rather be an accountant than a theoretical mathematician.	T	F
75. At times I think I am no good at all.	T	F
76. Sometimes I feel thirsty or hungry.	T	F
77. I don't try to "keep up with the Joneses."	T	F
78. My work is carefully planned and organized before it is begun.	T	F
79. I like to read several books on one topic at the same time.	T	F
80. I am certainly lacking in self-confidence.	T	F
81. I have no sense of touch in my fingers	T	F
82. I would not consider myself a success unless other people viewed me as such.	T	F
83. I like the adventure of going into a new situation without knowing what might happen.	T	F
84. I would rather build something with my hands than try to develop scientific theories.	T	F

	True	False
85. I certainly feel useless at times.	T	F
86. I wear clothes when I am around other people.	T	F
87. When I am being introduced, I don't like the person to make lengthy comments about what I have done.	T	F
88. Each day I check the weather report so that I will know what to wear.	T	F
89. I am unable to think of anything that I wouldn't enjoy learning about.	T	F
90. I am a high strung person.	T	F
91. I can't believe that wood really burns.	T	F
92. I do a good job more to gain approval than because I like my work.	T	F
93. Once in a while I like to take a chance on something that isn't sure - such as gambling.	T	F
94. There are many activities that I prefer to reading.	T	F
95. I sometimes feel that I am about to go to pieces.	T	F
96. I am able to breath.	T	F
97. Inner satisfaction rather than fame is my goal in life.	T	F
98. I have no use for theories which are only good guesses and are not closely tied to facts.	T	F
99. If I were going to an art exhibit, I would first try to learn about the artist, his style and technique, his philosophy of art, and the story behind each piece of work.	T	F

		True	False
100.	I shrink from facing a crisis or difficulty.	T	F

The following are some statements of what the general public thinks about a number of different issues. You may find youself agreeing strongly with some statement, disagreeing just as strongly with others, and perhaps uncertain about others. The best answer to each statement is your personal opinion. Whether you agree or disagree with any statement, you can be sure many other people feel the same as you do. Mark each statement by checking the appropriate box according to how much you agree or disagree with the statement.

	I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I disagree very much
1. Individuals who are against churches and religion should not be allowed to teach in colleges.	☐	☐	☐	☐	☐	☐
2. Large fortunes should be taxed fairly heavily over and above income taxes.	☐	☐	☐	☐	☐	☐
3. Both public and private universities and colleges should get generous aid from both provincial and federal governments.	☐	☐	☐	☐	☐	☐

	I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I disagree very much
4. Science and society would both be better off if scientists took no part in politics	☐	☐	☐	☐	☐	☐
5. Society should be quicker to throw out old ideas and traditions and to adopt new thinking and customs.	☐	☐	☐	☐	☐	☐
6. To ensure adequate care of the sick, we need to change radically the present system of privately controlled medical care.	☐	☐	☐	☐	☐	☐
7. If civilization is to survive, there must be a turning back to religion.	☐	☐	☐	☐	☐	☐
8. A first consideration in any society is the protection of property rights.	☐	☐	☐	☐	☐	☐

	I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I dis-agree very much
9. Government ownership and management of utilities leads to bureaucracy and inefficiency.	☐	☐	☐	☐	☐	☐
10. If Canada takes part in any sort of world organization, we should be sure that we lose none of our power and influence.	☐	☐	☐	☐	☐	☐
11. Funds for school construction should come from provincial and federal government loans at no interest or very low interest.	☐	☐	☐	☐	☐	☐
12. Inherited racial characteristics play more of a part in the achievement of individuals and groups than is generally known.	☐	☐	☐	☐	☐	☐

