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ABSTRACT

An overview of relevant literature reveals that residents in urban areas apparently have a multitude of nonoccupational information needs which are not being satisfied within the constraints of existing information resources and systems. A conceptual framework was drawn, focusing on four basic components--urban residents, their needs, sources of information, and solutions--and linkages or interactions among them. The Baltimore Urbanized Area was chosen for the investigation, and extensive exploratory work was undertaken towards the end of obtaining data. A survey instrument was developed and pre-tested, then was utilized in gathering data from a cross-sectional random sample of residents. The great quantity of data elicited were analyzed in terms of information needs, information-seeking strategies (behavior), and search outcomes. In a final exploratory testing phase an attempt was made to develop a methodology for assessing the capability of library and information agencies to deal with the problems/questions identified by residents in the earlier survey phase. (Author)

Final Report

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Edward S. Warner, Regional Planning Council
Ann D. Murray, Westat, Inc.
Vernon E. Palmour, Westat, Inc.

Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202

and

Westat, Inc.
11600 Nebel Street
Rockville, Maryland 20852

INFORMATION NEEDS OF URBAN RESIDENTS

December, 1973

U.S. Department of Health, Education, and Welfare
Office of Education
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by

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Submitted by

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701 St. Paul Street
Baltimore, Maryland 21202

and

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Rockville, Maryland 20852

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An overview of relevant literature reveals that residents in urban areas apparently have a multitude of nonoccupational information needs which are not being satisfied within the constraints of existing information resources and systems. A conceptual framework was drawn, focusing on four basic components -- urban residents, their needs, sources of information, and solutions -- and the linkages or interactions among them. The Baltimore Urbanized Area was chosen for the investigation, and extensive exploratory work was undertaken towards the end of obtaining data. A survey instrument was developed and pretested, then was utilized in gathering data from a cross-sectional random sample of residents. The great quantity of data elicited were analyzed in terms of information needs, information-seeking strategies (behavior), and search outcomes. In a final exploratory testing phase an attempt was made to develop a methodology for assessing the capability of library and information agencies to deal with the problems/questions identified by residents in the earlier survey phase.

PREFACE

This Report reflects -- to the extent that mere print can mirror the dynamics of an enterprise spanning over two years[1] -- the development and testing of methodology for measuring, as well as the determination and analysis of, information needs, information-seeking strategies, and search outcomes of residents in an urban area.

The Project took its form and ran its course with the talent, helpfulness, and perseverance of a number of individuals, several of whom made a distinctive impact on the enterprise.

Edwin E. Olson, School of Library and Information Services, University of Maryland, contributed a great deal to the overall study design and was primarily responsible for designing the final exploratory testing phase. Brenda Dervin, School of Communications, University of Washington, was the primary architect of the conceptual scheme and, in addition, provided valuable assistance to the content analysis and coding efforts.

George McGimsey, Regional Planning Council, was most helpful in resolving management issues, and contributed to the analysis of survey data. Nettie B. Taylor, Maryland Division of Library Development and Services, was very supportive throughout the duration of the Project, as was the Chairman, Edwin Castagna, and other members of the Regional Planning Council's Technical Committee on Library Service.

Additionally, we appreciate the helpfulness of Hazel Woodson, Regional Planning Council, particularly during the

[1] July, 1971 - October, 1973.

presurvey exploratory phase, and who rendered her assistance throughout the enterprise; Philip Kuehl, Department of Business Administration, University of Maryland, for his contributions to the design of the survey instrument; Morris Hansen, Westat, Inc. for his role in the sample design; Mark Waksberg, Westat, Inc. who contributed a great deal to the survey, postsurvey, content analysis, and coding operations; and of Marcia Bellassai, Westat, Inc. for her extensive analysis of survey data. Matthew Lee, Jon Oyhus, and Robert Jones, all of Westat, Inc., were most patient and helpful programmers.

The final exploratory testing phase was a product of the efforts of a number of people, in addition to Edwin Olson. To Carolyn Forsman, doctoral student in the School of Library and Information Services, University of Maryland; Elizabeth Hage, Prince Georges' Public Library and the staff of that system's Community Library Information Center (CLIC); Mary Ruth Duncan, Jeffery Rice, Joan Taylor, and Mary Louis Saulsbury -- all of the School of Library and Information Services -- we extend our gratitude.

Finally, we appreciate the work of Marriane Swain and Jean-Anne South, who helped pull it all together toward the close of the Project.

Two of the chapters in this Report bear the names of the individuals primarily responsible for them -- Brenda Dervin and Edwin Olson, respectively. The authors did, however, input to these chapters and exercised an editing function with respect to them.

Edward S. Warner
Ann D. Murray
Vernon E. Palmour
December, 1973

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1. SUMMARY

An overview of the literature revealed that urban residents apparently have a multitude of information needs which are not being satisfied within the constraints of existing information resources and systems. There is general agreement in the literature that a focus on the information needs of urban residents is necessary to the development and management of delivery systems to meet those needs, so that research that looks specifically at the nature of those needs appears to be desirable. The central focus of this enterprise, then, has been on a cross section of residents in an urban environment and their everyday information needs.

A conceptual framework for the conduct of the study was developed. This framework contained four basic elements: individual residents, their needs, sources of information, and solutions to needs and problems. It was determined that the characteristics of each of the four components, as well as of the linkages or interactions between the components, must be understood because it was postulated that along these linkages the barriers to information accessibility occur. These barriers were typed as societal, institutional, physical, and intellectual. A review of the literature organized around the conceptual model was undertaken, revealing knowledge gaps. Major research questions were then formulated.

The site for the study was the Baltimore Urbanized Area, as defined by the U.S. Bureau of the Census. A multimethod approach was employed to elicit data, although the primary data-gathering technique was that of a cross sectional,

random sample household survey. A succession of survey instruments were pretested and modified, resulting in a questionnaire utilizing both open-end and closed-end queries.

The rather large quantity of data obtained was coded, summarized, and analyzed so as to produce a number of insights relative to information needs, as well as information seeking strategies and outcomes of urban residents.

The chronicling of information needs, their analyses by subgroups of individuals, and a consideration of individual perception of needs comprised the initial concern in the Project's substantive findings. Eighty-nine percent of the entire sample cited at least one problem/question, with an average of 4.6 problems/questions per respondent. These were coded among 109 specific categories and 14 general topic areas. Problems/questions were analyzed in terms of frequency of mention and importance with continuous attention being given to the manner in which the responses were elicited (aided vs. unaided). Among other things it was found that the young, the highly educated, those with high incomes, and those in professional or managerial occupations were more likely to cite problems/questions than the cross section in the sample. Neighborhood, consumer, and housing and housing maintenance were the most often-cited problems/questions by the entire cross section.

The data indicated that those subgroups of individuals who occupy the most disadvantaged positions in our society are the least likely to articulate information or resource needs and to report fewer problems/questions than other individuals. However, it would be unrealistic to conclude that these individuals have fewer needs for information or services than the more advantaged segments of the population.

An examination of the levels of information-seeking activity indicates that certain subgroups of individuals -- the highly educated, those with high family incomes, and the young -- emerge as information seekers. These individuals are more likely to attempt to solve their problems by seeking information. They use more sources in doing so, and are more gregarious than the cross section of those sampled. Although personal contacts constituted a major means of seeking information for all subgroups, the personal contacts of those who were well-educated and earning high incomes were perceived as being more "helpful," apparently because the contacts were personal acquaintances and professionals.

"Success" in problem solving was found to be related to the characteristics of respondents -- those with the highest levels of education and income were more successful.

In a final exploratory testing phase an attempt was made to develop a methodology for assessing the capability of library and information agencies to deal with the kinds of problems and questions identified by urban residents in the earlier survey. Samples of "most important" problems/questions were proposed to five Baltimore region agencies which claimed general information and referral activites as a major function.

The apparent capability to handle residents' information problems/questions among the agencies varied significantly, particularly when the problems/questions became more vague. However, if the agencies tested had been linked in some kind of a formal or informal resource pool, a reasonably high score (78 percent) in satisfactorily dealing with the problems/questions would have been obtained. This may imply the development of an areawide referral system.

2. INTRODUCTION

2.1 Problem

Existing information technology, although rapidly developing, has not kept pace with the information explosion. One arena in which the technology (and theory) has especially lagged behind is that of the development and management of delivery systems for the information needs of the urban public. During the early history of urbanization, the library responded well to the public's perceived information needs; however, the traditional passive role of the library as a dissemination vehicle has not been effective in contemporary urban society. Therefore, information specialists must examine the means by which the changing information needs of the urban public might be met by the adaptation of existing institutions and/or the creation of new institutional forms.

During the past decade, "user studies" have become a popular tool in planning information services, and have been indicative of a more aggressive approach to satisfying user needs. However, most studies to date have focused exclusively on the needs of the scientific community. These studies have focused on such groups of users as graduate students, chemists, engineers, etc. under the assumption that each population of users was different. As such, conclusions are difficult to compare and extrapolate and dissemination mechanisms (i.e., current awareness services, reference searches, etc.) have been developed to meet the needs of discrete professional groups rather than the community as a whole.

The inadequacy of present dissemination vehicles to meet the needs in urban communities has been recognized by many information specialists and has provided the inspiration for several action projects. These projects represent efforts to explore alternative means of information dissemination in an urban setting (i.e., the Urban Information Specialist Project at the University of Maryland, the Public Information Center in Baltimore, the Apartment Libraries project of the Chicago Public Library, and numerous library and information projects operated with Model Cities funds). Although such efforts are noteworthy, the experience gained through these projects will undoubtedly be of limited applicability in the solution of urban information problems for a number of reasons:

1. Little attempt has been associated with these projects to systematically identify urban information needs. As such, strategies for meeting these needs have been at best haphazard and formulated on a hit-or-miss basis.

2. The conceptualization of project methodologies and findings has been constrained by present resources and mechanisms. Thus, the concept of information has been too often limited to the narrow view of information that is document-related and/or restricted to general subject areas of interest.

3. With poorly formulated strategies and undefined objectives, there is little basis upon which to evaluate the impact of projects on the community. Techniques of assessing the impact of the new mechanisms on the existing information system have not been developed.

4. By restricting the beneficiaries of the new services to specialized groups within a city such as the poor, the Mexican-Americans, the blacks, etc., project experiences have limited implications for most urban environments. These experiences will provide minimal insights as to how information needs and usage differ among particular groups within the city, and project results will not further understanding as to which mechanisms are effective with certain groups and why.

2.2 Study Objectives

Before better dissemination vehicles can be devised, there is clearly a need for systematic research addressed to the following central issues:

1. What are the information needs of the urban community?
2. How are these information needs presently satisfied?
3. Could institutional forms be devised to better satisfy these needs (i.e., more effectively and economically from the public's viewpoint)?

This study focuses on these issues so that the proper groundwork can be laid for positive action to improve mechanisms in urban environments. The study was designed to discover the information needs of residents within the Baltimore Urbanized Area. Particular emphasis was placed on the information needs and the information-seeking behavior of lower income groups.

2.3 Outline of Report

In Chapter Three the conceptual context within which the study was conducted is discussed in detail. A model is developed which provides a conceptual framework for relating the urban resident and his information needs. The available literature is reviewed, and gaps in existing knowledge are identified.

Chapter Four discusses the study design and methodology used in the investigation. Information needs identified during personal interviews with urban residents are presented in Chapter

Five. From the information needs the study progresses, in Chapter Six to the information-seeking strategies used by the residents in their quest to fulfill their needs. Actual search outcomes are analyzed in Chapter Seven. Finally, the results of the final exploratory testing phase are reported in Chapter Eight.

Details on the sample design, household survey methodology, and other data felt to be useful, but too detailed for the main body of the Report, are included as Appendices.

3. INFORMATION NEEDS OF URBAN RESIDENTS: A CONCEPTUAL CONTEXT

by

Brenda Dervin

The central focus of the large scale survey reported in this volume is the typical resident in the urban community and his everyday information needs and problems. What are his information needs and problems? From what sources does he get information to satisfy his needs? To what degree are his needs being satisfied, his problems being solved?

In essence, the study focuses on four basic components -- individual citizens, information needs, information sources, and problem solutions. These components might be termed the basic elements of the information system for the typical resident (Figure 1 presents a schematic drawing of the four components and their interrelationships). The hope is that a presentation of systematic, detailed evidence on these components of the urban information environment will help lay the groundwork for the improvement of the information system serving the average citizen.

The purpose of this specific chapter is to place this large-scale study in a conceptual context. This will be attempted in two stages:

- A model for looking at the individual and his information needs will be presented.
- The model will then be used as the organizing focus for a review of the available literature and identification of knowledge gaps. Essentially, this second section will constitute a "state-of-the-art" presentation.

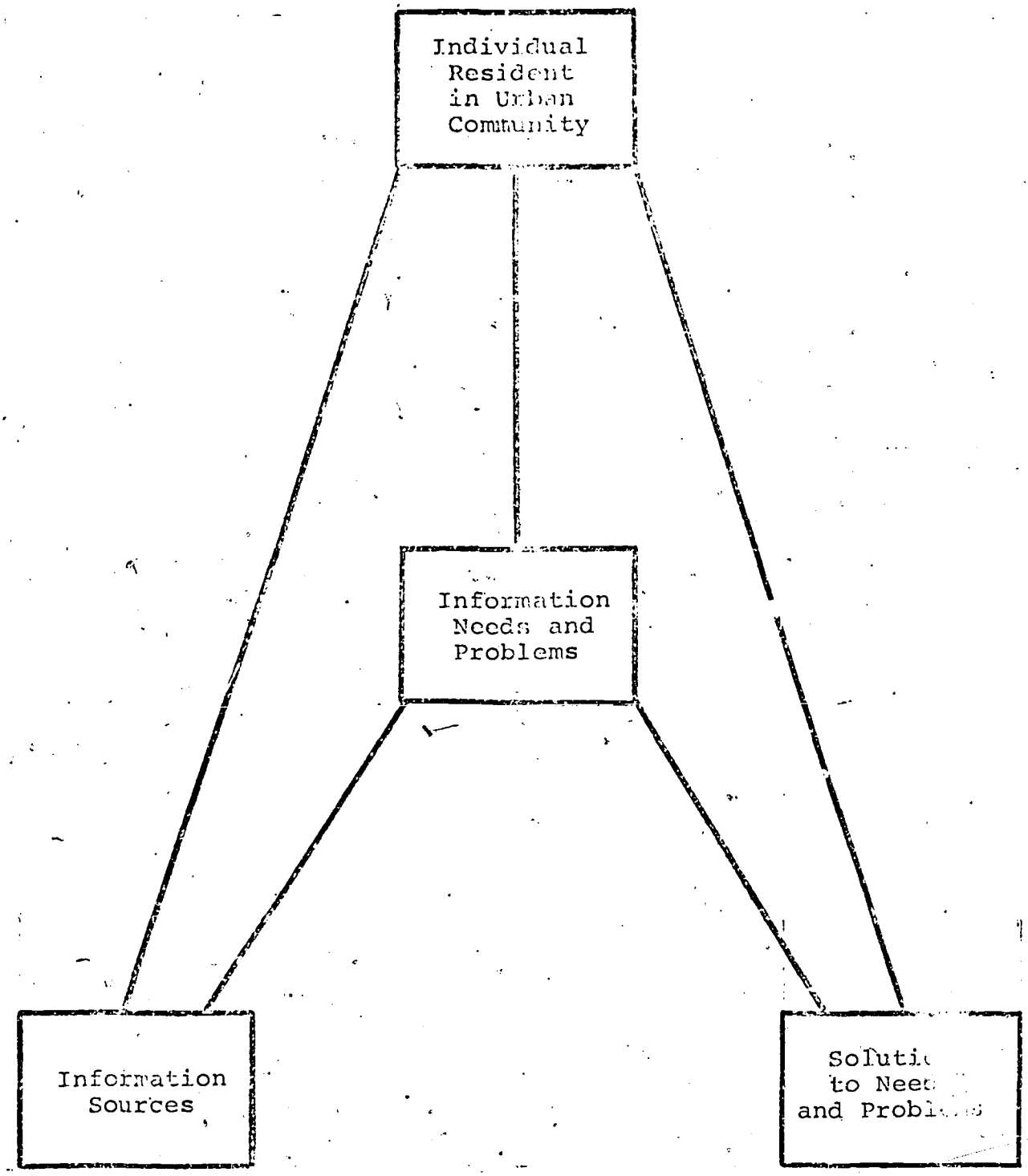

Figure 3-1. Basic Model of Study

3.1 A Conceptual Model: The Individual and His Information Needs

3.1.1 Information and Modern Society

The fulfillment of everyday needs depends, at least in part, on information. Indeed, many communication theorists postulate information acquisition and its proper use as the basis of effective human functioning.[1] Evidence shows that information use is strongly related to an individual's ability to make decisions, his willingness to take risks, his ability to achieve successful outcomes, and to his feelings of personal effectiveness.[2] The individual without information is indeed powerless in a modern society. He cannot seek effective help or correct abuses. He cannot benefit from the protection and services the government offers. He cannot get the most from his resources.

Given the abundance of information available in what is popularly called an "information-overload, knowledge explosion society," one would think that the typical resident would be doing quite well. Yet, communication theorists have warned that "information" as such is not enough.[3] Information needs to be managed and controlled. Without this information management, society is prone to information imbalances wherein information is not equitably distributed to all citizens or sectors. Under such situations

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[1] See, for example: Ascroft, 1969; Dervin, 1971; Rotter, 1966; Hirschleifer, 1971.

[2] See, for example: Bowes, 1971; Cangelosi et. al., 1968; Hill, 1963; Seeman, 1966.

[3] See, for example: Dervin, 1971; Eisenstadt, 1955; Etzioni, 1969; Frey, 1963.

the information necessary for both individual and societal response to changing conditions often remains unavailable.

3.1.2 The Requirements of Information Management

The increasing attention being placed on "information delivery systems" and "information retrieval" is, of course, symptomatic of a growing awareness of the need for information management. Delivery systems are attempting to control information in two senses. First, the systems are attempting to reduce the number of and make more pertinent the sources an individual has to contact in order to get the information he needs. Second, the systems are attempting to bring together the specific kinds of information an individual needs in a form that can be used to resolve specific questions. In short, the systems are attempting to deal with precisely the four components with which this study deals -- an individual, his needs, information sources, and solutions (see Figure 1).

While most information delivery systems developed to date deal with the needs of managers or professionals, the parallel to the nonoccupational needs of the average citizen is obvious. The two basic requirements of information management appear to be: (1) access to appropriate information sources; and (2) access to appropriate information solutions.