	I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I disagree very much
13. Federal government aid for the construction of schools is long overdue, and should be instituted as a permanent policy.	☐	☐	☐	☐	☐	☐
14. Our present economic system should be reformed so that profits are replaced by reimbursements for useful work.	☐	☐	☐	☐	☐	☐
15. Public enterprises, such as railroads, should not make profits; they are entitled to fares sufficient to enable them only to pay a fair interest on the actual cash capital they have invested.	☐	☐	☐	☐	☐	☐
16. Government laws and regulations should first ensure the prosperity of business, since the prosperity of all depends on the prosperity of business.	☐	☐	☐	☐	☐	☐

	I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I disagree very much
17. All individuals who are intellectually capable of benefiting from it should get college education, at public expense, if necessary.	☐	☐	☐	☐	☐	☐
18. The well-being of a nation depends mainly on its industry and business.	☐	☐	☐	☐	☐	☐
19. True democracy is limited in Canada because of special privileges enjoyed by business and industry.	☐	☐	☐	☐	☐	☐
20. The gradual social ownership of industry needs to be encouraged if we are to cure some of the ills in our society.	☐	☐	☐	☐	☐	☐
21. There are too many professors in our colleges and universities who are radical in their social and political beliefs.	☐	☐	☐	☐	☐	☐

	I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I disagree very much
22. There should be no government interference with business and trade.	☐	☐	☐	☐	☐	☐
23. Some sort of religious education should be given in public schools.	☐	☐	☐	☐	☐	☐
24. Unemployment insurance is an inalienable right of the working man.	☐	☐	☐	☐	☐	☐
25. Individuals with the ability and foresight to earn and accumulate wealth should have the right to enjoy that wealth without government interference or regulation.	☐	☐	☐	☐	☐	☐
26. The United Nations should be whole-heartedly supported by all of us.	☐	☐	☐	☐	☐	☐

APPENDIX II

DOCUMENTATION ON THE INDEPENDENT VARIABLES

1. Personality Traits
2. Opinion Measures
3. Leisure Interests
4. Purchase Records
5. Product Use.

This appendix provides the source documentation and scaling information on the independent variables.[1]

The Personality Trait Measures

1. Cognitive Structure

Description - Twenty item scale concerning a person's desire for completeness and structure in information.

Source - D. Jackson, Personality Research Form (Princeton: Research Psychologists Press, Inc., 1969).

Response Mode - True or false statement.

Scoring - Two for the answer supporting the trait, one for the other answer, and Ø for nonresponse.[2]

2. Social Recognition

Description - Twenty item scale assessing a person's concern about reputation and what other people think of him.

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[1] Independent variables not mentioned in this appendix are single item measures and as such are not scaled.

[2] The response mode and scoring for all the personality trait measures was the same; the social recognition and understanding scales were also taken from Jackson.

3. Understanding

Description - Twenty item scale concerning a person's wish to understand many areas of knowledge.

4. Manifest Anxiety

Description - Twenty item scale assessing a person's general level of uneasiness, concern, tension, apprehensiveness, or worry.

Source - J. Taylor, "A Personality Scale of Manifest Anxiety," Journal of Abnormal and Social Psychology XLVIII (1953), pp. 285-290.

A. Bendig, "The Development of a Short Form Manifest Anxiety Scale," Journal of Consulting Psychology, XX (1956), pp. 348-350.

5. General Self-confidence

Description - Twelve item scale measuring a person's belief in his ability to be generally successful.

Source - J. Fry and F. Siller, "Housewife Decision Making in Two Social Classes," Journal of Marketing Research, VII (1970), pp. 333-337.

O. Brim, et al., Personality and Decision Processes (Stanford: Stanford University Press, 1962), pp. 307-308.

J. Janis and P. Field, "The Janis and Field Personality Questionnaire," Personality and Persuasibility, (ed.) C. Hovland and J. Janis (New Haven: Yale University Press, 1969), pp. 300-301.

The Opinion Related Measures

1. Furniture and Appliance Buying Intentions

Description - Nine item scale determining the household's purchasing intentions over the next six months.

Source - The research firm.

Response Mode - Five alternatives: definitely will buy, probably will buy, probably won't buy, definitely won't buy, and don't know.