When one focuses attention on the information climate of the typical resident in an urban community, the necessity of these two requirements of information management become even more apparent. One need only think of the diversity of average citizens and the diversity of needs. Take, for example, one average citizen -- John Lang. Mr. Lang must cope with the necessities of food, shelter, and clothing. In addition, we plan to buy a

house soon. His wife is expecting a baby. The neighborhood in which he lives has been beset with noisy dogs lately. And, the family physician has just passed away so Mr. Lang is looking for a new doctor.

If Mr. Lang is to be his own information manager, he must be exposed to an almost overwhelming diversity of information in order to deal with his problems in just one time span. He needs to know about the best places to buy products, how to buy a house, how to care for a new baby, how to find a new doctor, and how to cope with noisy dogs. Even these few problems involve a fantastic array of information. Mr. Lang could probably meet his information needs if he screens out all other irrelevant information. He would need to ignore information on tenant-landlord problems, for example, or buying life insurance, hiring building contractors, or on flood emergencies. Yet, he may well be faced with each one of these now "irrelevant" problems in the future when they could suddenly become "relevant."

This picture of an average citizen depicts the paradox of information management in a highly complex, highly diverse society.[1] At one point in time, the individual needs both diverse and selective informational inputs. He needs the diversity that allows for coverage of the range of his problems. He needs selectivity which prevents him from suffering from information overload. Yet, the information he screens out today will possibly be relevant tomorrow. In short, he is faced with a seemingly impossible task.

Thus, in order to satisfy his information needs, he must have access not so much to "information" but to the two

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[1] See Bowes, 1971; Dervin, 1971.

requirements of information management: (1) appropriate information sources; and (2) appropriate information solutions.

3.1.3 Barriers to Information Accessibility

Within the context of the overview suggested above, it is now possible to focus on the crucial issue underlying the present study. What are the barriers which prevent the average citizen from managing his everyday information needs and problems?

To aid in focusing on this question, Figure 2 shows an expanded version of the basic model already presented. In this version, both the elements of the model and the linkages between these elements are explicitly delineated. Specifically, four basic elements must be accounted for: individuals, needs, sources, and solutions. The model implies, of course, that in order to understand an information system of concern we must know about the characteristics of each of its four component elements.

In addition, the model makes accessible for systematic analysis the six basic, two-element linkages:

1. The linkage of individual residents to their information needs and problems;
2. The linkage of individual residents to their information sources;
3. The linkage of individual residents to solutions to their needs and problems;
4. The linkage of information sources to information needs and problems;
5. The linkage of information needs and problems to solutions to needs and problems; and

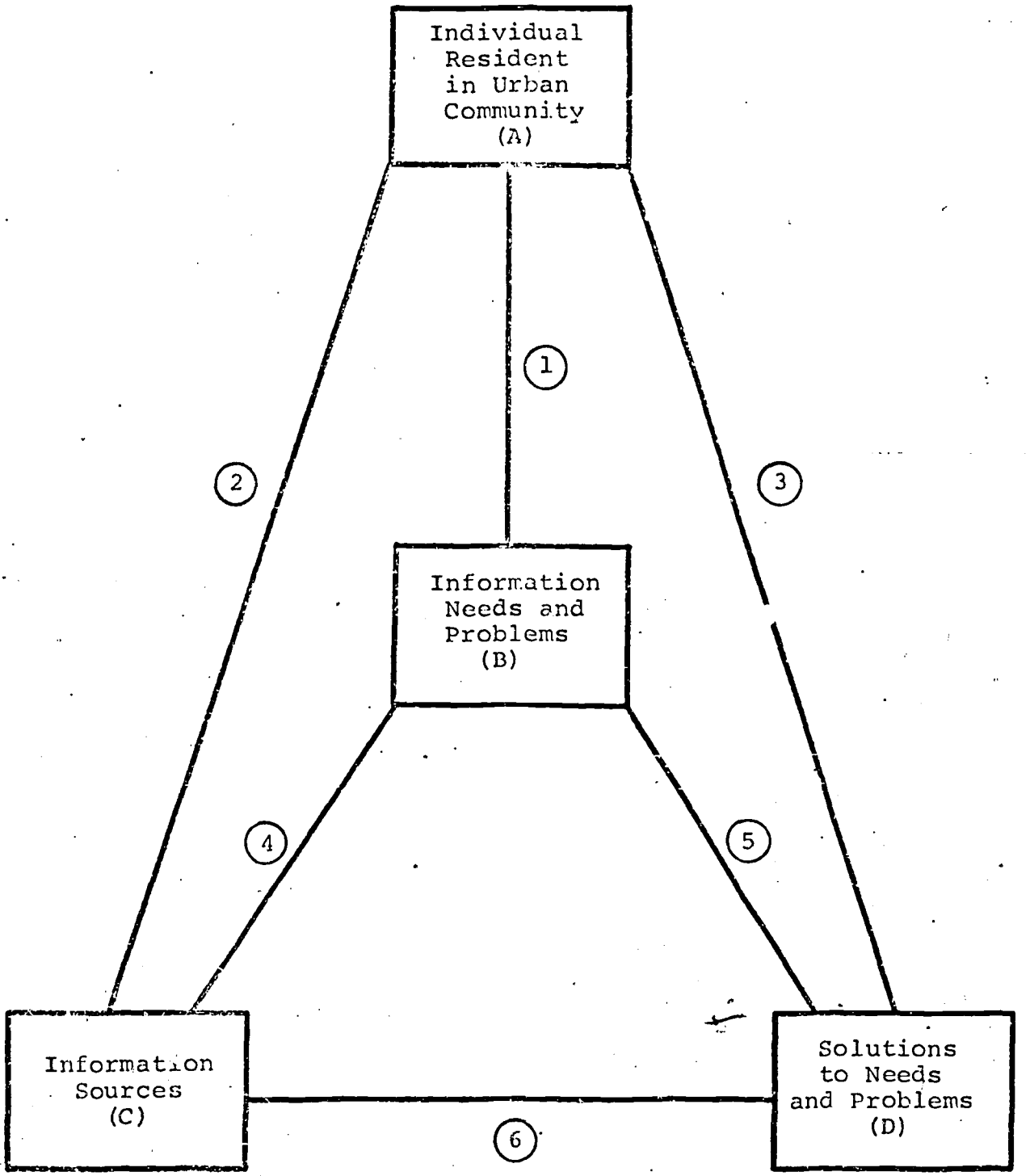

Figure 3-2. Expanded Model Incorporating Linkages

6. The linkage of information sources to solutions to needs and problems.

Figure 2 points out clearly the basic research emphasis which must be focused on before the information system that confronts the average resident can be understood. The nature and characteristics of the four elements -- individuals, needs, sources, and solutions must be identified. More, importantly, the nature of the linkages (or interactions between the components) and the corresponding barriers to information accessibility must be known, for it is along these linkages that the effectiveness of the information system rests.

Figure 2 points only to the potential locus of the barriers which may exist in the system. The model says nothing about the underlying mechanisms which may be operating in these linkages -- the mechanisms which may be acting as barriers to information accessibility. For this reason, it should be helpful at this point to posit a set of accessibility factors which are conceivably operating in the system.

Using the individual as the focus, it is suggested that he must have accessibility to information along five different lines.

a. Societal accessibility. The information and the resources necessary to satisfy the individual's need must be available in the social system.

b. Institutional accessibility. The information sources must be both capable and willing to deliver the needed information to the individual.

c. Physical accessibility. The individual must be able to make contact with the information sources which have the information he needs.

d. Psychological accessibility. The individual must be psychologically willing to see his needs as

information needs, to approach and obtain information from appropriate sources, and to accept the possibility that his problems can be solved.

e. Intellectual accessibility. The individual must have the training and ability that will allow him to acquire and process the information he needs.

The introduction of these accessibility factors allows the formulation of hypotheses about the nature of specific barriers to information accessibility as they operate along the linkages delineated in Figure 2. By looking at each linkage, it is possible to suggest the following specific kinds of barriers to information accessibility.

- At Linkage #1 between the individual and his needs ... The individual citizen may be unaware of or unable to verbalize his needs (intellectual barriers). Or, he may not see his needs as information needs. Or, the quantity of his needs may be so great that he loses the will to cope (psychological barriers).

- At Linkage #2 between the individual and his sources ... The individual may not be aware of particular information sources (intellectual barriers). Or, he may not be able to make contact with needed sources (physical barriers).

  ... The sources may consciously or unconsciously prevent the individual from obtaining the information that is needed (institutional barriers).

- At Linkage #3 between the individual and solutions ... The individual may not have the information processing abilities required to handle the needed information (intellectual barriers). Or, his lack of self confidence may prevent him from seeking solutions or accepting the possibility that solutions may exist (psychological barriers).

- At Linkage #4 between the sources and the needs ... The sources may not be competent enough or organized enough to handle specific information needs (institutional barriers).

- At Linkage #5 between the needs and solutions ... Solutions may not be available within the community for certain types of needs (societal barriers).

- At Linkage #6 between the sources and the solutions ... Information sources may present inaccurate or unreliable information (institutional barriers).

  ... Information sources may be altogether lacking (societal barriers).

From the above, it can be seen that the major value of positing the accessibility factors is not so much in their content as it is in their forcing examination of each linkage point in terms of the different kinds of mechanisms which may be operating.

An illustration will help clarify the point. Most of the past research dealing with use of professionals[1] as information sources has been done with the unstated assumption that the individual citizen is responsible for failing to use those sources. In essence, the studies have focused on only "physical" and "psychological" factors suggesting that either the individual's life style or psychological orientation may have prevented him from using professionals. However, after searching through the other accessibility factors for an alternative explanation, the "institutional" factors emerge as a possible barrier to use of professionals. Professionals may show a distaste for some clients, they be incompentent to handle some needs, or they may actually prevent some clients from getting information.

Thus, the purpose of introducing the accessibility factors is to concentrate on the interactive character of the information system of concern. Figure 2, by itself, emphasizes the

[1] For a review of some of that literature see Greenberg and Dervin, 1970; Dervin and Greenberg, 1972.

elements in the system and should lead to the conclusion that an individual's ability to cope with a given information need can be no better than the available information sources and solutions. In simplest terms, Figure 2 alone implies nothing about the direction with which influences may be flowing in the system; but, the addition of the accessibility factors begins to incorporate direction. Figure 3, a revised version of Figure 2, tentatively incorporates the accessibility factors and the influence-directions which they imply.

In the next section of this chapter, the available literature will be reviewed and the major unanswered research questions will be raised in the context of the model above. The model is tentative and subject to empirical test. However, it provides an organizational framework within which to set forth the scope and variety of research questions which require answers. In addition, the model provides a tool for organizing and interpreting the available literature.

3.2 "State-of-the-Art:" A Review of the Literature

3.2.1 Overview

The purpose in this literature review is to convey a sense of the "state-of-the-art" and to delineate major unanswered research questions.

The strongest "impression" that emerges from the available literature is that the average U.S. urban resident is suffering from a large and ever-growing information crisis. The primary evidence for this contention comes from studies showing

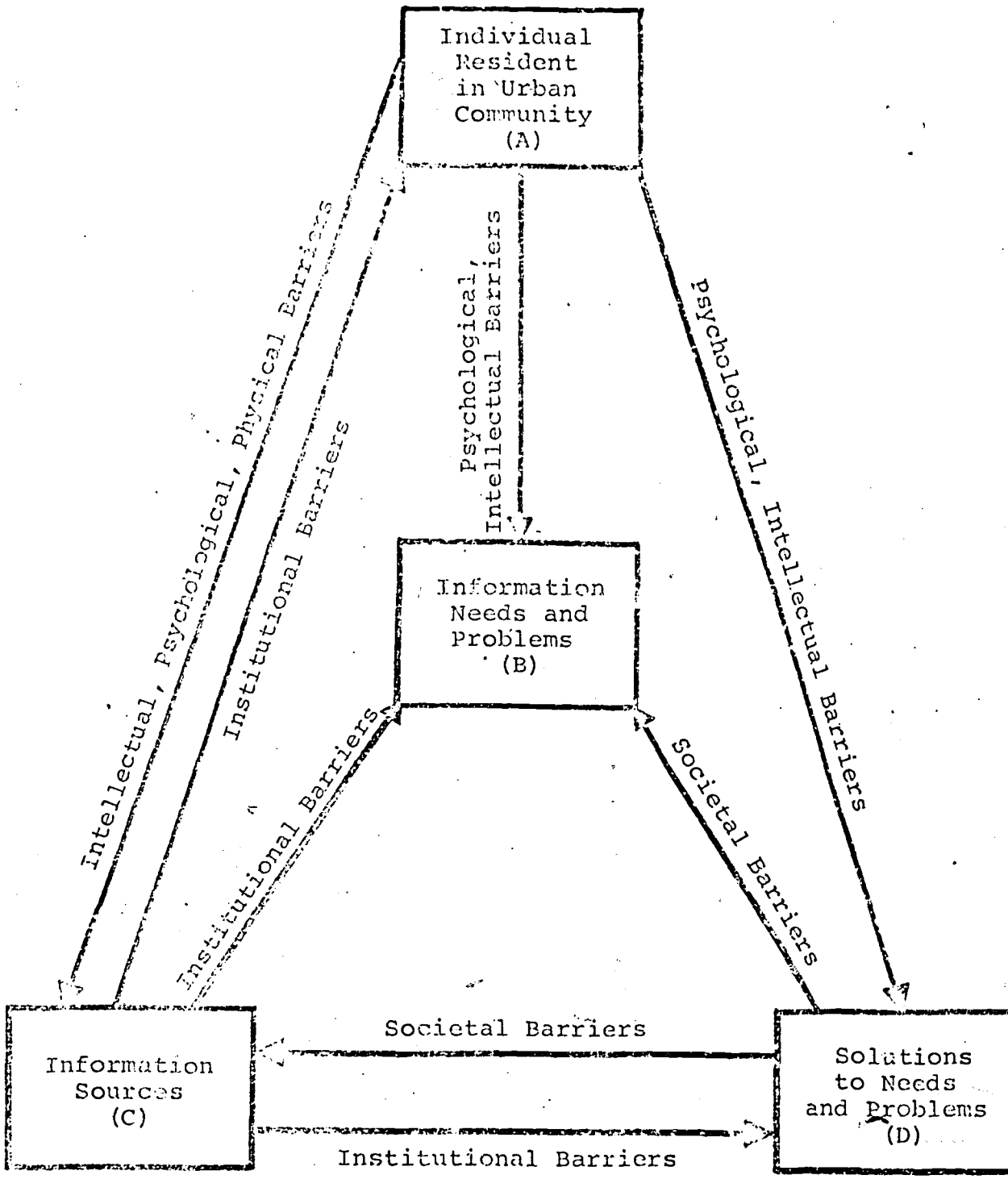

Figure 3-3. Expanded Model Incorporating Accessibility Factors

that citizens are frustrated in their attempts or are unable to get information for everyday problem solving. For example:

- Rieger and Anderson (1968) found that many of their "general-population" adults expressed frustration in finding information on such everyday problems as financial, consumer, and occupational planning.
- Kahn et. al. (1966) concluded that a majority of people in society are uninformed about public and private resources, facilities, rights, and programs.
- Block (1970) found that a majority of his low-income respondents would not ask advice from anyone on where to buy a television set.
- Mendelsohn (1968) found that 60 percent of his low-income respondents had no idea of where to go to get information for problem solving.
- Greenleigh Associates (1965) found that from 20-55 percent of their low-income respondents did not know where to get needed and relevant services.

The studies above present a sampling of the available evidence. Obviously, the studies are lacking on several dimensions. None of the research has been done comprehensively across the universe of everyday information needs. Most of the studies have emphasized very restricted audiences. Yet, the brunt of the evidence presents a clear picture of a general inability to cope with information needs.

Such results are not surprising, given the sizeable evidence that professionals are having the same problem in their occupational roles. Indeed, the major body of available literature on information needs and processing focuses on such professional groups.[1]

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[1] For five examples of studies dealing with the information environments of professionals see Allen, 1965; Brownson, 1962; Cole and Cole, 1968; Menzel, 1958; Price, 1964.

Another factor which supports the major impression of an information crisis is evidence of the immense quantity of information needs that emerge whenever people get a chance to express them. Little direct, systematic evidence is available, although tangential support conjures up an image of a dike breaking.[1] New information agencies are reported as becoming quickly overloaded with cases. Service agency representatives who make public appearances quickly find their switchboards jammed with requests. Governmental agencies get overloaded with requests for information that have nothing to do with their functions. One study (Dervin, 1973) found that 185 respondents generated 160 different information needs in response to just one survey questionnaire item. Another (Kahn et. al., 1966) estimates that some five block areas with 50,000 residents in New York City could keep an information center busy with 800 to 900 requests a month. Data from the only country where information centers are institutionalized (Great Britain) shows that in one year, the Citizen's Advice Bureaux averaged some 2,000 requests per 100,000 population per month (Kahn, et. al., 1966).

In sum, the general overview is one which shows that a large number of citizens have a sizeable number of information needs which are not being satisfied within current information systems.

3.2.2 Linkage #1: Urban Residents and Their Information Needs

Figure 2 pinpoints this linkage as that between the individual and his information needs and generates such research questions as:

- What is the universe of information needs for urban residents?

[1] Dervin, 1973; Furman et. al., 1962; Kahn et. al., 1966.

- Which subgroups of the population have which needs?
- How do different citizens perceive needs?

This link -- between the individual and his needs -- is the crucial core of the information need focus, the basis on which potential information centers can design the purpose and scope of their tasks. It is surprising, therefore, that this linkage is little researched. Not one single systematic study with a well-sampled population was found to document the nature of information needs of different types of people.

A few studies have provided beginning but undocumented conceptualizations. Some[1] refer to the logs of problems that have come into existing agencies. Such studies of agency logs have not been systematized, however, and do not recognize the difference between the needs individual citizens may have and the needs that actually appear on an agency roster.

A number of other studies look at the users of specific document systems and what needs these users are able to fulfill within such systems. The most prevalent examples of such research are library use studies.[2] Such system user studies, however, are limited to specific information systems and generally ignore needs that are not met within that system or information sources the user might be tapping outside that system. In addition, use of such specific systems is, of course, limited to whatever informational format that system provides. For example, the primary informational format of the library has been print media which, therefore, limits the expression of user needs to only those needs which are answered within the confines of print.

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[1] See Kahn, et. al., 1966; Voos, 1969.

[2] For a recent and thorough review of library use studies, see: Zweizig, 1972. For examples of two classic library use studies, see Berelson, 1949; Campbell and Metzner, 1950.

As noted by both Zweizig (1972) and Voos (1969), this restriction eliminates many everyday problems. Thus, at the central core of our information system -- identification of the universe of information needs -- virtually no systematic evidence is available.

Beyond this basic question, the individual-need linkage also raises the question of how citizens perceive their needs. The different perceptual bases of needs may well act as barriers to information accessibility. An individual may not be aware of his information needs or he may not be able to verbalize them. In such cases, his access to the information system would be limited by intellectual barriers. As another alternative, an individual may be well aware of his need but he may not see it as an information need. For him, his need may be seen as resource based so he would consider information to be irrelevant.

This issue raises the whole problem of defining an "information need." The definitional question is clear when an individual wants a simple informational fact (e.g., to know today's weather report). The situation becomes clouded, however, when an individual wants information about resources (e.g., where to get family counseling or emergency food dollars). While an information counselor may consider his job done when he has answered the questions about resource locations, the individual with the need may be unsatisfied until the resource is actually delivered. Indeed, the individual with the need may consider the information counselor a failure until the resource is delivered. However, assurance by a counselor of the delivery of resources as well as information enlarges the counselor's role from that of informant to that of advisor and advocate.

Thus, the entire definition and scope of "burgeoning" information agencies depends, in part, on how people perceive

needs. If individuals do not see problems as information problems, if they do not separate information from help or service, then the entire basis for "information" counseling is challenged.

Unfortunately, very little systematic evidence is available which speaks to the crucial issue. Literature on Great Britain's Citizen's Advice Bureaux (CAB)[1] indicates that the CAB services go beyond information to advocacy service in as much as 40 percent of their cases (Kahn et. al., 1966). Indeed, the very philosophical under pinnings of the CAB model were developed on the premise that the CAB's would go beyond pure information dissemination. The decision, however, was an idealogical one based on a feeling of the need to protect British Citizens from an ever-growing government bureaucracy. In the United States, the issue is a controversial one as documented by expressions of concern over information-advocacy by active librarians and information specialists.[2] Unfortunately, no empirical evidence has yet been generated which would help clarify the issue in the U.S.

A few guidelines are available, however, from tangential evidence,[3] which suggests that the way people express their information needs may inexorably lead the information counselor into the problems of advocacy and resource delivery. For example, one study (Dervin, 1973) showed that when asking for consumer information, 66 percent of the general population respondents wanted to know specifically "where" to buy a product and 33 percent wanted to know where to get the "best" buy. In short, people did not ask for information on "how" to shop or the principles of good consumership. What they were looking for was

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[1] For a thorough introduction to the British CAB's, see Bernard et. al., 1968; Kahn et. al., 1966; National Citizen's Advice Bureaux Committee, 1961; Ogg, 1969; Zucker, 1965.

[2] See Furman et. al., 1962; Wilson Library Bulletin, 1970.

[3] Dervin, 1973; Voos, 1969.

specific, detailed behavioral information. Bundy (1972) made the same point when she said that "the traditional stance of the library (has been) ... to provide, without critical comment or advice giving, materials and information ... The individual drug user does not come to the library to get a list of all the drug rehabilitation centers in the city. People wanting to get on welfare do not want the welfare system explained to them: they want to know how to get on welfare (p. 166)." Such evidence supports the CAB notion that information and advocacy may be inextricably linked. Much more evidence is needed, however, on the psychological perceptions of needs and problems. It is on the basis of such evidence that information centers will plan their message strategies and, indeed, the scope of their activities.

3.2.3 Linkage #2: Urban Residents and Their Information Sources

Figure 2 pinpoints this linkage as that between the individual and his information sources and raises such questions as:

- What sources are used by which individuals?
- What are the characteristics of the sources being used?
- What sources are seen as helpful by individual citizens?
- Why do individuals use particular sources?

Of all the linkages in the model, the individual-source linkage is the only one which has a sizeable body of evidence available. The nature of source use has long been a focus of several research traditions in communications research (e.g., diffusion of innovations, diffusion of news). Trust and belief

in sources has been a major focus of persuasion research. And, recently, organizational researchers have begun to focus on the nature of source relationships with clients or users.

It must be noted, however, that while a sizeable body of relevant evidence is available, relatively little evidence was found that speaks directly and thoroughly to the questions raised above. Specifically, there is little evidence that deals directly with the nature of source use for everyday problems. More often, the prior research has been concerned with source use in the topic-free sense (i.e., concerned with what sources people use generally) or source use on political issues.

In reviewing the available literature relating to the individual-source linkage, it is most parsimonious to do so in terms of the accessibility factors posited as operating along this linkage. Figure 3 suggests that four accessibility factors are operating at this linkage point. The information sources relationship with an individual is seen as being mediated by institutional factors. Consciously or unconsciously, the sources may be preventing the individual from making contact or getting the kinds of information that are needed. Conversely, the individual's relationship with information sources is seen as being mediated by intellectual, psychological, and physical factors. Intellectually, the individual may be unaware of particular information sources. Or, psychologically, the individual may not trust or believe certain information sources. Or, the individual's daily life may be such that he is not physically brought in contact with appropriate information sources.

The most interesting of the relevant studies deal with the institutional barriers that exist between sources and their clients. These studies (most of them very recent in origin) suggest the importance of looking at how various components in an

information system affect the individual who is attempting to use the system. Typical findings from these recent studies show:

- Some social service agencies communicate ineptly with their clients, setting up bureaucratic barriers or advertise too sparsely (Greenberg and Dervin, 1970; Mendlesohn 1968).

- Often the practitioners working in social service organizations are uninformed about their client life styles and needs and misunderstand and stereotype their client wishes. (Stark, 1959; Pratt, 1969; Kahn et. al., 1966).

- While few studies have been done on the actual nature of the practitioner-client transaction, the available anecdotal evidence suggests that professionals often "put their clients down" (Clark, 1967; McIsaac and Wilkinson, 1965).

- Some social service organizations may consciously or unconsciously withhold service from their poorer, less able clients. Studies suggest that bureaucracies are self-maintaining and in order to achieve records of successes will avoid certain clients in favor of those that are more middle class, less handicapped, more educated (Sjoberg et. al., 1966; Scott, 1967; Levin and Taube, 1970; Furman et. al., 1965).

- While direct evidence is not available, indirect evidence suggests that the electronic media in the U.S. contain little information that is useful in decision making. Typical findings show that high print media users are the only respondents who possess accurate knowledge for decision making. In addition, respondents report that they got their information for decision making in the print media and not through the electronic media. Content analytic studies are needed, of course, to document this point. If it is true, however, that the electronic media contain little useful information for decision making, use of these media might be seen as an institutional barrier to information accessibility. (Block, 1970; Dervin, 1971; Wade and Schramm, 1969).

As a capsule, such studies suggest that institutional accessibility factors are strongly operating in the information system. Such studies are only a beginning, however. Evidence is needed on how these institutional barriers work against individuals with different kinds of information needs.

The more typical past research on the individual-source linkage is concerned not with how sources relate to individuals but how individuals relate to sources. A major emphasis, of course, has been focused on how much exposure different individuals get to different kinds of information sources.

While a great deal of research has dealt with source use, most of the available work deals in gross terms with the quantity of exposure rather than quality. Thus, while we know that television is the most used medium in the U.S., we know little about what kinds of information people are getting from television. The same is true of interpersonal and organizational source use as well. We can make some inferences, however, about the quality of the average American's exposure to information sources based on the quantity of exposure. Typical studies show that:

- The most used and believed media in the U.S. are television and radio with 69 percent of all media time being spent on these media, one-fourth of a waking day for the average adult. Given the indirect evidence presented earlier that suggest that the electronic media lack the kind of information needed for decision making, the high electronic media usage suggest that the average American's media use does not supply him with useful information. (Kline, 1971; Greenberg and Dervin, 1970; Dervin and Greenberg, 1972; Westley and Severin, 1964).

- For many years, libraries were considered the societal appointed information delivery system designed to meet the needs of the average citizen.

Yet, recent evidence shows that the magnitude of library use is not widespread and is limited to a self-selected minority of the more educated, higher income citizens. In addition, evidence suggests that the quality of library use is limited primarily to information available in printed documents and that libraries have not generally coped with the kind of social system information which is needed to solve nitty-gritty problems (Zweizig, 1972; Voos, 1969).

- The most used source of information on most topics for most people are family, friends, and relatives. In fact, most interpersonal contacts for most Americans are very homogeneous. People meet, talk, and ask advice from people essentially like themselves (Dervin and Greenberg, 1972; Greenberg and Dervin, 1970; Katz, 1957).

- Physical barriers play an important role in source use. In fact, many studies suggest that the "law of least effort" is a strong factor. Use of services is generally negatively related to distance. Most people do not comparison shop, preferring to purchase at the first store visited. (Alexander et. al., 1968; Udell, 1966; Zweizig, 1972).

- Awareness of potential information sources is low. In evidence cited earlier, a sizeable number of general population respondents expressed frustration in finding answers to everyday questions. In addition, in several studies, the majority of low-income respondents could name no one to whom they would go for advice in everyday problem solving (Block, 1970; Mendelsohn, 1968; Rieger and Anderson, 1968; Greenleigh Associates, 1965).

- Use of nonprofit service organizations, and professional sources is low. Several studies showed that low-income respondents resorted to such source use only for crisis issues. Others have indicated that, in addition to use of family-friends-relatives, the most used sources across all income levels are commercial sellers or people who usually have a vested interest in the advice they give. Unfortunately, the data on this issue is sparse (Dervin and Greenberg, 1972; Udell, 1966; Caplovitz, 1963; Levine and Preston, 1970).

In sum, such evidence suggests that for the typical urban resident contact with information sources that are appropriate and pertinent to solving everyday problems is limited. Unfortunately, much of the available evidence is indirect and limited. Specific evidence is needed on the nature and characteristics of information sources used with an analysis of which sources are used by which citizens for which needs. In addition, content analyses are needed to determine the actual nature of the information presented by different sources and the relevance of the information transmitted to everyday problem solving.

Most of the studies that have dealt with individual use of sources have focused on the intellectual and physical barriers to exposure -- lack of awareness and lack of exposure. In addition to these studies, there is a final set of available studies that deal with the psychological barrier of source credibility or trust in sources. A great deal of evidence is available on general trust levels of various mass media, particularly in their role as information sources on public affairs or political news. However, little direct evidence is available on perceptions of the credibility of information sources as these judgments relate to everyday problem solving. The evidence generally suggests, of course, that sources that are not trusted are not used or are used only under crisis in absolute necessity conditions. The largest body of relevant evidence comes from the perceptions of information and service organization sources by low-income adults. These studies[1] show that mistrust and misinterpretation of establishment sources is high among the poor. Often, the poor believe that social service agencies are simply attempting to get clients to adjust to the status quo and are constantly checking up on

[1] See, for example: Dervin and Greenberg, 1972; Clark, 1967; Dordick et. al., 1969; McIsaac and Wilkinson, 1965; Levine and Preston, 1970; Greenberg and Dervin, 1970.

them. Clients are often totally misinformed about the purposes of social service agency contacts and often see these contacts as exploiters rather than potential helpers. Unfortunately, no comparative data was found indicating middle class perceptions of service organization and information sources.

3.2.4 Linkage #3: Urban Residents and the Solutions to Their Needs

Figure 2 pinpoints this linkage as that between an individual and the solutions to his needs. The linkage raises such questions as:

- What subgroups of individuals attempt to solve their problems?
- What kinds of solutions do individuals see as helpful?

Figure 3 suggests that two accessibility factors -- intellectual and psychological -- play a major role in this linkage. The first -- intellectual barriers -- suggests that an individual may lack the education or training which would allow him to understand the information which would satisfy his need. The second -- psychological barriers -- suggests that the individual may not possess the sense of self-confidence and sense of esteem necessary to accept that his problem has solutions within his own control.

Evidence on the operation of the first factor -- intellectual accessibility -- is quite clear and abundant. A large body of studies[1] show that people with more education are more

[1] See, for example: Hiltz, 1971; Parker and Paisley, 1966; Rieger and Anderson, 1968; Spitzer and Denzin, 1966; Zweizig, 1972; Tichenor et. al., 1970.

likely to be information seekers, to be exposed to the print media, to use more professional sources, to be more informed generally, and to have less trouble securing information.

It must be remembered, however, that even with this strong correlation between education and information use, no evidence was found that clearly shows just how much of an advantage education is in the current information environment. Education is an advantage. But, the unanswered questions are, for what needs? under what conditions? It might well be that for certain problem areas, education is not an advantage. It also might well be that more educated adults suffer from as many information crises as the less educated with only the magnitude of the crisis being different. These are all areas which need empirical study.

More attention has been given to the intellectual barriers to obtaining solutions than to the psychological barriers. However, several theorists concerned with self-esteem, personal competence, and feelings of political effectiveness suggest that individuals who have failed in problem solving in the past will begin to believe that their problems have no solutions.[1] No studies were found that applied these notions directly to an assessment of how past failure related to current use (or lack of use) of an information system. The importance of the point for planners of information systems is obvious. If failure in information seeking leads to retreats from further attempts, then information practitioners must cope with two issues. One is how to reach those who have been beset with past failures. The other is how to prevent discouraging current clients with failures in the present.

[1] See Bowes, 1971; Rotter, 1966; Seeman, 1966.

3.2.5 Linkage #4: Information Sources and the Information Needs

Figure 2 pinpoints this linkage as that between the information sources and information needs and raises such research questions as:

- What sources are being used for what needs?
- How efficiently are the sources handling the needs?
- What sources are seen as "best" for what needs?

In general this linkage is concerned with the ability of information sources to handle specific information needs for clients who have them.

While there is not a great deal of available literature which speaks to this question, that which is available is consistent in findings. It is generally agreed that there is a great deal of inefficiency and non-communication in the information delivery system. Typical findings include:

- In one city, housing related organizations broke down into two cliques who defined housing problems differently (indeed, in contradictory terms) and did not communicate with each other (Grunig, 1972).
- In several studies, social service agency directors agreed that more coordination is needed between agencies. However, one study (Noble and Wechsler, 1970) showed that only 24 percent of the organization executives interviewed were actually willing to share information to help in this coordination. Other studies show that the organizations are competitive with each other and that this competition prevents the communication necessary for coordination. (Levine et. al., 1962; Sjoberg et. al., 1966; Kahn et. al., 1966).

- Several studies suggest that as many as 75 percent of all information and service requests are handled by sources for whom the request topic is only a tangential or unrelated concern. In short, people end up serving who are not the best qualified to do so (Kurtz, 1968; Kahn et. al., 1966).

- Several studies suggest that people who attempt to seek help face a frustrating maze of obstacles. One study estimates that 75 percent of all information seekers must contact more than one agency before they can get the help or information they need. A test showed that the average request took 3.5 phone calls to complete, with one-third of the inquiries still remaining unanswered. (Kahn et. al., 1966; Regional Health and Welfare Council, 1965).

The picture is one of inefficiency and lack of communication between various information sources. A great deal more needs to be known. It is obvious from the anecdotal literature that the informational environment within which social welfare and service agencies operate is an elusive one, unlike the easily catalogued and shelved print media information environment. Little is known, for example, about how a novice practitioner learns to operate within this elusive information environment or how "information" experts emerge in such an environment. Little evidence is available on how sources perceive the nature of needs or about which needs can be handled within the existing information system.

3.2.6 Linkage #5: Information Needs and the Solutions to Needs

This linkage (described in Figure 2 as between the needs and solutions) is the most sparsely researched of all

the linkages in our model. The linkage is concerned with such questions as:

- What kinds of solutions do different needs have?
- What kinds of information are needed for problem solving?
- What needs lack either informational or resource solutions?

On the surface, this linkage is concerned with societal barriers to information accessibility or whether or not information and resources exist within society to solve specific needs. No research was found that deals with this question directly although the import of the question for the planning of information delivery systems is obvious.

In one small experiment that attempted to track down solutions to information needs, one-third of the problems remained unanswered at the end of the experiment (Kahn et. al., 1966). It may be that societal resources simply do not exist for such unanswered questions. In such cases the notion of information may be irrelevant and an "information" counselor's attempt to deal with such problems may simply be futile. Or, it may be that resources for some supposedly unanswerable questions are so inequitably distributed that only the few have access. Again, the problem becomes less one of information and more one of power and advocacy. Or it may be that resources do exist for the unanswered questions, but information is not yet organized enough to allow individuals to tap the resources. Little empirical evidence is available to make clear this resource-based versus information-based distinction. Yet, any improvement of the information delivery system rests on the ability to make such distinctions.

Underlying this resource-information distinction is an even more complex issue -- that of what kinds of information are needed in everyday problem solving. Little work has been done on the nature or kinds of information which are necessary for providing solutions to problems. Indeed, the core notion of "information" has been almost totally ignored as an independent, meaningful concept. Increasingly, however, theorists[1] are suggesting that information must be divided into types and that successful information delivery depends on the ability to deliver not just "information" but the appropriate types of information.

An extreme case illustrates the point. In the discussion of Linkage #2 (between individuals and sources), evidence was presented which suggests that the print media are useful information sources for decision making while the electronic media are not. With its focus on types of information, Linkage #5 looks at why. One explanation suggested by several researchers[2] is that the electronic media incorporate only "ends" information (information about goals) without presenting "means" information (information on how to attain goals). The means-ends distinction is one that is emerging in the literature.

Another distinction has been made (Dervin, 1971) in suggesting that three different components of information are needed to satisfy everyday needs: (1) information about alternative means to achieving an outcome; (2) information about criteria with which to evaluate the means; and (3) data which allows criteria to be applied to means so that a final decision can be made. Another study (Heidt, 1968) found that change agents failed in

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[1] See, for example: Ackoff, 1958; Dervin, 1971; Havelock, 1971; Morris, 1969.

[2] Dervin, 1971; Wade and Schramm, 1969.

introducing birth control techniques in a developing country because they failed to transmit a particular type of information -- information about the various consequences or side effects of abortion. Such distinctions in information types are needed so that information practitioners will be able to collect and classify the now elusive data in the social service-information delivery field.

3.2.7 Linkage #6: Information Sources and the Solutions to Needs

In Figure 2 this linkage is delineated as the one between information sources and the solutions to needs and raises such research questions as:

- What is the accuracy ("correctness") and reliability (consistency across sources) of the information transmitted by sources?
- What is the nature of the accountability process in information delivery?
- What mechanisms are being used to improve solutions in the system?

The basic accessibility barrier working along this linkage (as suggested by Figure 3) is institutional accessibility. The concern here is for the quality of the answers provided by information sources. No evidence was found that tackled this question directly. If, however, inferences can be made from the evidence suggested for Linkage #4 (sources and the needs), one would suspect a large degree of inaccuracy and unrealiability exists in the system.