Scoring - Four for definitely will buy down to one for definitely won't buy; don't know response not scorable due to integration with nonresponses.[1]

2. Automobile Buying Intentions

Description - One item scale determining the household's purchasing intentions over the next twelve months.

3. Newspaper Rating

Description - Eight item scale concerning a person's attitude towards the newspaper as a mass communications medium.

Source - J. Rogers, "Prospective Teachers' Attitudes Towards Freedom of Information," Journalism Quarterly, XXXII (1955), pp. 169-176.

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[1] The source, response mode, and scoring for both the buying intention measures was the same.

Response Mode - Six alternatives; for the first four items: agree very much, agree on the whole, agree a little, disagree a little, disagree on the whole, and disagree very much; for the second four items: always, almost always, occasionally, not usually, hardly ever, and never.

Scoring - Six for answers that are favorable to the newspaper down to one for answers that are unfavorable to the newspaper.

4. Advertising Rating

Description - Ten item scale giving a description of various attributes of advertising.

Source - Bureau of Advertising, The Daily Newspaper and Its Reading Public (New York: Bureau of Advertising, 1961), p. 54.

Response Mode - A six point response set covering the range from the description fits very well to it doesn't fit at all.

Scoring - Six for answers that are favorable to advertising down to one for answers that are unfavorable to advertising.

5. Liberalism

Description - Twenty-six item scale measuring a person's attitudes on a general liberalism/conservatism dimension.

Source - M. Shaw and J. Wright, Scales for the Measurement of Attitudes (New York: McGraw-Hill Book Co., 1967), p. 542.

Response Mode - Six alternatives: I agree very much, I agree on the whole, I agree a little, I disagree a little, I disagree on the whole, and I disagree very much.

Scoring - Six for liberal answers down to one for conservative answers.

6. Newspaper Coverage

Description - Six item scale covering the newspaper news coverage.

Source - The research firm.

Response Mode - Two alternative rankings: yes and no.

Scoring - One for yes - answer favorable to newspapers - and zero for no.

7. Newspaper Source

Description - Eight item scale concerning the newspaper as a source of information on various topics.

Source - The research firm.

Response Mode - Two alternative rankings: yes and no.

Scoring - One for yes - answer favorable to newspapers - and zero for no.

8. Newspaper Personality

Description - Twenty-two item scale concerning the personality image of the newspaper.

Source - The Richmond Newspaper, Inc., The Climate of Persuasion; a Study of Public Image of Advertising Media (Richmond: The Richmond Newspapers, Inc., 1959).

Response Mode - A six point semantic differential type response set.

Scoring - Six for answers that are favorable to the newspaper down to one for answers unfavorable to the newspaper.

The Leisure Interest Measures

1. Hobbies

   Description - Five item scale concerning women's hobby interests.

   Source - The research firm.

   Response Mode - Three alternatives: keenly interested, passing interest, and uninterested.

   Scoring - Three for keen interest in the hobby down to one for passing interest.

2. Sports

   Description - Thirteen item scale covering a person's interest in various sports.

   Source - The research firm.

   Response Mode - Three alternatives: keenly interested, passing interest, and uninterested; for each of two classifications: spectator and participant.

   Scoring - Three for keenly interested in the sport down to one for uninterested and the classifications aggregated.

The Purchase Record Measures

1. Automobiles and Accessories

   Description - Three shopping diary entries recording the purchase of an automobile or automobile accessories during the week.

   Source - The research firm.

Response Mode - Two alternatives: yes or no.

Scoring - Two for a purchase recorded and one for no purchase.[1]

The Product Use Measures

1. Movie Attendance

Description - Three diary entries recording the frequency of movie attendance.

Source - The research firm.

Response Mode - Record number of movies attended.

Scoring - One for attendance, zero for no attendance.

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[1]All the purchase record scales - household appliances, cigars and cigarettes, groceries, men's clothing, and women's clothing - were the same in format and scoring.

APPENDIX III

THE AIDED-RECOGNITION MEASURE

The measure of newspaper readership used in this study is an uncontrolled, self-administered, day-after, aided-recognition measure based on the contents of one-quarter of a newspaper page. Since this study is one of the first to report on this measurement technique, it is important to consider the relative position of this measurement process among the measurement alternatives and it is also important to carefully assess the limitations of the measure.[1]

An investigation of the measurement alternatives that range from cognition to conation clearly indicates that the measure used in this study falls within the realm of cognitive activity.[2] Cognition is taken to relate to the acquisition of awareness and knowledge. On the other hand, the higher level measures -- affectation and conation -- are taken to relate to the development of a favorable or unfavorable feeling and the occurrence of a state of unrest or tension,

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[1]The measurement concept was developed by ORC International Limited for the Canadian Daily Newspaper Publisher's Association. The method was pretested on the Hamilton Spectator and subsequently adopted by the CDNPA for a series of studies on Canadian newspapers.

[2]J. Haskins, "Factual Recall as a Measure of Advertising Effectiveness", Journal of Advertising Research, IV(1964), pp. 2-8.

R. Lavidge and G. Steiner, "A Model for Predictive Measurements of Advertising Effectiveness", Journal of Marketing, XXV(1961), pp. 59-62.

K. Palda, "The Hypothesis of a Hierarchy of Effects: A Partial Evaluation", Journal of Marketing Research, III(1966), pp. 13-24.

respectively. Furthermore, the measure used in this study operates at the most elementary level of cognitive/memory activity requiring only that a quarter newspaper page be recognized as one that has or has not been seen previously. The measure makes no attempt to determine which part of the quarter newspaper page was seen or which part was recalled.

The measure used in this study is conceptually similar to the "noted" type of measurement commonly used in advertising research.[1] The "noted" measure usually reports the percentage of readers of a magazine who say they have previously seen an advertisement in the magazine. The "noted" measure, like the aided-recognition measure reported in this study, does not subsume or imply the more sophisticated recall implications of the "seen/associated" or "read most" measures that are also commonly used in advertising research.[2] The latter measures investigate aspects of what is remembered from the recognized ("noted") advertisement and how much of it was read, respectively.

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[1]D. Starch, Factors in Readership Measurement (New York: Daniel Starch and Staff, 1946).

D. Neu, "Measuring Advertisement Recognition", Journal of Advertising Research, I(1961), pp. 17-22.

D. Lucas and S. Britt, Measuring Advertising Effectiveness (New York: McGraw-Hill Book Company, 1963), pp. 50-53.

D. Lucas, "The ABCs of ARF's PARM", Journal of Marketing, XXV (1960), pp. 9-20.

K. Rotzoll, "The Starch and Ted Bates Correlative Measures of Advertising Effectiveness", Journal of Advertising Research, IV(1964), pp. 22-24.

[2]P. Robinson, et al., Advertising Measurement and Decision Making (Boston: Allyn and Bacon, Inc., 1968), pp. 33-34.

The principal limitations of the type of recognition measure used in this study generally stem from the freedom of the respondent to claim recognition for anything that he wants. The uncontrolled nature of this situation can result in unidentified errors in the recognition measure. Some of the commonly accepted causes of error in the measure are:[1]

(1) a genuine confusion with other material seen,

(2) guessing about recognition under conditions of uncertainty,

(3) making deliberate overstatements or understatements about recognition,

(4) deducing that the material was seen on the basis of recognition of the surrounding material,

(5) deducing that the material was seen on the basis of a knowledge of one's own reading habits,

(6) a desire to please or disappoint the interviewer,

(7) a hesitancy to show ignorance, and

(8) a misunderstanding of the response instructions.