At root, this linkage raises the all important question of the accountability of information delivery systems. In terms

of our central focus of concern (the individuals with needs), the best measure of accountability would be case accountability in which the success or failure of a source in solving each individual's need is recorded. No case-accountability studies were found. Indeed, the typical system effectiveness measures used to date in evaluating information systems have dealt with such gross, institution-oriented concepts as circulation. Such measures have been standard, for example, in evaluating the success of libraries.[1] Yet, such measures say little about the satisfaction of needs of target populations, of people with information needs. What is needed is case accountability evidence which clearly shows what needs are being satisfied for which clients by which information sources.[2]

The eventual aim, of course, is to improve the quality of the answers available in the information system. This improvement would need to be based on a feedback process in which the results from case accounting are constantly sent back into the system.

Such accountability and monitoring is a highly controversial issue. As noted earlier, studies have shown that social service and welfare organizations become self-protective and self-maintaining over time. This may be one reason why one study showed that a majority of organization directors in one community were unwilling to contribute information to a centralized information system (Noble and Wechsler, 1970). No evidence is yet available on the degree of cooperation between agencies chartered as "information" agencies as compared to those chartered as "service or resource" agencies. No evidence was found on whether agencies

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[1] See Zweizig, 1972 for a recent review of this literature.

[2] Kahn et. al., 1966 emphasized the need for this kind of accountability.

chartered as "information" coordinators help or hinder the situation. The issue is crucial. Most planners who have positioned the potential functions of information centers[1] have suggested that one of the major values of such agencies is that they will be able to reduce the red tape and inefficiency in the system and improve the quality of information solutions. The question must be asked: under what conditions are information agencies able to perform this much needed system-improvement function?

3.2.8 The Poor Suffer More

One issue that has been repeatedly but indirectly referred to throughout the review above deserves special attention. No matter how we look at the information needs situation, the poor residents in the urban community are suffering more from the information crisis than more well-to-do citizens. Given almost any linkage in the model, research shows that the poor are more hindered by barriers to information accessibility.[2] It is well supported, for example, that the less-educated, lower-income members of society have more crisis needs, have less actual contact with appropriate sources as well as less ability to make contact, have less ability to obtain solutions, and have less belief that solutions are obtainable. The research cited above also suggests that some information sources may be consciously or unconsciously withholding information and resources from poorer citizens. It

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[1] See, for example: Davies, 1970; Furman et. al., 1962; Roe, 1970.

[2] For an overview of studies relating specifically to this point, see, for example: Cohen and Hodges, 1963; Dervin and Greenberg, 1972; Herzog, 1963; Parker and Paisley, 1966; Levine and Preston, 1970; Levin and Taube, 1970; Tichenor et. al., 1970.

is also possible to hypothesize that the poor are more likely to have the kinds of problems for which there are no solutions in the societal system.

Whatever the focus, the evidence clearly suggest that the poor deserve special attention in an attempt to understand the information system which affects average citizens. Certainly, the ultimate test of that system will be its ability to deliver needed information to those citizens who are currently least likely to benefit from information.

3.3 Conclusion

The clearest generalization that can be drawn from the above conceptualization and review of the literature is that there are huge gaps in our knowledge. We know very little about the crucial questions:

- What are the information needs of urban residents?
- What subgroups of citizens have which needs?
- How are needs perceived by the different subgroups?
- Does the average citizen see his needs in terms of information solutions?
- How can an information need be defined?
- What information sources are seen as helpful by individual residents?
- Are information sources available to handle the different needs that are expressed by citizens?
- Are information sources responsive to all citizens with needs?
- What subgroups of individuals attempt to solve their problems?

- How accurate is the information which information sources transmit? How reliable is the information?
- What kinds of information are needed in everyday problem solving?
- What sources are being used for what needs?
- What mechanisms can be used to improve the information delivery system?

The list of unanswered questions is almost overwhelming. It is clear that the much-used concept of information has received very little research attention. Certain studies exist which have emphasized the nature of decision making, the role of personality in information use, the general exposure of citizens to different kinds of sources. What is missing is research that looks specifically at the nature of information and information needs.

Several observers of the available research[1] have emphasized this point. Indeed, it is agreed that a focus on information and information needs is the necessary step in beginning to improve the quality of the information delivery system serving the typical urban resident.

Briefly stated, the purpose of the current study is to begin to fill in the knowledge-gaps pointed out above. The central core of the study is its focus on the nature of the information needs expressed by urban citizens. Around this core are built related questions. What sources are being used to answer what needs? What degree of satisfaction are citizens getting?

In essence, this study is an attempt to begin to fill in the gaps of knowledge about the information system which the

[1] See, for example: Dervin, 1971; Heidt, 1968; Hiltz, 1971; Rainwater, 1969; Voos, 1969.

average citizen attempts to use as he molds the quality of his existence in a highly complex, information-oriented, technological society. It is such knowledge that will allow for the improvement of that information system.

4. STUDY DESIGN AND METHODOLOGY

Considerable effort was expended during the early phases of this enterprise in laying the conceptual and design foundations for research. Our aim during this developmental phase was to design a methodology for determining the information needs of urban residents and how these information needs are satisfied. The activities which culminated in the development of this methodology are presented in this chapter so that the reader can follow the gradual growth and development of our thinking about the research problem and research design implications, thereby affording the reader a better appreciation of the design problems faced in the study and a better understanding of the data obtained.

4.1 Study Design

4.1.1 Proposed Approach

In order to address the major research questions concerning the information needs and information-seeking behavior of urban residents, a survey of the general population in a diverse but typical urban area was proposed. However, in that no prior studies had focused on the everyday information needs of such a broad spectrum of urban residents, the survey was to be preceded by an initial phase during which a methodology would be developed. A major activity proposed for this phase was the use of group interviews with heterogeneous groups of individuals to generate techniques which could be used in a household survey. The product of this initial phase would be an instrument which (1) could be used with diverse subgroups of individuals and which (2) would

measure everyday information needs (not necessarily document related).

The survey site was Baltimore, Maryland which typifies in many respects numerous other large urban areas in the United States. A probability sample of 1,500 households was to be drawn from the Urbanized Area of Baltimore. Oversampling in the low-income areas was planned to provide adequate representation of those individuals in urban communities who, according to available evidence (see Section 3.2.8 of Chapter 3), are most information-ally disadvantaged.

4.1.2 Input of Advisory Committee

In late September of 1971 a group of consultants was convened to discuss the study design. The Advisory Committee of consultants consisted of members of the library science, sociology, business, and communications professions who had conducted research relevant to this study. The consultants met with Project staff from Westat, Inc. and the Regional Planning Council in an all-day session held at the Regional Planning Council in Baltimore. Discussion during the meeting was focused on the research methodology to be used. Within this broad area, several specific issues were brought to the fore which had an impact on the design of the study. These issues are discussed in detail below.

4.1.2.1 Research Methodology

As originally proposed, the major study effort was to be a household survey in Baltimore. Adopting this approach to

data collection, it was recognized that our data base of information needs would have some limitations. It would be, to some extent, city-specific and not generalizable to other urban areas without some additional data collection. It might well reflect seasonal variations in needs. The data base would be restricted to those needs perceived by respondents and possibly contain a predominance of needs that had not been met by the existing information system since these needs would, of course, be more salient to a respondent at the time of an interview. Reluctance of respondents to talk about very personal and/or illegal issues would also limit the number of information needs that would be identified.

A more serious concern of Committee members was the question of whether or not a structured or semi-structured interview could be developed in order to elicit data on information needs. Another criticism leveled at the household survey approach was that it would systematically miss those persons of primary interest, i.e., members of unstable and transient populations who are difficult to find at a home during the hours when interviewing would take place. Alternatives to the household sample survey suggested included in-depth sociological studies of a few selected neighborhoods, interviews with unofficial community leaders rather than residents, and group interviews.

Another question raised was whether or not new data collection was necessary -- perhaps data available from hotlines, libraries, and public agencies could be combined to provide a data base of information needs. One crucial criticism leveled at this approach was that such a data base would only reflect the needs of a highly motivated population, i.e., those individuals who had actively sought to obtain a solution to their problems.

The pros and cons of each alternative method of data collection were discussed. Although no agreement was reached as to the "best" alternative, there was a consensus that no one method would suffice and that a multi-method approach would maximize the validity of the findings.

4.1.2.2 Resulting Decisions

As a result of the meeting with consultants, some preliminary decisions were made. Weighing the assets and limitations of each approach to data collection, it was decided that a multi-method approach should be used but that the major data collection would be through a household survey. In spite of the criticisms leveled at the survey methods, the difficulties of obtaining an unbiased sample and of developing an instrument did not appear to be insurmountable. Although many insights could be provided by using alternative methods of data collection, it was felt that the sample survey would provide the least biased data and would enable the formulation of some conclusions regarding the general population in the Baltimore Urbanized Area as well as selected geographical areas and selected target groups. However, it was felt that some of the approaches discussed by the committee should be used to generate hypotheses and to develop various techniques which could be used in the final survey instrument.

Prior to the survey, the developmental phase of the study would include three major activities:

- A review of data currently available at various agencies and organizations in Baltimore that provide information services;
- Conducting group interviews to generate some preliminary data concerning information needs; and

- Development and pretesting of instruments for use in the sample survey.

The following sections describe each of these activities in detail.

4.2 Visits to Information Agencies

A number of organizations which were known to provide information services were visited by Project staff. The purpose of these visits was two-fold. First, we were interested in whether the organizations maintained records of requests made and if so, how these requests were classified and analyzed. Secondly, we were interested in the characteristics of these services -- hours of operation, method of inquiry (be telephone, letter or walk-in), the role of staff vis-a-vis the persons requesting information, and so on. Interviews were conducted with staff members of six information services including the Direct Line Column of the Sun Papers, the Health and Welfare Council Information and Referral Service, the Public Information Center of Enoch Pratt Free Library, the Montgomery County Hotline, Lower Park Heights Community Coordinating Council, and Echo House. These organizations were selected to represent a range of approaches to providing service -- the anonymous telephone information service, the community multi-service center, the newspaper write-in-for-action column, and so on. A summary of conclusions, based on visits to information services, is presented below.

Three out of the six organizations visited maintained records of inquiries received. Unfortunately, however, the classification systems used by these three information services were in no way comparable. In order to develop one data base for types of requests received by the three organizations, a

standard classification system would have to be developed and applied to each inquiry received during a specified time period. Among the three services, only one (Direct Line) had available records of the actual inquiries received although admittedly the verbatim accounts of requests were somewhat abbreviated and reworded for purposes of publication. On the other hand, the record systems of Hotline and the Health and Welfare Council were designed so that staff could code the request while speaking to the inquirer, thus eliminating the need to record the inquiry verbatim. While Hotline's staff codes the types of problems identified, the Health and Welfare Council codes the type of service about which information is given.

Although some arrangements probably could have been made for comparable data collection over a short period of time by these information services, these data would contain some known biases as well as many unknown biases. As mentioned previously in connection with comments made by the Advisory Committee members, perhaps the greatest danger of using these kinds of data to develop a comprehensive data base is that those persons who use information services are likely to be more motivated as problem-solvers than those who don't use such services. By creating a data base of information needs expressed by users of such services, there is no way of knowing how accurately the data base reflects the needs of nonusers who may have more limited problem-solving capabilities.

Other general observations with respect to service approaches were noted. Although it is difficult to know the exact nature of the populations served by these diverse organizations, it is nevertheless apparent that Direct Line, Hotline, the Health and Welfare Council's Information and Referral Service, and the Public Information Center tend to serve more middle-class interests and more professionals than Echo House and the Lower

Park Heights Community Coordinating Council. It is interesting to note the general differences in the service approaches of these two groupings of the organizations. The former organizations emphasize anonymity of the inquirer, little or in some cases no personal contact with the inquirer, and provision of information rather than direct services. These organizations exhibit varying degrees of individual or case-oriented advocacy; that is, they serve as mediators between the inquirer and a bureaucracy that can be an obstacle to the satisfaction of the inquirer's information or service needs. These organizations only peripherally engage in program or policy advocacy, i.e., seeking administrative changes or new legislation. On the other hand, the two services set up to serve inner-city residents emphasize intense personal involvement with the residents they serve -- whether for the purpose of community improvement or individual betterment. These two organizations (particularly the Lower Park Heights Community Coordinating Council) are heavily involved in program and policy advocacy by seeking to promote changes in inner-city conditions and services.

As a result of these visits to information services, we were further convinced that a sample survey would provide a less biased data base than would the use of available records kept by various services in the city. Furthermore, our decision to focus on a broader range of needs than simple information needs was reinforced by the fact that the most disadvantaged in the city did not appear to avail themselves of those services maintaining a relatively neutral role in disseminating information. Whether this finding could be attributed to different needs, different problem-solving capabilities, or different styles or service approaches raised questions requiring further study and analysis.

4.3 Group Interviews

The group interview was another approach selected for exploring information needs during the developmental phase of the Project. Such interviews, if conducted properly, result in intense interpersonal interaction among those involved. This interaction tends to reduce inhibitions thereby allowing "depth" level responses to emerge. By conducting some group interviews, we hoped to generate some hypotheses concerning information needs and other relevant variables to be measured.

In selecting the discussion topics for the group sessions, the task was one of providing some structure for the group leader while guarding against leading participants into talking about specific areas of information needs. Leaders were careful not to indicate to participants the aims of the study or the name of the sponsoring agency prior to the interview, so that the discussion would not be influenced by this knowledge. The group leaders were a psychologist and a psychiatrist who had previous experience using group techniques as a research tool. It was believed that only persons with such skills could conduct the interviews in a nondirective manner and yet maintain control over the discussion. The group leaders were of the same race as the participants in their groups.

Participants were recruited for two group interviews through community organizations. One group consisted of residents of the Polish-American community in Baltimore, while the other consisted of residents of a low-income black neighborhood. A major difficulty in recruiting group participants was enlisting the cooperation of typical residents of the community rather than community leaders. The groups were ultimately composed of a number of community leaders, a factor that resulted in the domination of the discussion by these individuals and tended to

influence the topics brought up during the interviews. Findings using this data collection technique are summarized below.

Much of the discussion during both group interviews centered on neighborhood problems and the need for organizing the community to combat these problems. The tendency for the discussion to go in the direction of neighborhood problems can probably be attributed to a number of factors. Community leaders were more likely to participate even though efforts to recruit typical residents were made. Recruitment through community organizations resulted in a group of participants whose common link was membership in an organization involved in community issues. The discussion of social problems within the community was therefore a natural starting point for the discussion. Undoubtedly, participants also found it less threatening to talk about what the community needed than what they as individuals needed to solve problems of a more personal nature. Through constantly refocusing the discussion to the needs of the participants as individuals, some information needs were brought out. The majority of these more personal needs had to do with information about services available.

The group leaders found it difficult to generate discussion by asking about information needs per se without first identifying a specific problem and subsequently probing for what information and/or services were needed for the individual to obtain a solution to the problem. The result was that some information needs were mentioned (e.g., where an abortion might be obtained), but that often the ultimate solution to the problem would result from the provision of a service. However, information concerning available services was seen as an essential link in the problem-solving process. It should be briefly noted here that this approach to the generation of discussion concerning information needs was the one finally adopted for use in the

survey instrument. A thorough discussion of this approach and of other techniques pilot-tested for the survey instrument is presented later in this chapter.

With respect to the sources of information used, findings from the group interviews were to have a significant impact on the construction of the survey instrument. A recurring theme throughout both group interviews was the importance of informal, interpersonal communication and personal influence in the transfer of information and in the solution of personal and neighborhood problems. Other sources of information mentioned included media sources (newspaper, radio, television, books) and institutional sources such as city agencies or programs. Exposure to these sources and the relative effectiveness of the various sources of information available were to become major variables through the survey instrument.

Originally, it was intended to conduct more than two group interviews with diverse groups of participants. However, findings from the two interviews conducted were so similar despite the diversity of the participants that we believed that our energies would be better spent in instrument development for the sample survey of households. The following section describes the extensive pretest effort that went into the construction of the final survey instrument.

4.4 Instrument Development

Over a period of five months (November 1971 through March 1972), four pretests were conducted, during which nine instruments were tested using a total of 58 respondents. Some of the pretest activity was concurrent with the other tasks being carried out during the developmental phase of the study

(i.e., the visits to information services and the group interviews). Each pretest was built upon the results of the preceding pretests as well as upon input provided by the other developmental activities in progress.

The interviewers for the pretest were recruited through an interviewing service in Baltimore. To the extent possible, the same interviewers were retained throughout the course of the pretesting so that the study would benefit from their accumulated experience with each new version of the instrument pretested. A core group of four to five interviewers conducted the interviewing and provided many insights for the revision and modification of each instrument until, by successive approximation, a satisfactory instrument had been constructed.

Each pretest was preceded by a briefing conducted by Project staff. This lasted from two to four hours. The instruments to be pretested were discussed question by question and general guidelines for respondent selection were given. For each instrument, half of the respondents were low-income, half were middle- to upper-income, half were black, half were white, half were male, and half female. Since these were pretests, no rigid sampling procedures were followed. Interviewers were instructed to use their best judgment in selecting areas of the city in which they could find respondents who met our general criteria. Interviewers and respondents were matched on race in all cases.

Following each pretest, a debriefing was held for several hours so that the interviewers could relate their specific experiences with each instrument. Debriefing sessions were tape-recorded so that Project staff who were not able to attend these sessions would have the benefit of listening to the

intense interaction that occurred. Since most of the interviewers aired their own opinions concerning the information problem, in some respects the debriefing sessions were comparable to the previously conducted group interviews and yielded similar kinds of comments.

What follows is a discussion of the pretests, describing how, by trial and error, we arrived at the final instrument to be used in the sample survey. Since our experiences may well be instructive to those who attempt to do further research in this area and to those who seek a clearer understanding of the data collected, instrument pretesting has been dealt with in some detail.

4.4.1 First Pretest

The first pretest was primarily concerned with trying out several techniques that would generate statements of information needs by respondents. Experience with the group interviews, revealed how difficult it was for persons to understand the concept of information and to respond to direct questioning about their information needs. Three different instruments representing three different approaches to this problem were developed and each was pretested with four respondents.

The first technique consisted of 10 anecdotes that presented very specific situations in which a hypothetical person or family found itself. The respondent was first asked to relate to the situation described and then prescribe an answer or a solution. Then the respondent was asked what he or she sould do in that situation. Finally, the respondent was asked if he or she had been in a similar situation and, if so, what

had been done about it. An example of the sequence of questioning is given below:

Anecdote: Bob can go to school to learn a trade like meat-cutting. The course lasts several weeks and will cost him $100. Before he goes to all this time and expense, he wants to know how easy or hard it will be to find a job with his new trade.