Other limitations of the measure relate to the need for long interviews or questionnaires that may cause interviewer and/or respondent fatigue and result in poor performance. Large, costly, representative samples

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[1]Lucas and Britt, p. 60

V. Appel and M. Blum, "Ad Recognition and Response Set", Journal of Advertising Research, I(1961), pp. 13-21.

W. Moran, "Measuring Exposure to Advertisements", Journal of Applied Psychology, XXXV(1951), pp. 72-77.

W. Wells, "Recognition, Recall, and Rating Scales", Journal of Advertising Research, IV(1964), pp. 2-8.

E. Marder and M. David, "Recognition of Ad Elements: Recall or Projection", Journal of Advertising Research, I(1961), pp. 23-25.

are required on which to administer the measure and, last but not least, high standards and careful controls are necessary in the execution of the fieldwork.

Despite the limitations of the measure, it remains a popular and widely used instrument in media and advertising investigations. Its greatest asset lies in that it is one of the few measures that assesses the exposure to media or advertisements under normal conditions of use. The measure bears no taint of laboratory testing or forced attention to artificial stimuli. One can test the recognition associated with real newspaper reading. The adaptability of the concept is also a factor in its favor and it can be used for a variety of media under a variety of conditions. Finally, the costs of measuring newspaper readership remain relatively modest when this technique is used.

APPENDIX IV

SAMPLE/POPULATION DEMOGRAPHY

The demographic data for the sample members and for the general population of London are reported below. The general population figures are taken from the 1961 Census of Canada reports. A comparison between these figures must be made with care on two counts —

(1) the sample population has two constraints not present in the Census figures:
   -geographically, the sample population was constrained to home delivery zones for the newspaper,
   -only persons 15 years of age and over were eligible for sample membership.

(2) the Census data predate the sample by eight years.

Demographic Category	Members of Sample	Population of London
Sex		
-Male	45%	48%
-Female	55%	52%
Age		
-Less than 15 years	-	30
-15 to 24	17	14
-25 to 34	27	15
-35 to 44	23	15
-45 to 54	15	10
-55 years and over	18	16
Education		
-No more than elementary school	18	35
-Some or all of high school	66	56
-Some or all of university	16	9
Marital Status		
-Married	75	47
-Single	15	46
-Widowed, separated, or divorced	10	7
Family Income		
-Under $6,000	31	83
-$6,000 to $9,900	43	14
-Over $10,000	26	3

REFERENCES

Appel, V. & Blum, M. Ad recognition and response set. Journal of Advertising Research, 1961, 1, 13-21.

Bartlett, F. Remembering, A Study in Experimental and Social Psychology. Cambridge: University Press, 1932.

Bendig, A. The development of a short form manifest anxiety scale. Journal of Consulting Psychology, 1956, 20, 348-350.

Berelson, B. What missing the newspaper means. In P. Lazarsfeld (Ed.), Communications Research, New York: Harper and Brothers, 1949, pp. 111-129.

Berelson, B. Content Analysis in Communications Research. Glencoe: The Free Press, 1952.

Berelson, B. & Steiner, G. (Eds.). Human Behavior: An Inventory of Scientific Findings. New York: Harcourt, Brace and World, Inc., 1964.

Bogart, L. & Tolley, B. The impact of blank space: an experiment in advertising readership. The Journal of Advertising Research, 1964, 2, 21-27.

Brim, O., et al. Personality and Decision Processes. Stanford: Stanford University Press, 1962.

Brody, R. & Cunningham, S. Personality variables and consumer decision processes. Journal of Marketing Research, 1968, 5, 50-57.

Buss, L. Motivational variables and information seeking in the mass media. Journalism Quarterly, 1967, 44, 130-132.

Canadian Daily Newspaper Publisher's Association. New Dimensions - Canada's Daily Newspapers Today. Toronto: Canadian Daily Newspaper Publisher's Association, 1969.

Cannell, C. & MacDonald, J. The impact of health news on attitudes and behavior. Journalism Quarterly, 1956, 33, 315-323.

Canon, L. Self-confidence and selective exposure to information. In L. Festinger (Ed.), Conflict, Decision, and Dissonance, Stanford: Stanford University Press, 1964, pp. 83-95.