1. Who could Bob ask about his chances for finding a job?

2. What would you yourself do in a similar situation?

3. Have you ever needed to know about job opportunities like Bob did?

4. How did you go about it? What did you find out?

Contrary to expectations, the respondents did not generalize from the anecdotes. Instead of responding to one of many aspects of the situation described in the anecdote, they responded to the exact situation and could only identify information needs when those needs paralleled the needs of the person described in the anecdote. Since the responses were very directed rather than spontaneous, they did not yield data that would allow us to say anything concerning the distribution of information needs among the interviewees.

According to the interviewers' reports, the questioning procedure was very monotonous and respondents felt as though the interview was a test of knowledge. Consequently, when asked what the person described in the anecdote could do about his problem, respondents tended to give what they perceived to be the desirable or "correct" response. There were many mentions

of establishment sources such as the Consumer Protection Service, the Better Business Bureau, the "Mainline" column in the newspaper, and so on. However, if a respondent himself had experienced a similar problem, his solution was usually obtained in an altogether different manner, e.g., by contacting a friend or a professional who served him. This finding led the staff to distrust data on information sources that were obtained by asking a respondent about potential sources as opposed to actual sources used for information.

The second technique pretested was a very unstructured diary approach. Interviewers were instructed to have respondents recount their activities from morning until evening of the preceding day. By probing, the interviewers were to draw out information needs associated with the activities of the respondent. For example, if a respondent went to the grocery store, the interviewer might probe to find out if information was needed about what products to buy, where to get bargains, and so on. For each information need identified, the interviewer recorded what sources of information had been used, what information or advice had been obtained, and what other information would be needed to answer the question or solve the problem. If no sources of information had been used, respondents were asked what they planned to do to get an answer or a solution.

Specific problems and information needs were identified in this fashion; however, there was no standardization of the questioning procedure. Interviewers communicated their concern over this lack of standardization and believed that another interviewer would have obtained different results with the same respondents. Through intense interviewer training, a greater measure of control might have been introduced in using this technique; however, this would not have been feasible for a large-scale survey such as the one being planned. One further

disadvantage of this technique was that the information needs identified were unanswered or unmet needs. Because of the time frame of one day, respondents were not likely to have initiated and completed searches for the answers they needed. Consequently, this approach generated no data that would allow an evaluation on the effectiveness of various sources of information in answering the questions.

The third approach used in this pretest consisted of asking respondents if they had any information needs in six different topic areas -- questions about their neighborhood, employment, health, housing, education, and consumer information. The questioning procedure about each subject area began with an introduction in which many examples were given so that respondents would have response cues. Subsequently, respondents were asked what information they needed and who could give them the information. An example of a typical sequence of questions for a subject area is as follows:

Introduction: Now let's talk about jobs. Some people are looking for jobs, are worried about losing their jobs, or are simply unhappy with the jobs they've got for some reason. Others may want to work and cannot because of responsibilities at home or for other reasons.

1. Do you have any similar problems or concerns?

2. And could you tell me about that?

3. Who do you know or know about that could give you some help or some good information?

4. And what kind of advice or information would you need to solve this problem?

This instrument was, according to the interviewers, the easiest to administer. Unlike their experiences with the other two approaches, respondents were put at ease and interviewers found that rapport was established quickly. However, many of the responses obtained were very general. For example, respondents would talk about an issue such as the tight job market, without specifying a particular instance in which they needed information. The data on sources of information were unsatisfactory since it was difficult to determine whether a respondent had actually initiated a search for information and whether the sources mentioned were actual sources used or potential sources to be tapped for information. The interviewers also complained about the monotony of the sequence of questioning for the respondents.

The data generated by pretesting these three techniques proved to be less than satisfactory. A technique that would result in spontaneous mentions of specific information needs without leading respondents was needed. The questioning procedure would have to be sufficiently structured so that the data would be reliable regardless of the number of interviewers involved in data collection. A sequence of questioning would also have to be developed for generating data about actual sources used, rather than hypothetical or potential sources.

4.4.2 Second Pretest

In the second pretest, one instrument was used with six respondents. There was a lengthy introduction to the interview. The interviewer read one example similar to those used in the topic-areas questionnaire pretested earlier. In the example, a number of different questions or problems about neighborhoods were listed. Then the interviewer said, "Now

let's forget for a moment the problems that these people have and think about the problems that you in particular or that members of your family have. We are interested in any problems where some information might be useful to you." The following sequence of questioning was used for two information needs per respondent.

1. Have you needed information recently to solve a problem or to answer a question that has been bothering you?
2. What was the problem or question you had?
3. What information did you need?
4. Were you able to get the information you needed?

Following this last question there was a branch in the questioning procedure for those who had obtained the information they needed and for those who had not. A series of questions followed to determine the characteristics of those sources used by the successful respondents and sources used (if any) by respondents who had been unsuccessful in getting the information they needed.

In spite of the carefully worded introduction used by the interviewers, all of the information needs mentioned by the respondents were related to neighborhood problems. Possibly, had allowance been made for recording more than two information needs per interviewee, respondents would have exhausted their concerns about the neighborhood and mentioned needs in other areas. However, because of the questioning on sources, the length of the interview would have exceeded the 30- to 45-minute limit that had been set since more time would be taken in identifying and recording information needs.

Two other major difficulties were experienced with this questionnaire. Note that respondents had first been questioned about the problem or question they had and then asked what information they needed. In most cases, respondents could not make a distinction between the problem and the information need. Responses to the second question were a repetition of what was said earlier. Sometimes respondents were insulted by the second question and made comments such as, "Obviously I need to know what to do about it."

Respondents often did not distinguish between getting the information they needed and getting a solution to the problem. Since an important branch in the questioning procedure was based on the respondent's understanding of this distinction, the wording of the questions concerning sources used was often inappropriate for the respondent's particular situation. In addition, some data on sources was lost because the form was not designed for recording information about more than one source used by the respondent.

Also in this instrument, pretesting for the first time included measures of other variables, which included exposure to interpersonal sources (e.g., number of contacts in the past week, membership in organizations), access to telephones, knowledge and use of some information services in the city, library use, means of transportation, and demographic variables (i.e., occupation and education of respondent, age, income, sex, and race). Some modifications and deletions were made as a result of this pretest. The questions concerning knowledge and use of specific information services were deleted. Respondents had been asked whether they had heard of two specific telephone services. As a check on the accuracy of the data yielded by this kind of questioning, we also asked about a nonexistent information service. Three out of the six respondents claimed that they had heard of the service and

could describe in some detail the kinds of information that could be obtained from it. Because of this finding, this method of questioning was rejected as a means of getting accurate information about knowledge of sources.

4.4.3 Third Pretest

In the third pretest, the number of respondents was increased to twenty and a panel design was used. Respondents were interviewed during the interviewer's first visit, asked to keep a diary for five days, and were visited a second time for a followup interview. Respondents were offered a small appliance as an incentive to participate in the study. By using this design, we had the opportunity to modify the diary approach used earlier and to test several other techniques at the same time. The initial interviews were seen in one respect as a means to communicate to the respondents the kind of information they should record in the diary during the week. By having respondents record their information needs as they arose, the staff had hoped to obtain more spontaneous mentions. Information needs logged in the diaries were to be used as the starting point for the followup interview, during which the interviewer would collect detailed data on sources of information used.

During the initial interview, half of the respondents were administered one instrument and half received a completely different instrument. The first instrument, which was called the Topic Areas questionnaire, was basically a refinement of a questionnaire used in the first pretest. In that questionnaire, examples of needs falling into various subject areas were read and the respondent was asked if he or she had had any similar questions or concerns. However, several important changes in approach were made. First, before reading any examples to the

respondent, we tried to get spontaneous mentions of information needs by reading this question:

> We are interested in finding out what kinds of questions come up in the ordinary course of a day that people have trouble getting answers to. I'd like you to think back over the past few days or weeks and tell me if you can think of an instance where something came up and you needed some help or you needed to know what to do or maybe you just needed some information. Can you think of something like that?

Interviewers were to probe for up to four information needs without making any leading statements. Afterwards, respondents were directed to think about 17 topic areas. Examples such as those used earlier were read for five topic areas -- neighborhood, recreation, health, education, and consumer problems. In order to include more topic areas without making the interview monotonous, 12 more topic areas were introduced by mentioning the names of the topics rather than by reading examples. These 12 topic areas were drugs, family planning, legal matters, cultural activities, housing, day care, abortion, voting and registration, hobbies, public assistance, employment, and transportation. The list of topic areas, although somewhat arbitrary, was developed using classifications of requests received by various information services in Baltimore. No data or sources used were collected with this instrument since the followup interview was designed for this purpose.

The second version of the initial interview was called the Self-Anchoring questionnaire. The approach was similar to that used by Kilpatrick (1964) in a study of occupational values. In a self-anchoring scale, the respondent is asked to define the top and bottom or anchoring points of the dimension on which scale measurement is desired. The respondent is then asked to

use this self-defined continuum as a basis for further questioning about his perceptions, values, or goals. For this study, two dimensions were selected -- personal aspirations, and aspirations for the community. For personal aspirations, the respondent was asked first to imagine and describe his future in the best possible light. Then he was asked to describe his future in the worst possible light. Afterwards, the interviewer showed the respondent a ladder numbered with 10 scale positions. The top of the ladder represented the best future as the respondent had described it, and the bottom represented the worst possible future. Then the respondent was asked where he thought he stood on the ladder at the present time and why he did not place himself higher. For each reason given, he was asked if there was any information he needed in order to change or improve the situation. A similar questioning procedure was used for the dimension of aspirations for the community.

Of the two approaches, the Topic Areas questionnaire yielded the better data. The Self-Anchoring questionnaire elicited unrealistic wants and desires of respondents, such as "living on a boat and not working for the rest of my life," and general fears about financial security. With the Topic Areas questionnaire, more realistic and more diverse needs were identified. There was an average of one spontaneous mention of information needs per respondent with this questionnaire. Overall, on the average, five needs were identified using the topic areas approach as compared with 3.5 per respondent with the self-anchoring approach. Table 4-1 presents the number of times various areas of need were mentioned by respondents to whom the two instruments were administered.

The second half of the initial interview was used to collect demographic data as well as other data related to access

Table 4-1. Information needs identified during the initial interview of the third pretest*

Areas of of Need	Topic Areas Questionnaire		Self-Anchoring Questionnaire	
	Spontaneous Mention	Directed Mention	Personal Aspirations	Aspirations for the Community
Neighborhood	1	8	0	8
Recreation	0	5	0	0
Health	1	2	1	0
Education	0	2	2	0
Consumer	1	5	0	0
Family Planning	0	3	0	0
Drugs	0	5	0	1
Housing	1	2	2	3
Day Care	0	2	0	0
Legal Problems	0	3	0	0
Public Assistance	1	0	0	0
Employment	4	0	0	0
Financial Matters	2	**	7	0
Transportation	1	0	2	0
Crime	1	**	0	4
Family Problems	0	**	2	0
Discrimination	0	**	3	0
Total	13	37	19	16

* Based on responses of 10 persons per questionnaire.

** These topics were not suggested to the respondent in the Topic Areas questionnaire.

and exposure to sources of information. This section was somewhat expanded over what had been included in the second pretest with the addition of questions pertaining to exposure to media sources (TV, radio, newspapers, magazines), type of dwelling, ownership of dwelling, marital status of the respondent, and number of minor children in the family.

Following the initial interview, respondents were asked to keep a daily diary of any questions that had come up during the day. They were also instructed to write down the names of the people they had spoken to about these questions so that they would recall this information when the interviewer visited them for the followup interview. The information obtained using this diary approach was no better than that obtained using a single interview. An average of two needs were recorded per respondent for the entire five-day period. The information needs recorded were not entirely spontaneous as evidenced by repetitions of needs identified during the initial interview. Also, the instrument administered to the respondents during the initial interview affected the types of needs recorded in the diary. Those who had received the Self-Anchoring interview tended to record fewer specific needs and more global concerns than respondents who had received the Topic Areas questionnaire. In reading the diaries, one got the impression that the respondents felt obligated to record at least one or two information needs and forced themselves to make up something to write in the diary. The diary also posed serious problems for low-income respondents who had difficulties writing. Since we were particularly concerned with identifying the needs of the low-income population in the Baltimore Urbanized Area, we could not use a data collection technique that yielded poor data for respondents having no reading and writing skills.

The followup interview for all respondents was designed to collect data on information-seeking behavior, sources used by respondents, and effectiveness of these sources. Two needs that had been noted in the diary were selected for in-depth questioning based on the respondent's selection of the most important needs that he or she had listed. Since we had found during the second pretest that few respondents understood the distinction between an information need and a problem, and between getting the needed information and getting a solution to the problem, several important changes in approach were made in the followup instrument. The first change was a matter of wording the questions. No distinction was made between the problem and the information need by using the phrasing "question or problem?" The interviewers were instructed to use probes such as "And what did you need to know about this?" in order to elicit statements of specific information needed while respondents were describing the problem or question they had. Rather than asking respondents whether they had gotten the information they needed, they were asked if they had gotten "an answer to this question or a solution to this problem." By blurring these distinctions, the questions asked would fit many situations, ranging from a need for simple information to answer a question to a more complex need for advice or services to solve a problem.

Since the second pretest was to question all respondents in an identical manner concerning sources used regardless of whether or not they had obtained a satisfactory answer or solution, it constituted another major change in approach. The followup instrument was also designed to collect data on more than one source and on several kinds of sources. A series of questions were asked about each person contacted, such as occupation, how the respondent knew the person contacted, what information or suggestions the person gave, and so on. Following the questions about interpersonal

sources, questions were asked about information that may have been obtained from media sources including radio, newspaper, television, and magazines.

The development of this in-depth sequence of questioning about actual sources used was guided by some of the distinctions tested in a survey by Katz and Lazarsfeld (1955) concerning the effectiveness of sources of information in determining behavior such as adopting new fashions. It was found, for example, that while the influence of persons was most effective in determining whether or not a respondent took some action, media sources played a contributory role in increasing a respondent's general awareness. For example, a media source may make a person aware of new products on the market, but many persons only buy new products after finding out that a friend has tried and likes the product. The friend as a source of information exhibits decisive effectiveness while the media exhibit contributory effectiveness. When Katz and Lazarsfeld asked respondents what caused them to buy a product or to try a new fashion, usually respondents described their action as the result of an interpersonal contact. However, when asked directly about information obtained from media sources, many of these sources were found to have made some contribution in determining the respondent's behavior.

In this study we were concerned that respondents would not mention important sources of information such as public service announcements unless directly questioned about media sources. For example, a person may be aware of the telephone number to call about consumer complaints because of a public service announcement on the radio, but he or she may not call the number until this action is suggested by a relative or friend. By only asking about interpersonal sources of information used, the data concerning the awareness created by the radio announcement would be lost. In order to measure the dimension of effectiveness, all respondents

were asked in the followup interview to designate which of all the sources mentioned had been "most important in terms of giving good information about this question or problem." Finally, respondents were asked if they had obtained a "satisfactory answer to the question or solution to the problem" and, if not, what else they planned to do.

Following the in-depth questioning about sources used for two problems or questions per respondent, questions were asked about organizational membership, number of contacts in the past week, and self-designated opinion leadership. Although, according to recent research, the concept of opinion leadership has been somewhat muddled, the opinion leader has been described as a person who exposes himself or herself to more sources of information than the nonopinion leader and often serves as a catalyst by sorting, digesting, and filtering this information down to nonopinion leaders (Katz and Lazarsfeld, 1955). This theory is also called the two-step flow of communication, because opinion leaders are seen as receiving and evaluating information before passing it on to nonopinion leaders who are then personally influenced by the opinion leader rather than by the original source of the information.

Because it was thought that the dimension of opinion leadership might be useful in developing a profile of those persons in the sample who were successful in problem-solving (as opposed to those who had less success in getting solutions), questions previously used for identifying opinion leaders were added to the questionnaire (Katz and Lazarsfeld, 1955). Correlates of opinion leadership, such as number of contacts in the past week and number of organizations belonged to, were also measured. The type of organizational membership was also of interest as a potential means of communicating with persons about new information services. If it was found that persons

who have the least problem-solving capabilities were more likely than others to belong to a certain type of organization (e.g., churches or veterans' groups), information could be disseminated to this target group through these organizations. Accordingly, data on type of organizational membership were also collected.

The data yielded by the followup instrument were the best obtained to date. However, the questioning about two information needs resulted in a fairly lengthy interview even without a section for the identification of the information needs of the respondent. The amount of source data collected would have to be considerably reduced so that the total interview time would not exceed 45 minutes on the average.

Based on this third pretest, a number of conclusions were made. First, there did not seem to be any advantage in using the panel design to get spontaneous mentions of information needs. One interview per respondent would be less costly and, would yield better data than the diary and reinterview approach. The topic areas approach represented an acceptable compromise, since it yielded both spontaneous and directed mentions of information needs. Without the directed mentions, the data base of information needs would be small. It was estimated, based on the pretest results, that approximately one-third of the respondents would not make spontaneous mentions of information needs. If the instrument was restricted to only spontaneous mentions of needs, information would be lost on both the needs and information-seeking behavior of many respondents. By collecting data on both spontaneous and directed mentions, it would be possible to create two data bases, test for differences, and collapse the data bases if no differences were found.

With respect to the source data, it was decided to question respondents in depth about sources used for only one

information need. This information need would be the one selected by the respondent as being of most concern to him or her. By using this selection criterion rather than a random selection procedure, it was hypothesized that data would be obtained on more sources used since respondents would be more likely to have initiated a search for information to answer a question or to solve a problem of great importance to him or her.

Finally, the instrument would contain measure of exposure and access to information sources, opinion leadership and some correlates of this variable, and demographic variables for use as predictors of information needs and information-seeking behavior.

4.4.4 Fourth Pretest

The fourth and final pretest was conducted with twenty respondents. The instrument contained five major sections. The first section was used to identify information needs, first by getting spontaneous mentions, followed by directed mentions using the topic areas approach. Interviewers obtained directed mentions by reading examples for four areas and then by reading a list of ten additional topics.

The second section of the instrument was designed to collect data on sources used for the respondent's most important question or problem. Space was provided for recording information on a maximum of six interpersonal sources and one of each of the following media sources: television, radio, magazines, and newspapers. If more than one source had been used, respondents were asked to designate the most helpful source.

The third section contained the opinion leadership questions and measures of the correlates of opinion leadership (number of contacts, organizational membership).

The fourth section was used to measure access and exposure to various information sources. A series of questions were asked concerning library use, readership of magazines and newspapers, access to a telephone during the day, ownership of television sets and radios, and major means of transportation.