Church, G. The socio-psychological nature of the news. Social Forces, 1938, 17, 190-195.

Clarke, P. & James, J. The effect of situation, attitude intensity, and personality on information seeking. Sociometry, 1967, 30, 235-245.

Cochran, W. The X^2 correction for continuity. Iowa State College Journal of Science, 1942, 16, 421-437.

Cochran, W. The X^2 test of goodness of fit. Annals of Mathematical Statistics, 1952, 23, 315-345.

Crossland, H. A qualitative analysis of the process of forgetting. Psychological Monograph, 1921, 29, 67.

Dember, W. The Psychology of Perception. New York: Holt, Rinehart and Winston, 1960.

Ehrlich, D., et al. Post decision exposure to relevant information. The Journal of Abnormal and Social Psychology, 1957, 54, 98-102.

Feather, N. Cigarette smoking and lung cancer: a study in cognitive dissonance. Australian Journal of Psychology, 1962, 14, 55-64.

Festinger, L. A Theory of Cognitive Dissonance. Evanston: Row, Peterson and Co., 1957.

Festinger, L. Conflict, Decision, and Dissonance. Stanford: Stanford University Press, 1964.

Freedman, J. Confidence, utility, and selective exposure: a partial replication. Journal of Personality and Social Psychology, 1965, 2, 778-780.

Freund, J. Mathematical Statistics. Englewood Cliffs: Prentice-Hall, Inc., 1962.

Fry, J. & Siller, F. A comparison of housewife decision making in two social classes. Journal of Marketing Research, 1970, 7, 333-337.

Fry, J. Personality variables and cigarette brand choice. Journal of Marketing Research, 1971, 8, 298-304.

Gordon, K. Memory viewed as imagination. Journal of General Psychology, 1937, 17, 113-124.

Haskins, J. Factual recall as a measure of advertising effectiveness. Journal of Advertising Research, 1964, 4, 2-8.

Hoel, P. Introduction to Mathematical Statistics. New York: John Wiley and Sons, Inc., 1962.

Hogg, R. & Craig, A. Introduction to Mathematical Statistics, 2nd Ed. New York: The Macmillan Co., 1965.

Howard, J. Marketing Theory. Boston: Allyn and Bacon, 1965.

Hyman, H. & Sheatsley, P. Some reasons why information campaigns fail. The Public Opinion Quarterly, 1947, 9, 412-423.

Jackson, D. Personality Research Form. Princeton: Research Psychologists Press, Inc., 1969.

Janis, J. & Field, P. The Janis and Field Personality Questionnaire. In C. Hovland & J. Janis (Eds.) Personality and Persuasibility, New Haven: Yale University Press, 1959, pp. 300-301.

Jecker, J. Selective exposure to information. In L. Festinger (Ed.) Conflict, Decisions, and Dissonance, Stanford: Stanford University Press, 1964, pp. 65-81.

Kassarjian, H. Personality and consumer behavior: a review. Journal of Marketing Research, 1971, 8, 409-418.

Katona, G. The Powerful Consumer. New York: McGraw-Hill Book Co., 1960.

Katona, G. The Mass Consumption Society. New York: McGraw-Hill Book Co., 1964.

Katz, L. & Lazarsfeld, P. Personal Influence. New York: The Free Press, 1955.

Klapper, J. The Effects of Mass Communications. Glencoe: The Free Press, 1960.

Kay, H. Towards an understanding of news-reading behavior. Journalism Quarterly, 1954, 31, 15-32.

Lavidge, R. & Steiner, G. A model for predictive measurements of advertising effectiveness. Journal of Marketing, 1961, 25, 59-62.

Lazarsfeld, P., Berelson, B. & Gaudet, H. The Peoples Choice. New York: Columbia University Press, 1948.

Lipset, S. Opinion formation in a crisis situation. The Public Opinion Quarterly, 1953, 17, 20-46.