The last section was used for collecting demographic data including such variables as ownership of living quarters, family size, designation of head of household, number of children under 18 years, number of persons 65 years or older, occupation of the respondent and the head of household, marital status, education of respondent, age, income, sex, and race. To the extent possible in this section, questions contained in the 1970 Census questionnaire were used so that comparisons could be made with 1970 Census statistics.

Table 4-2 presents the frequency of spontaneous and directed mentions of various kinds of questions or problems. An average of one spontaneous mention was obtained per respondent. Six of the 20 respondents mentioned no information needs spontaneously. Overall, including both spontaneous and directed mentions, an average of four information needs were obtained per respondent.

After the fourth pretest, a few modifications were made before the instrument was finalized. The question for obtaining spontaneous mentions of information needs was shortened, and wording similar to that used by Rieger and Anderson (1968) was substituted. Three specific probes were given for interviewers

Table 4-2. Areas of information needs mentioned by 20 respondents in the fourth pretest

Areas of Need	Spontaneous Mention	Directed Mention	Total
Neighborhood	3	15	18
Consumer	3	7	10
Housing	0	8	8
Employment	1	4	5
Education	1	3	4
Health	1	4	5
Transportation	2	4	6
Recreation	1	2	3
Financial Matters	6	4	10
Discrimination	0	1	1
Day Care	0	2	2
Family Planning	0	0	0
Legal Problems	1	0	1
Crime and Safety	2	4	6
Other	1	0	1
Total	22	58	80

to use. These probes were neutral in that they did not mention topic areas or examples of needs.

Some changes were made in the source section of the instrument. Books or pamphlets were included as a media source along with radio, television, newspapers, and magazines. Also, a question concerning the library as another possible source was inserted.

A copy of the final instrument is contained in Appendix B of this report.

4.5 Household Survey

4.5.1 Sample Design

The geographical boundary adopted for the study was the Baltimore Urbanized Area as defined by the U. S. Bureau of the Census. One of the Project objectives was to study the information needs of the urban poor which required that the sample design insure a representative sample of this class of citizens as well as being representative of the overall population of the Urbanized Area. The purpose of this section is to summarize the sample design (see Appendix A for details).

Although the units of analysis were to be individual respondents, a probability sample of households was desired. The study specifications called for interview attempts with 1,500 households with an expected 1,000 completed interviews. A stratified multi-stage sampling procedure was used to obtain a representative sample of urban residents 18 years of age and over within the Baltimore Urbanized Area. The first stage sample was selected by drawing a probability sample of blocks, followed by a sample of households within blocks and ultimately a sample of individual residents within households.

Each block within the Baltimore Urbanized Area was classified according to the following stratification variables:

- City and county code
- Size of block in terms of year-around housing units
- Percentage of block population that was black
- Estimated median income for block.

Except for the income estimates, these data were available from the Third Count Census Summary Tape, 1970 Census. A Westat, Inc. regression model was used to estimate the median income for each block.

Prior to drawing the sample of blocks, all the blocks in the Urbanized Area were divided into two segments as follows:

Type I - all blocks with less than $8,000 estimated family income and all blocks wherein the black composition was 50 percent or more.

Type II - all blocks with estimated family income of $8,000 or higher and less than 50 percent black population.

Type I blocks were oversampled by a factor of two, or twice their actual proportion of the Urbanized Area. Details of the selection procedures are given in Appendix A. This type of sample design required that interview results be weighted according to the type of block when combining results from the two types of blocks. A probability sample of 181 blocks was used to select a sample of households.

After the 181 sample blocks were drawn, housing units on these blocks were listed by an interviewing service in Baltimore. Because the listings fell short (by about seven percent) of the number of units expected based on 1970 Census figures, several methods of validation including relisting were used. However, validation procedures did not reveal any serious inaccuracies. Approximately 1,600 addresses were sampled from these lists for interviews. As an additional check against the possibility of underlisting, during the interviewing phase of the study interviewers were instructed to conduct interviews at any additional households discovered at addresses listed as single-family units. A final sample of 1,615 households resulted from these procedures.

4.5.2 Survey Methodology

From the selected households, a household member who was 18 years of age or older was randomly chosen for an interview. In several large households (i.e., households with more than four members of 18 years or older), more than one member was interviewed. After the initial attempt, as many as three callbacks were required to complete the screening and interviewing at each household. The personal interviews averaged 50 mirutes in length. A total of 1,000 interviews were completed resulting in a weighted completion rate of 64 percent. Refusal and vacancy rates were 16 percent and 3.8 percent respectively.

Interviews were conducted during a two-month period beginning in July, 1972. Eight hours were spent by each interviewer in training and practice interviewing. Interviewers were racially matched with respondents. Telephone validation of interviews was conducted by both the supervisors of the interviewing services and by Westat staff. Overall, 20 percent of the completed questionnaires were validated.

A more detailed account of field procedures is contained in Appendix B of this report.

4.5.3 Presentation of Results

Because of the nature of the sample design used, it is necessary to comment on the weighting procedures. A design using differential sampling fractions requires that individual respondents be assigned a weight to account for the differences in the probability of selection. Households in Type I and "special" blocks (see Appendix A for definition of "special" and "zero" blocks) were selected with a probability equal to twice the

selection probability of the households in the other blocks. Consequently, each household in Type II and "zero" blocks needs to be weighted by a factor of 2 in order for the two groups of block types to be in their proper proportion of the total.

Since the primary purpose of the tabulations and analyses was to investigate the information needs and information-seeking behavior of respondents, it was not necessary to project the sample to the total population in the Baltimore Urbanized Area. In other words, the estimates were percentages and averages based on totals for the sample. This allowed a weighting procedure that put the samples from the two groups into the proper proportions but did not project to population totals.

For purposes of analyses, it sufficed to assign a sampling weight of two to each of the households in the Type II and "zero" blocks and a sampling weight of one to each of the households in the other block types. Further adjustments were made to these two class weights to account for nonresponse. Interviews were completed with 521 respondents residing in Type I and "special" blocks; during the interviewing we discovered 10 year-round housing units that had not been listed and also found 34 vacancies. In the case of Type II and "zero" blocks we started with 666 housing units and we found 27 vacancies and 12 discovered households. Taking these factors into account, the response rates were as follows.

Type I and "special" blocks - $\frac{521}{927 + 10 - 34} = 58\%$

Type II and "zero" blocks - $\frac{479}{666 + 12 - 27} = 74\%$

Combined response rate - 64%

Because of the difference in the response rates between the two classes, it was decided to adjust the responses in order to dampen the possible effects due to the difference in response rate. These adjustment factors were 1/.58 and 1/.74 in view of the response rates shown above. Such a procedure is sometimes referred to as imputing for nonresponse.

Considering the sampling weight and the adjustment for nonresponse each respondent was assigned one of two overall weights as follows:

Type I and "special" blocks: $W_I = \frac{1}{.58} = 1.72$

Type II and "zero" blocks: $W_{II} = 2 \times \frac{1}{.74} = 2.70$

Estimates were constructed by multiplying the reported characteristic for each respondent by the appropriate weight and summing over all responses. Implications of the weighting procedures are evident in the figures shown in the marginal tabulations presented in the remaining chapters. Applying the weights to the 1,000 respondents, we have the following.

Type I and "special" blocks:	1.72 x 521 =	896
Type II and "zero" blocks:	2.70 x 479 =	1,293
Total combined respondents		2,189

The 1,000 completed interviews represent a sample of 2,189 persons. The analyses are in terms of these weighted sample responses on the basis of 2,189 respondents.

4.5.4 Sampling Variability

Since the data are based on a sample of the population of the Baltimore Urbanized Area, they are subject to sampling

variability. The standard errors of the estimates are measures of the differences between survey results and figures that would have resulted if a complete census had been taken, using the same questionnaire, field procedures, and processing methods. The chances are about two out of three that the difference due to sampling variability is less than the standard error. The chances are about 19 out of 20 that the difference is less than twice the standard error and about 99 out of 100 it is less than two and one-half times the standard error.

For a complex design, such as was used in this survey, involving both stratification with differential rates in the two strata and the use of clusters as the first stage of sampling (i.e., blocks), a simple formula for the standard errors does not exist. The standard error for any statistic depends on the distribution of the item in the two strata and on the distribution within blocks. To produce unbiased estimates of the standard errors, it would be necessary to prepare separate tabulations and computations for each item for which the standard error is desired.

However, the standard errors do tend to fall into patterns, and rough approximations can be made by the use of a number of simplifying assumptions that are reasonably accurate for most statistics. The table of standard errors shown below has been prepared through the use of such assumptions (Table 4-3). It applies to statistics for the total population, or subsets of the total in which the subsets are approximately uniformly distributed in both strata (e.g., breakdowns by age, by labor force status, etc.).

For attributes of subsets that come primarily from Stratum I (Type I blocks), the standard errors will be lower than shown in the table because a higher sampling rate was used in

Table 4-3. Approximate standard error of estimated percentage for subsets of the total population of the area

Estimated Percentage	Base of Percentage					
	100	250	500	1,000	1,500	2,189
2 or 98	2.4	1.6	1.1	0.8	0.6	0.5
5 or 95	4.0	2.5	1.8	1.3	1.1	0.9
10 or 90	5.3	3.4	2.4	1.7	1.4	1.2
25 or 75	7.5	4.9	3.4	2.4	2.0	1.7
50	9.0	5.8	4.1	2.9	2.4	2.0

NOTE: The table above contains approximations to the standard errors of percentage distributions, when the base of the percentage consists of persons in both Type I and Type II strata, and the proportions in the strata are roughly the same as for the total population. When the base of the percentage contains persons predominantly in the Type I stratum (e.g., low-income persons, blacks), the standard errors should be multiplied by 0.9. When the base is mostly from the Type II stratum (e.g., white population, middle or upper income groups) the standard errors should be multiplied by 1.2.

Stratum I than in the areas as a whole. For such statistics, therefore, the standard errors in the table should be multiplied by 0.9. Examples of statistics that would be predominantly from the Type I stratum are the black population, low-income persons, female blacks, persons 18-24 years of age in low-income households, etc. Conversely, the standard errors of statistics for population groups that will mostly be concentrated in the Type II stratum will be greater than shown. For such items, the figures in the table should be multiplied by 1.2.

The standard errors shown reflect only the impact of sampling on the reliability of the results. They do not take into account other problems affecting accuracy, such as the effect of imputation for nonresponse or the possibility of systematic errors in reporting.

The use of Table 4-3 can be demonstrated by an example. Consider a statistic that indicates 49 percent of 219 male respondents designated personal contacts as the best information source. What is the approximate sampling error associated with this statistic? For a subset of 219 persons, we can use the column based on 250 in Table 4-3 and find the approximate standard error given as 5.8 percent across from an estimate of 50 percent. We could then make the statement that the chances are about 19 out of 20 (95 percent) that the differences between our estimate of 49 percent and the estimate we would have found in a complete census using the same methodology is less than 11.6 percent (twice the standard error of 5.8 percent). If the estimate of 49 percent has been based on the total number of respondents, 2,189, the approximate standard error shown in Table 4-3 is 2.0 percent. We have assumed in this sample that the 49 percent consisted of persons in both Type I and Type II blocks in roughly the same proportion as the total population. Had our statistic been based primarily on persons from Type I blocks, we would multiply the approximate standard error from Table 4-3 by the factor 0.9.

5. URBAN INFORMATION NEEDS

In this chapter, the research issues raised in Chapter Three about the linkage of individuals to their information needs will be discussed. Specifically, the following questions will be addressed:

- What is the universe of information needs?
- What subgroups of individuals have which needs?
- How do different individuals perceive their needs?

The concept of "information need" for purposes of this study has been broadly defined within the context of problem-solving. As such, it has been defined as a problem or a question recognized by an individual for which either information or services are needed. Thus, the terminology used in the questionnaire to evoke responses included two key concepts: questions needing answers and problems needing solutions. The reader is referred to Chapter Four for a detailed description of how the questioning sequence was developed and to the questionnaire itself (Appendix B). The unit of analysis was "problems/questions" which were coded into general topic areas such as education, health, etc. and also into more specific categories (e.g., looking for a job, complaints about city services) within topic areas.

Two questioning procedures were used to obtain mentions of problems/questions. In the first, an attempt was made to obtain spontaneous or unaided recall of problems/questions. In the second, a more directed approach was used by naming topic areas to aid the respondent's recall. Since the two questioning procedures resulted in differences in the problems/questions mentioned on

some dimensions, aided and unaided comparisons have been provided throughout this chapter.

In addition to the frequency with which certain topic areas or specific problems/questions were mentioned by respondents, an additional dimension considered in this chapter is the importance of these needs to individuals. The importance of problems/questions has been related to whether the problems/questions were aided or unaided, to topic areas and specific categories of need, and to respondent characteristics.

The data have been presented in four major sections:

- The universe of information needs (Who has information needs? How many needs do they have?);
- Topic areas of need;
- Specific problems/questions; and
- How individuals state their needs.

For the sake of brevity, some data presented in this chapter have been extracted from larger tables which can be found in Appendix D.

5.1 The Universe of Information Needs

The universe of information needs is described in this section with two frames of reference:

- The numbers of respondents citing one or more problems/questions; and
- The numbers of problems/questions cited by respondents.

Eighty-nine percent of the sample (Table 5-1) cited at least one problem/question. Of the total of 8,932 problems/questions cited by these respondents, one fifth were unaided and four-fifths were aided. Although only 49 percent of the sample mentioned problems/questions spontaneously, 85 percent of the sample mentioned problems/questions when the interviewers probed about specific topic areas.

Table 5-1. Universe of respondents and problems/questions

	Number	Percent of Total
Total Respondents	2,189	100
Respondents citing one or more problems/questions	1,945	89
Respondents citing one or more unaided problems/questions	1,080	49
Respondents citing one or more aided problems/questions	1,868	85
Respondents citing no problems/questions	245	11
Total Problems/Questions		
Unaided problems	1,705	19
Aided problems	7,227	81

Which subgroups of individuals have information needs? Do some individuals have more information needs than others? In the remainder of this section, we will examine variations among subgroups of individuals in terms of both the numbers of respondents citing problems/questions and the numbers of problems/questions cited.

5.1.1 What Subgroups of Individuals Have Information Needs?

Some variations in the percentages of respondents citing one or more problems/questions can be noted for individuals grouped by demographic characteristics (Table 5-2). While the percentages of respondents citing problems/questions does not vary with the race or sex of the respondent, respondents who were young, those who were highly educated, those receiving the highest incomes or living in tracts with the highest median incomes, those in professional or managerial occupations, and those with family sizes of more than one person were most likely to cite problems/questions when compared to the overall sample percentage of 89 percent. Among all the demographic subgroups of individuals considered, respondents who were white and under 25 years of age were more likely to mention problems/questions than were elderly white respondents.

Table 5-2. Percent of respondents citing one or more problems/questions by demographic subgroups

Demographic Variable	Highest Response		Lowest Response	
	Percent	Subgroup	Percent	Subgroup
Race	89.1	White	88.5	Nonwhite
Sex	88.8	Female	88.75	Male
Age	97	<25 years	82	64+ years
Education completed	95	16+ years	83	0-6 years
Occupation of respondent	97	Professional or managerial	87	Housewife and other not working
Median tract income	94	$15,000 & over	86	$4,000 - $7,999
Family income	95	$15,000 & over	87	$4,000 - $7,999
Family size	90	2+ persons	84	1 person
Age by race	98	White <25 years	81	White 64+ years

In addition to variations in response for demographic subgroups, differences in social network were associated with variations in the numbers of respondents citing problems/questions (Table 5-3). Following are the three measures of social network used to classify respondents into subgroups.

1. Gregariousness. Based on the number of contacts with other persons in a one week period (see questionnaire item III-1, p. 16), this variable describes the amount of personal interaction experienced by respondents in a typical week. Respondents were classified into three subgroups as follows.

   Low personal interaction = less than 10 contacts
   Moderate personal interaction = 11-50 contacts
   High personal interaction = 51 or more contacts

2. Opinion Leadership. This variable is an index of self-designated opinion leadership (see questionnaire item III-2, p. 16). Each respondent was asked whether his opinion on seven different topics was sought more often, less often, or about as often as that of friends. Measurement was based on a rating of:

   More often = 1
   Same = 2
   Less often = 3

   Each respondent was classified into two subgroups based on the sum of his ratings for the seven topics.

   High opinion leadership = 7-14 points
   Low opinion leadership = 15-21 points

3. Membership in organizations. Each respondent was further classified in terms of the number of organizations he belonged to (see questionnaire item III-3, p. 17):

   High = 3 or more memberships
   Moderate = 1-2 memberships
   Low = no memberships

Table 5-3. Percent of respondents citing one or more problems/questions by social network variables

Respondents	Total	Gregariousness			Opinion Leadership		Membership in Organizations		
		High	Moderate	Low	High	Low	High	Moderate	Low
Number*	2,189	508	1,245	433	660	1,522	388	912	888
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%
Those citing one or more problems/ questions	89	90	90	83	94	87	93	89	87
Those citing unaided problems/questions	49	56	49	44	55	47	53	49	48
Those citing aided problems/questions	85	87	88	76	92	82	93	86	81
Those citing no problems/questions	11	10	10	17	6	13	7	11	13

* All respondents did not respond to all questions.

The group of respondents reporting less than 10 personal contacts per week (low gregariousness) show the highest percentage of individuals citing no problems/questions. On the other hand, respondents who rated themselves high on opinion leadership, or belonged to many organizations were more likely to cite problems/questions than other respondents. Some differences may be noted between respondents citing unaided problems and those citing aided problems. While respondents citing aided problems are also those showing high opinion leadership, and membership in three or more organizations, unaided problems are most often cited by those with a high gregariousness index. In all categories, respondents with low gregariousness are least likely to cite problems. Thus, those who have many personal contacts, those who consider themselves opinion leaders, and those who belong to many organizations,* tend to mention information needs more often than the typical respondents. These subgroups of individuals whose social network involves frequent interactions with others may be more aware of their needs than other individuals. On the other hand, they may simply be better able or more willing to articulate their needs than other individuals who have fewer personal interactions on a day-to-day basis.

Some of the principal demographic subgroups and the social network subgroups are ranked in Table 5-4 in terms of the percentage of respondents in each subgroup who cited problems/questions. With the exception of the sex and race subgroups which fall at the median for the sample, all other variables show

* Not all memberships have the same value in this respect. In general, response was largest for members of public affairs organizations (political, ethnic, civic, and civil rights), school groups (alumni clubs, sororities, fraternities, and PTA), and recreational, cultural and sports associations, and below average (for all respondents) for members of social services organizations (YMCA, Red Cross, youth or volunteer groups), social and fraternal societies, and church groups.

Table 5-4. Ranking of principal subgroups of respondents by percent citing one or more problems/questions

Rank	Percent Citing Problems/Questions	Demographic and Social Network Subgroups
1.5	97	Age - <25 years
1.5	97	Occupation - professional or managerial
3	95	Education - 16+ years completed
5	94	Opinion leadership - high
5	94	Median tract income - $15,000+
5	94	Education - 13-15 years completed
7	93	Membership in organizations - high
8	91	Median tract income - under $4,000
10	90	Gregariousness - high
10	90	Gregariousness - moderate
10	90	Occupation - clerical or sales
14.5	89	Membership in organizations-moderate
14.5	89	Sex - female
14.5	89	Sex - male
14.5	89	Median tract income - $8,000-$14,999
14.5	89	Race - white
14.5	89	Race - nonwhite
18.5	88	Age - 25-64 years
18.5	88	Education - 12 years completed
22	87	Opinion leadership - low
22	87	Membership in organizations - low
22	87	Education - 7-11 years completed
22	87	Occupation - blue collar
22	87	Occupation - housewife
25	86	Median tract income - $4,000-$7,999
26	85	Occupation - not working
27.5	83	Gregariousness - low
27.5	83	Education - 0-6 years
29	82	Age - 64+ years

a consistent pattern (i.e., the subgroups representing the extr s rank above or below the median). There is one reversal from th expected pattern for median tract income with those living in t lowest income tracts (under $4,000) ranking above the median in

terms of the percentage of respondents citing problems/questions. In general, young respondents, those in white-collar occupations, those living in the highest or lowest income tracts, those with at least some college education, those who consider themselves opinion leaders on a variety of topics, those who are gregarious (i.e., have interactions with 10 or more people in a week), and those who belong to three or more organizations are more likely to cite problems/questions when compared with other subgroups of individuals.

5.1.2 How Many Information Needs Do Individuals Have?

Considering only the 1,945 respondents who cited problems/questions, an average of 4.59 problems/questions were mentioned overall. On the average, less than one unaided problem/question was mentioned per respondent.* The overall average number of problems/questions varied within median tract income, race, age, years of education completed, and occupation of the respondent (Table 5-5). Individuals living in tracts with the highest median incomes, those having the most years of education, and respondents who were employed in clerical or sales positions had the highest average number of citations. On the other hand, nonwhites, the elderly, those living in low income tracts, and respondents who were not working (other than housewives) had the lowest average number of citations. The average number of citations varied only slightly with the sex of the respondent or

* If only those respondents (n = 1,080) citing unaided problem/questions (n = 1,705) are considered, the average is 1.58 unaided problems/questions cited. For aided problems/questions the average per respondent citing aided problems, is 3.87 (7,227 problems/questions/1,868 respondents). Thus, aided response is more than twice as great as unaided response, per respondent citing problems/questions in these categories.

Table 5-5. Average number of problems/questions cited by respondent characteristics

Respondent Characteristic	Average Number of Problems/Questions Per Respondent Citing Problems/Questions	
	Unaided	Total
Total	.88	4.59
Median Tract Income		
Under $4,000	.93	3.96
$ 4,000 - $ 7,999	.81	3.80
$ 8,000 - $14,999	.89	4.75
$14,999 and over	.91	5.35
Race		
White	.91	4.82
Nonwhite	.79	3.94
Age		
<25 years	.85	4.87
25 - 64 years	.89	4.70
64+ years	.87	3.48
Education Completed		
0 - 6 years	.93	3.72
7 - 11 years	.80	4.03
12 years	.89	4.68
13 - 15 years	.98	5.38
16+ years	.88	5.29
Occupation of Respondent		
Professional or manager	.95	4.89
Clerical or sales	.98	5.14
Blue collar or service	.71	4.33
Housewife	.95	4.54
Not working	.72	3.65
Family Size		
1 person	.94	4.31
2 or more persons	.86	4.65

Table 5-5. Average number of problems/questions cited by respondent characteristics (Continued)

Respondent Characteristic	Average Number of Problems/ Questions Per Respondent Citing Problems/Questions	
	Unaided	Total
Sex		
Male	.77	4.42
Female	.95	4.72
Sex of Household Head		
Male	.65	4.39
Female	.98	4.98
Age by Race		
<25		
White	.90	5.00
Nonwhite	.77	4.66
25 - 64		
White	.93	5.06
Nonwhite	.83	3.95
64+		
White	.93	3.81
Nonwhite	.67	2.44

with family size. Female heads of households, however, reported a higher average number of problems than did male heads of household.

Considering these findings in conjunction with those reported previously, it may be noted that respondents who were young or were at the highest education or income levels are not only more likely to cite problems/questions than other respondents but are also more likely to mention a greater number of problems/questions. Although there were no differences in the percentages of individuals of different race who cited problems/questions,

nonwhites were likely to report fewer problems/questions than whites. Conversely, although persons living in larger families were more likely to cite problems/questions, they did not report more problems/questions in comparison with those living in smaller families. A similar trend may be noted for professionals and managers.

Social network variables were also predictive of the number of citations (Table 5-6). Those who reported many personal interactions, who considered themselves opinion leaders, or who belonged to many organizations cited a greater number of problems/questions than other respondents. On the other hand, those who were the least gregarious cited fewer problems/questions than the typical respondent.

Table 5-6. Average number of problems/questions cited by social network variables

Respondent Characteristic	Average Number of Problems/Questions Per Respondent Citing Problems/Questions	
	Unaided	Total
Total	.88	4.59
Gregariousness		
High	.98	5.19
Moderate	.87	4.68
Low	.76	3.57
Opinion Leadership		
High	1.00	5.37
Low	.82	4.22
Membership In Organization		
High	1.03	5.60
Moderate	.84	4.46
Low	.84	4.28

When subgroups of individuals are ranked in terms of the number of citations per respondent (Table 5-7), it may be noted that the social network characteristics of many memberships in organizations, a high opinion leadership index, and high gregariousness are associated with relatively high rankings. Young respondents who ranked highest in terms of the percentage citing problems/questions (see Table 5-4) have dropped to ninth place in terms of the average number of citations. In general, however, those subgroups ranking highest in terms of the percentage citing problems/questions also ranked highest in terms of the average number of citations. Those who cite the fewest problems/questions on the average tend to be the elderly, those who have few personal interactions on a day-to-day basis, those who are not working, individuals with the least education, those living in tracts with the lowest median incomes, and nonwhites.

In summary, it appears that, ironically, those subgroups of individuals who occupy the most disadvantaged positions in our society are the least likely to articulate information or resource needs, and report fewer problems/questions than other individuals. As mentioned earlier, however, it would be hasty to conclude that these disadvantaged individuals have fewer needs for information or services than the more advantaged segments of the population. A more logical explanation might be that individuals with multiple unmet needs of long duration become so accustomed to them, and to their inability to solve them, that they no longer consciously regard them as problems/questions, and report only problems that are new and/or urgent. In addition, many of these respondents may well be less articulate or less willing to articulate their needs than more advantaged respondents.

Table 5-7. Ranking of principal subgroups by average number of problems/questions cited

Rank	Average Number of Citations	Social Network Subgroups	Demographic Subgroups
1	5.60	Membership in organizations - high	
2	5.38		Education completed - 13-15 years
3	5.37	Opinion leadership - high	
4	5.35		Median tract income - $15,000+
5	5.29		Education completed - 16+ years
6	5.19	Gregariousness - high	
7	5.14		Occupation - clerical or sales
8	4.89		Occupation - professional or manager
9	4.87		Age - <25 years
10	4.82		Race - white
11	4.75		Median tract income - $8,000 - $14,999
12	4.72		Sex - Female
13	4.70		Age - 25-64 years
14	4.68	Gregariousness - moderate	
15	4.68		Education completed - 12 years
	4.59	ALL RESPONDENTS	
16	4.54		Occupation - housewife
17	4.46	Membership in organizations - moderate	
18	4.42		Sex - male
19	4.33		Occupation - blue collar or service
20	4.28	Membership in organizations - low	
21	4.22	Opinion leadership - low	
22	4.03		Education completed - 7-11 years

Table 5-7. Ranking of principal subgroups by average number of problems/questions cited (Continued)

Rank	Average Number of Citations	Social Network Subgroups	Demographic Subgroups
23	3.96		Median tract income - Under $4,000
24	3.94		Race - non-white
25	3.80		Median tract income - $4,000 - $7,999
26	3.72		Education completed - 0-6 years
27	3.65		Occupation - not working
28	3.57	Gregariousness - low	
29	3.48		Age - 64+ years

5.2 Topic Areas of Need

The 8,932 problems/questions mentioned by respondents were coded into 14 general topic areas (Table 5-8). The most frequently cited topic areas were neighborhood, consumer, housing and household maintenance, and crime and safety. These four topic areas accounted for 52 percent of all problems/questions mentioned.

Table 5-8. Distribution of problems/questions among topic areas

Topic Area	Number Cited	Percent of All Citations
Total	8,932	100
Neighborhood	1,440	16
Consumer	1,199	13
Housing and Household Maintenance	1,145	13
Crime and Safety	878	10
Education	583	7
Employment	568	6
Transportation	545	6
Health	513	6
Miscellaneous	487	5
Recreation	470	5
Discrimination	368	4
Financial Matters	316	4
Legal Problems	214	2
Public Assistance	207	2

This section contains discussion on how mentions of topic areas were affected by the two questioning procedures (i.e., aided versus unaided), which topics were considered most important by respondents and which topics were most important for subgroups of individuals.

5.2.1 Comparison of Unaided and Aided Citations of Topic Areas

Some topic areas were more likely to be mentioned spontaneously than others (Table 5-9). In particular, the topic areas of housing and maintenance, legal problems, public assistance, and miscellaneous included a greater proportion of spontaneous mentions than other topic areas. On the other hand, mentions of concerns about crime and safety, education, recreation and discrimination were more likely to have been cited in response to more directed questioning about topic areas.

Table 5-9. Percent of citations which were aided and unaided by topic area

Topic Area	Total Number	Total Percent	Percent Unaided	Percent Aided
Total	8932	100	19	81
Neighborhood	1440	100	18	82
Consumer	1199	100	23	77
Housing & Household Maintenance	1145	100	29	71
Crime and Safety	878	100	8	92
Education	583	100	9	91
Employment	568	100	12	88
Transportation	545	100	10	90
Health	513	100	20	80
Miscellaneous	487	100	36	64
Recreation	470	100	9	91
Discrimination	368	100	7	93
Financial Matters	316	100	25	75
Legal Problems	214	100	31	69
Public Assistance	207	100	45	55

Although variations are evident for the different questioning procedures, three topic areas -- neighborhood, consumer, and housing and household maintenance -- were the most frequently cited regardless of the questioning procedure used (Table 5-10).

Table 5-10. Rank of topic areas by categories of response

Topic Area	Rank (by number of citations)		
	Total Problems	Unaided Problems	Aided Problems
Neighborhood	1	3	1
Consumer	2	2	2
Housing and Maintenance	3	1	3
Crime and Safety	4	9	4
Education	5	12	5
Employment	6	8	6
Transportation	7	11	7
Health	8	5	9
Miscellaneous	9	4	11
Recreation	10	13	8
Discrimination	11	14	10
Financial Matters	12	7	12
Legal Problems	13	10	13
Public Assistance	14	6	14

While crime and safety ranked fourth in terms of frequency of mention overall, as well as for aided problems/questions, miscellaneous problems/questions rank fourth in frequency among unaided problems/questions. The relative frequency of miscellaneous problems/questions among unaided responses may be attributed to the use of the following probe for unaided responses: "... have you had trouble finding out where a particular person, place, or thing is located ..." (see questionnaire item I-1, p. 1). Problems/questions concerning the need for names and addresses were coded into the miscellaneous topic area.

5.2.2 Importance of Topic Areas to Respondents

All respondents who cited more than one problem/question were asked to designate the problem/question of most importance to

him or her (see questionnaire item II-1, p. 6). When only one problem/question was mentioned by a respondent, this problem/question was coded as most important. The percentage of problems/questions selected as most important by respondents varied for topic areas and for aided and unaided responses (Table 5-11).

Table 5-11. Importance of problems/questions by topic areas

Topic Area	Number of Problems/ Questions	Percent of Total Designated as Most Important	Percent of Unaided Designated as Most Important	Percent of Aided Designated as Most Important
Neighborhood	1,440	22	27	23
Consumer	1,199	19	26	17
Housing and Household Maintenance	1,145	27	38	26
Crime and Safety	878	31	34	32
Education	583	22	35	21
Employment	568	26	40	25
Transportation	545	15	43	12
Health	513	22	23	23
Miscellaneous	487	13	14	14
Recreation	470	10	9	10
Discrimination	368	16	33	19
Financial Matters	316	19	21	19
Legal Problems	214	30	35	28
Public Assistance	204	33	52	19
Total	8,932	22	30	22

Considering all mentions of a topic area whether unaided or aided, a greater percentage of concerns about crime and safety, legal matters, and public assistance were considered most important when compared with other topic areas. Conversely, the miscellaneous were least likely to be designated as most important.

From Table 5-11, it may also be noted that a greater proportion of unaided responses than of aided responses was considered important. In particular, public assistance, employment, transportation, and housing concerns were most likely to be considered important among unaided responses in these topic areas. Among the aided responses, mentions of crime and safety were the only ones more likely to be considered important when compared to the percentage for all aided responses.

In summary, the importance of problems/questions for respondents was related to the topic areas mentioned as well as to whether or not the problems/questions were mentioned spontaneously by respondents. Those topic areas mentioned most frequently by respondents in the sample were not necessarily those which were considered most important by them. For example, although public assistance was the least frequently mentioned topic area, 52 percent of all spontaneous (unaided) mentions in this topic area were considered most important. In general, problems/questions which were mentioned spontaneously tended to be considered important more frequently when compared with problems/questions cited in response to more directed questioning by interviewers. However, some topic areas (such as recreation and miscellaneous) were not likely to be considered important whether mentioned spontaneously or as a result of more direct probing by interviewers.

5.2.3 Topic Areas Cited as Most Important by Subgroups of Individuals

Demographic subgroups of individuals, as might be expected, selected different topic areas as most important to them. In Table 5-12, some illustrative differences are presented.

Table 5-12. Percent of problems/questions designated as most important by topic area and by demographic subgroups of individuals

Topic Area	Percent of Problems/Questions Designated as Most Important	Subgroup(s) with the Lowest Response Percent	Subgroup(s) with the Highest Response Percent
Neighborhood	17	4 - <25 years of age	22 - 64+ years of age
Housing and Household Maintenance	16	10 - professionals or managers	22 - nonwhite 36 - median tract income of <$4,000
Crime and Safety	14	8 - <25 years of age 8 - 0 - 6 years of education 8 - median tract income of <$4,000	25 - median tract income of $15,000+
Consumer	11	3 - median tract income of <$4,000	17 - clerical or sales 13 - family income of $15,000+
Education	7	4 - 0 - 6 years of education	18 - 16+ years of education
Public Assistance and Financial Matters	7	2 - family income of $15,000+	16 - family income of <$4,000

Young respondents were less likely than elderly respondents to cite neighborhood problems/questions as most important. This difference with age may reflect the fact that young persons are more mobile and capable of leaving unsatisfactory neighborhoods than are elderly individuals. Housing concerns were more frequent among nonwhites and those living in low-income tracts than among whites and those living in tracts with the highest median incomes. Concerns about crime and safety were most prevalent among those living in tracts with the highest median incomes. One-fourth of all most important citations of those living in tracts with median income over $15,000 were mentions of problems/questions concerning crime and safety. Consumer problems or questions rarely were most important to those living in tracts with higher median incomes. Mentions of education were most frequently made by those respondents who had completed the most years of education. Finally, mentions of public assistance were associated with low levels of family income.

5.3 Specific Problems/Questions

Within the fourteen topic areas discussed in the previous section, problems/questions were coded into 109 specific categories. These specific categories were developed using a random sample of 20 percent of the questionnaires. Table 5-13 gives a complete listing and detailed description of the 109 specific categories. A complete ranking of the 109 specific categories is shown in Table 5-14.