Long, B. & Ziller, R. Dogmatism and predecisional information search. Journal of Applied Psychology, 1965, 49, 376-378.

Lucas, D. The ABCs of ARF's PARM. Journal of Marketing, 1960, 25, 9-20.

Lucas, D. & Britt, S. Measuring Advertising Effectiveness. New York: McGraw-Hill Book Company, Inc., 1963.

McNemar, Q. Psychological Statistics. 3rd Ed. New York: John Wiley and Sons, Inc., 1966.

Marder, E. & David, M. Recognition of ad elements: recall or projection. Journal of Advertising Research, 1961, 1, 23-25.

Maslow, A. The need to know and the fear of knowing. Journal of General Psychology, 1963, 67, 111-125.

Montgomery, D. & Morrison, D. Adjusting R^2, A Marketing Science Institute Technical Report. Cambridge: Marketing Institute, 1971.

Mood, A. & Graybill, F. Introduction to the Theory of Statistics. 2nd Ed. New York: McGraw-Hill Book Co., 1963.

Moran, W. Measuring exposure to advertisements. Journal of Applied Psychology, 1951, 35, 72-77.

Neu, D. Measuring advertisement recognition. Journal of Advertising Research, 1961, 1, 17-22.

Palda, K. The hypothesis of a hierarchy of effects: a partial evaluation. Journal of Marketing Research, 1966, 3, 13-24.

Pear, T. Remembering and Forgetting. New York: Dutton Press, 1922.

Rapaport, D. Emotions and Memory. 2nd Ed. New York: International University Press, 1959.

Robinson, P., et al. Advertising Measurement and Decision Making. Boston: Allyn and Bacon, Inc., 1968.

Rogers, J. Prospective teachers' attitudes towards freedom of information. Journalism Quarterly, 1955, 32, 169-176.

Rokeache, M. The Open and Closed Mind. New York: Basic Books, Inc., 1960.

Rosen, S. Post decision affinity for incompatible information. Journal of Abnormal and Social Psychology, 1961, 63, 188-190.

Rotzoll, K. The Starch and Ted Bates correlative measures of advertising effectiveness.. Journal of Advertising Research, 1964, 4, 22-24.

Schran, W. The nature of the news. Journalism Quarterly, 1949, 14, 259-269.

Sears, D. Biased indoctrination and selectivity of exposure to new information. Sociometry, 1965, 28, 363-376.

Sears, D. & Freedman, J. Selective exposure to information: a critical review. The Public Opinion Quarterly, 1967, 31, pp. 194-213.

Shaw, M. & Wright, J. Scales for the Measurement of Attitudes. New York: McGraw-Hill Book Co., 1958.

Sparks, D. & Tucker, W. A multivariate analysis of personality and product use. Journal of Marketing Research, 1971, 8, 67-70.

Star, S. & Hughes, H. Report of an educational campaign: the Cincinnati plan for the United Nations. The American Journal of Sociology, 1950, 4, 389-400.

Starch, D. Factors in Readership Measurement, New York: Daniel Starch and Staff, 1946.

Stern, W. General Psychology from the Personalistic Standpoint. H. Spoerl (Trans.). New York: Macmillan, Inc., 1938.

Taylor, J. A personality scale of manifest anxiety. Journal of Abnormal and Social Psychology, 1953, 48, 285-290.

Troldahl, V. & Jones, R. Predictors of newspaper advertisement readership. Journal of Advertising Research, 1965, 4, 23-27.

Tucker, W. Foundations for a Theory of Consumer Behavior. New York: Holt, Rinehart and Winston, 1967.

Wells, W. Recognition, recall, and rating scales. Journal of Advertising Research, 1964, 4, 2-8.

Wheller, R. The Laws of Human Nature, A General Review of Gestalt Psychology. New York: Appelton, Inc., 1932.

Wonnacott, R. & Wonnacott, T. Introductory Statistics. New York: John Wiley and Sons, Inc., 1969.