Table 5-13. Universe of specific problems/questions cited by topic area

Topic Area	Percent of Total Problems	Percent of Total Most Important Problems	Specific Problems/Questions	Total Citations			Percent of All Topic Area Citations	Percent of Most Important Topic Area Citations	Rank Among All Specific Problems/ Questions
				Number	Percent Unaided	Percent Most Important			
Neighborhood	16	17	Complaints about children	327	14	22	23	22	3
			Traffic and parking	287	12	21	20	21	7
			Complaints about neighbors	237	18	20	16	15	9
			City services	235	38	20	16	14	10
			Other undesirable conditions	137	12	33	10	11	17
			Complaints about dogs	112	15	25	8	9	22
			Complaints about rats	73	21	14	5	5	73
			Vacant lots, abandoned cars and buildings	31	10	16	2	2	80
All Neighborhood Problems					18	22			
Consumer	13	11	Food prices too high	288	3	16	24	20	6
			Product quality bad	240	15	25	20	27	8
			Prices too high	159	4	18	13	13	15
			Complaints about rip-offs	106	43	25	9	12	26
			Service quality bad	97	27	24	8	10	31
			Need information on services	93	75	16	8	7	33
			Need information on products	87	34	9	7	4	34
			Services unavailable, inconvenient	70	51	7	6	2	43
			Products unavailable	42	43	17	4	3	63
			Other	17	35	18	1	1	93
All Consumer Problems					23	19			
Housing and Maintenance	13	16	Rental problems	343	25	25	30	28	2
			Househunting	306	15	25	27	35	4
			Barriers to housing change	113	10	12	10	5	21
			House needs repairs/improvements	97	40	22	8	7	30
			Utilities service	81	68	23	7	6	38
			Housing regulations	63	49	30	6	6	49
			Housekeeping concerns	44	67	11	4	2	60
			Public housing	39	36	41	3	6	65
			Housing loans	33	13	21	3	2	76
			Other housing problems	19	60	42	2	3	91
			Other maintenance problems	8	63	--	<1	--	107
All Housing and Maintenance Problems					29	27			
Employment	6	8	Unemployed, looking	186	12	31	33	39	14
			Present job	121	14	24	21	20	20
			Barriers to employment	86	5	22	15	13	36
			Want change	67	5	33	12	15	47
			Summer jobs	58	7	21	10	8	51
			Other employment problems	34	41	6	6	1	73
			Job training programs	16	20	38	3	4	98
All Employment Problems					12	26			
Education and Schooling	7	7	Complaints about system	220	3	23	38	40	11
			Information about education	148	16	24	25	28	16
			Financial aid	56	4	32	10	14	54
			Parent/teacher/student conflict	38	16	24	7	7	70
			Busing complaints	38	--	13	6	4	71
			Adult education	34	21	9	6	2	74
			High cost	26	12	--	4	--	86
			Other education problems	24	29	25	4	5	67
All Education Problems					9	22			

Table 5-13. Universe of specific problems/questions cited by topic area (Continued)

Topic Area	Percent of Total Problems	Percent of Total Most Important Problems	Specific Problems/Questions	Total Citations			Percent of All Topic Area Citations	Percent of Most Important Topic Area Citations	Rank Among All Specific Problems/ Questions
				Number	Percent Unaided	Percent Most Important			
Transportation	6	4	*Inadequate bus service*	292	3	13	51	48	5
			Other transportation problems	65	5	15	12	12	48
			Need information on public transportation	39	29	8	7	4	39
			Auto insurance	31	42	55	6	21	78
			High-cost public transportation	31	10	6	6	2	79
			Fear of using public transportation	29	--	14	5	5	82
			Road maintenance/markings	22	45	18	4	5	90
			Barriers to use of transportation	17	18	12	3	2	95
			Car repair financing	10	--	--	2	--	104
			Inadequate emergency services	9	33	--	2	--	105
All Transportation Problems					10	15			
Recreation and Culture	5	2	Too little for children and teens	200	7	16	43	68	13
			Too little for adults	111	--	8	24	19	24
			Need information about recreation available	77	26	4	16	6	40
			Poor quality	32	--	6	7	4	77
			Other	17	47	12	4	4	94
			High cost	17	--	--	4	--	96
			Lack of supervision	16	19	--	3	--	97
All Recreation Problems					9	10			
Financial Matters	4	3	General gripe -- insufficient money	106	8	19	33	34	27
			Property tax too high	57	23	23	18	21	52
			Loan or credit difficulties	53	25	23	17	21	55
			Need information on income tax	41	46	17	13	12	65
			Acquiring/selling properties	22	59	14	7	5	88
			Other problems	22	45	14	7	5	89
			Stock market/investments	11	27	--	3	--	102
			Need information on retirement	4	--	50	1	3	108
All Financial Problems					25	19			
Public Assistance	2	4	Problems with Department of Social Services	56	52	41	27	33	53
			Medical assistance	51	24	27	24	20	56
			Food stamps	43	53	28	21	18	61
			Social security	29	66	41	14	18	81
			Unemployment compensation	27	30	22	13	9	84
			Other problems	2	100	100	<1	3	109
All Public Assistance Problems					45	33			
Discrimination	4	3	Racial tensions	79	11	9	21	12	39
			Racial discrimination	69	9	28	19	33	45
			Sex discrimination	49	6	--	13	--	57
			Blacks moving in	45	9	20	12	23	59
			Other problems	43	5	21	12	15	62
			Blacks charged more	42	7	17	11	12	64
			Too much to blacks	40	--	8	11	5	67
All Discrimination Problems					7	16			

Table 5-13. Universe of specific problems/questions cited by topic area (Continued)

Topic Area	Percent of Total Problems	Percent of Total Most Important Problems	Specific Problems/Questions	Total Citations			Percent of All Topic Area Citations	Percent of Most Important Topic Area Citations	Rank Among All Specific Problems/ Questions
				Number	Percent Unaided	Percent Most Important			
Health	6	6	Complaints about maladies	124	14	31	24	34	19
			Need information or advice	98	37	27	19	23	29
			Health insurance	87	30	7	17	6	35
			High cost of care	83	2	16	16	12	37
			Unavailable/inadequate care	75	12	25	15	17	41
			Mental health	33	39	18	7	6	75
			Other health problems	13	15	29	3	2	101
All Health Problems					20	22			
Legal	2	3	Need for legal services	69	46	33	32	36	44
			Contracts	60	23	26	28	26	50
			Divorce	41	12	32	19	20	66
			Legal documents	28	54	92	13	14	83
			Other legal problems	15	--	13	7	3	100
All Legal Problems					31	30			
Crime and Safety	10	14	General statement of fear	379	3	35	43	49	1
			Specific crime	210	12	30	24	23	12
			Lax law enforcement	130	13	25	15	12	18
			Drugs or narcotics	96	8	28	11	10	32
			Need more street lights	48	4	25	5	4	58
			Other crime problems	15	40	20	2	1	99
All Crime and Safety Problems					8	51			
Miscellaneous	5	3	Need child day care	111	11	12	23	21	23
			Discussion of news events	100	30	14	22	24	25
			Need names, addresses	103	68	13	21	21	28
			Need birth control information/ advice	67	4	18	14	19	46
			General care/well-being of children	35	34	9	7	5	72
			Other miscellaneous	26	68	19	5	8	85
			High cost of child care	18	--	--	4	--	92
			Other birth control problems	10	30	--	2	--	103
			Other child care problems	9	--	--	2	--	105
All Other Problems					36	13			
Total Problems					19	22			

Table b-1. Comparative rankings of specific problems/questions cit

Specific Problems/Questions	Topic Area	Rank by Number of			Rank of Total Most Important Problems/ Questions
		Total Citations	Unaided Citations	Aided Citations	
General fear	Crime and Safety	1	54	1	1
Rental problems	Housing and Maintenance	2	3	6	3
Complaints about children	Neighborhood	3	7	3	4
Househunting	Housing and Maintenance	4	8	5	2
Inadequate bus service	Transportation	5	55	2	14
Food prices too high, quality inferior	Consumer	6	60	4	12
Traffic and parking	Neighborhood	7	14	7	5
Product quality bad	Consumer	8	11	9	7
Complaints about neighbors	Neighborhood	9	9	10	10
City services	Neighborhood	10	2	15	11
Complaints about school system	Education	11	67	8	9
Specific crime	Crime and Safety	12	22	12	6
Too little recreation for children and teens	Recreation	13	39	11	18
Unemployed, looking	Employment	14	25	13	8
Prices too high	Consumer	15	68	14	20
Need information about education	Education	16	24	16	16
Other undesirable neighborhood conditions	Neighborhood	17	36	17	13
Lax law enforcement	Crime and Safety	18	32	18	17
Complaints about maladies	Health	19	33	20	15
Present job	Employment	20	34	21	19
Barriers to housing change	Housing and Maintenance	21	52	22	42
Complaints about dogs	Neighborhood	22	35	25	21
Need day child care	Miscellaneous	23	48	23	44
Too little recreation for adults	Recreation	24	--	19	59
Discussion of news events	Miscellaneous	25	15	29	40
Complaints about rip-offs	Consumer	26	6	39	22
General gripe -- insufficient money	Financial Matters	27	61	24	30
Need names, addresses	Miscellaneous	28	1	92	46
Need health information or advice	Health	29	12	36	24
Need housing repairs/improvements	Housing and Maintenance	30	10	40	29
Service quality bad	Consumer	31	20	30	25
Drugs or narcotics	Crime and Safety	32	62	26	23
Need information on consumer services	Consumer	33	4	73	41
Need information on products	Consumer	34	17	42	63
Health insurance	Health	35	21	37	70
Barriers to employment	Employment	36	75	27	31
High cost of health care	Health	37	93	28	47
Utilities service	Housing and Maintenance	38	5	70	31
Racial tensions	Discrimination	39	58	31	66
Need information about recreation available	Recreation	40	28	43	82
Unavailable/inadequate health care	Health	41	59	32	32
Complaints about rats	Neighborhood	42	37	41	57
Consumer services unavailable/inadequate	Consumer	43	13	60	78
Need for legal services	Legal	44	16	56	27

Specific Problems/Questions	Topic Area	Rank by Number of			Rank of Total Most Important Problems/ Questions
		Total Citations	Unaided Citations	Aided Citations	
Racial discrimination	Discrimination	45	69	33	35
Need advice or information on family planning/ birth control	Miscellaneous	46	79	34	54
Want employment change	Employment	47	80	35	28
Other transportation problems	Transportation	48	81	38	58
Housing regulations	Housing and Maintenance	49	23	57	33
Legal contracts	Legal	50	40	46	37
Summer jobs	Employment	51	76	44	50
Property tax too high	Financial Matters	52	43	49	45
Problems with Department of Social Services	Public Assistance	53	38	67	26
Financial aid (education)	Education	54	91	45	36
Loan or credit difficulties	Financial Matters	55	44	52	56
Medical assistance	Public Assistance	56	49	54	43
Sex discrimination	Discrimination	57	82	47	--
Need more street lights	Crime and Safety	58	95	48	52
Blacks moving in	Discrimination	59	77	51	49
Housekeeping concerns	Housing and Maintenance	60	19	87	75
Food stamps	Public Assistance	61	26	77	53
Other discrimination	Discrimination	62	96	50	62
Products unavailable	Consumer	63	31	72	69
Blacks charged more, poorer quality	Discrimination	64	83	55	68
Need information on income tax	Financial Matters	65	29	76	65
Divorce	Legal	66	73	59	48
Too much to blacks	Discrimination	67	--	53	85
Public housing	Housing and Maintenance	68	41	71	39
Need information on public transportation	Transportation	69	53	68	87
Parent/teacher/student conflicts	Education	70	70	61	59
Busing (education) complaints	Education	71	--	58	77
General care/well-being of children	Miscellaneous	72	50	74	86
Other employment problems	Employment	73	42	78	90
Adult education	Education	74	65	69	83
Mental health	Health	75	45	79	73
Housing loans	Housing and Maintenance	76	78	63	67
Poor quality recreation facilities	Recreation	77	--	62	92
Auto insurance	Transportation	78	46	81	38
High cost of public transportation	Transportation	79	84	65	97
Vacant lots, abandoned cars and buildings	Neighborhood	80	85	64	76
Social security	Public Assistance	81	30	96	55
Fear of using public transportation	Transportation	82	--	66	80
Legal documents	Legal	83	38	88	61
Unemployment compensation	Public Assistance	84	63	80	72
Other miscellaneous	Miscellaneous	85	27	107	79

Table 5-14. [illegible] cited (Continued)

Specific Problems/Questions	Topic Area	Rank by Number of			Rank of Total Most Important Problems/ Questions
		Total Citations	Unaided Citations	Aided Citations	
High cost of education	Education	86	86	75	--
Other education problems	Education	87	66	83	71
Acquiring or selling properties	Financial Matters	88	47	97	90
Other financial matters	Financial Matters	89	56	90	88
Road maintenance markings	Transportation	90	57	89	81
Other housing problems	Housing and Maintenance	91	51	102	64
High cost of child care	Miscellaneous	92	--	82	--
Other consumer problems	Consumer	93	71	95	91
Other recreation problems	Recreation	94	64	99	94
Barriers to use of transportation	Transportation	95	87	85	93
High cost of recreation/culture	Recreation	96	--	84	--
Lack of recreation supervision	Recreation	97	88	91	--
Job training programs	Employment	98	99	93	74
Other crime and safety problems	Crime and Safety	99	72	100	89
Other legal problems	Legal	100	--	86	99
Other health problems	Health	101	97	94	84
Stock market/investments	Financial Matters	102	90	103	--
Other family planning/birth control	Miscellaneous	103	91	101	--
Car/repair financing	Transportation	104	--	98	--
Inadequate emergency services	Transportation	105	92	105	--
Other child care problems	Miscellaneous	106	--	101	--
Other housekeeping problems	Housing and Maintenance	107	74	108	--
Need information on retirement	Financial Matters	108	--	106	95
Other public assistance problems	Public Assistance	109	98	--	98

5.3.1 Comparison of All Problems/Questions With Unaided Problems/Questions

Thirty-four of the specific categories accounted for 58 percent of all 8,932 citations (Table 5-15). Within each topic area, the specific categories listed in Table 5-15 account for at least half of all citations in that topic area and for at least half of all those problems/questions designated by respondents as most important (data not shown). As can be seen from Table 5-13, the three most frequently cited problems/questions were general statements of fear of crime, rental problems, and complaints about children in the neighborhood.

Since some differences were noted previously for those problems/questions mentioned as a result of differences in the unaided and aided questioning procedures, we will look briefly at the specific problems/questions which were most frequently mentioned spontaneously (unaided). The thirty-three specific categories shown for unaided problems/questions in Table 5-16 accounted for 64 percent of all unaided citations. The four most frequently mentioned unaided problems/questions were complaints about city services in the neighborhoods, rental problems, needs for names and addresses, and needs for information about consumer services.

In comparing the problems/questions for all citations (Table 5-15) and for unaided citations (Table 5-16), there are some differences in the specific categories which account for the majority of the citations. Nineteen of the specific categor are included for all citations and for unaided citations. One of the most obvious differences between the two listings is the inclusion of a greater number of categories specifying the need for information among unaided citations. Whereas only three such categories were frequently cited for all problems/questions, seven categories indicating a need for information were frequently

Table 5-15. Most frequently cited specific problems/questions

Topic Area	Specific Problem/Question	Percent of All Citations
Neighborhood	Complaints about children	4
	Traffic and parking	3
	Complaints about neighbors	3
Consumer	Food prices too high	3
	Product quality bad	3
	Prices too high	2
Housing and Household Maintenance	Rental problems	4
	Househunting	3
Employment	Unemployed - looking for job	2
	Complaints about present job	1
Education	Complaints about the school system	2
	Need information about education	2
Health	Complaints about maladies	1
	Need health information or advice	1
	Health insurance	< 1
Transportation	Inadequate bus service	3
	Other transportation problems	< 1
Recreation	Too little for children or teens	2
	Too little for adults	1
Financial Matters	General gripe - insufficient money	1
	Property taxes too high	< 1
Public Assistance	Problems with the Department of Social Services	< 1
	Medical assistance	< 1

Table 5-15. Most frequently cited specific problems/questions (Continued)

Topic Area	Specific Problem/Question	Percent of All Citations
Discrimination and Race Relations	Racial tensions	< 1
	Racial discrimination	< 1
	Sex discrimination	< 1
	Blacks moving in	< 1
Legal Problems	Need for legal services	< 1
	Legal contract disputes	< 1
Crime and Safety	General statement of fear	4
	Specific crime problems	2
Miscellaneous	Need child care	1
	Discussion of news events	1
	Need names, addresses	1
Total		58

Table 5-16. Most frequently cited unaided, specific problems/questions

Topic Area	Specific Problem/Question	Percent of Unaided Citations
Neighborhood	Complaints about city services	5
	Complaints about children	3
Consumer	Need information about services	4
	Complaints about "rip-offs"	3
	Services unavailable, inconvenient	2
	Product quality bad	2
Housing and Household Maintenance	Rental problems	5
	Utilities service	3
	Househunting	3
Employment	Unemployed - looking for job	1
	Complaints about present job	1
Education	Need information about education	1
	Questions about adult education	< 1
Health	Need health information or advice	2
	Health insurance	2
Transportation	Auto insurance	< 1
	Need information on public transportation	< 1
	Inadequate bus service	< 1
Recreation	Need information on recreation	1
	Too little for children and teens	< 1
Financial Matters	Need information on income tax	1
	Property taxes too high	< 1
	Loan or credit difficulties	< 1

Table 5-16. Most frequently cited unaided, specific problems/questions (Continued)

Topic Area	Specific Problem/Question	Percent of Unaided Citations
Public Assistance	Problems with the Department of Social Services	2
	Food Stamps	1
Discrimination and Race Relations	Racial tensions	< 1
	Racial discrimination	< 1
Legal Problems	Need for legal services	2
	Need for legal documents	< 1
Crime and Safety	Specific crime problems	1
	Lax law enforcement	1
Miscellaneous	Need names, addresses	5
	Discussion of news events	2
Total		64

cited for unaided problems/questions. On the other hand, specific categories which might be considered "complaints" were more often included among all problems/questions than among unaided problems/questions. The most probable explanation for these differences is the bias in the questioning procedures used for aided versus unaided problems/questions. The questioning for unaided responses emphasized needs for information, while the more directed questioning for aided responses placed relatively more emphasis on complaints. Although, in general, unaided problems/questions were more likely than aided problems/questions to be considered most important by respondents, not all of the problems/questions specifying a need for information were ranked as high as complaints in terms of importance by respondents. For example, although 44 percent of all unaided citations concerning recreation were needs for information about recreational opportunities. in no case did these respondents consider the need for such information as the most important of all their problems/questions.

5.3.2 Importance of Specific Problems/Questions for Subgroups of Individuals

In order to consider the importance to respondents of specific problems/questions, this section will be concerned only with those problems/questions that were considered most important by respondents, regardless of whether they were mentioned in response to aided or unaided questioning by interviewers. Furthermore, it will be concerned with only those specific categories of response which were most frequently cited as most important. Of the 1,945 problems/questions which were designated as most important by respondents, 956 or 49 percent were distributed among 15 specific categories (Table 5-17). The four most heavily represented topic areas -- neighborhood, housing, crime and safety, and consumer -- are also those most frequently mentioned among

Table 5-17. Distribution of citations for the 15 most important problems/questions

Rank	Specific Problem/Question	Topic Area	Number of Most Important Citations	Percent of 15 Most Important Citations
1	General Fear	Crime and Safety	133	14
2	Househunting	Housing and Household Maintenance	106	11
3	Rental Problems	Housing and Household Maintenance	85	9
4	Complaints About Children	Neighborhood	71	7
5	Traffic and Parking	Neighborhood	69	7
6	Specific Crime	Crime and Safety	62	6
7	Product Quality Bad	Consumer	61	6
8	Unemployed, looking	Employment	58	6
9	Complaints About School System	Education	51	5
10	Complaints About Neighbors	Neighborhood	47	5
11	City Services	Neighborhood	46	5
12	Food Prices Too High	Consumer	45	5
13	Other Neighborhood Problems	Neighborhood	45	5
14	Inadequate Bus Service	Transportation	39	4
15	Complaints About Maladies	Health	38	4
Total			956	100

all 8,932 problems/questions. These topic areas also account for the greatest number of problems/questions which were considered most important by respondents. Six topic areas (financial matters, public assistance, recreation, discrimination, legal matters, and miscellaneous) are not represented among the 15 most important specific problems/questions.

Illustrative differences among demographic subgroups citing the 15 most important problems/questions are shown in Table 5-18. The data presented in Table 5-18 will be discussed below for the eight topic areas represented by the 15 most important problems/questions.

- Crime and Safety: Concerns about crime and safety varied with occupation, education, and median tract income. In general, those in the more prestigious occupations and with the higher levels of education and income were most likely to report a general fear of crime. Specific incidences of crime were, in a similar fashion, most frequently cited among those living in tracts with the highest median incomes.

- Housing and Household Maintenance: Demographic subgroups which were most likely to mention difficulties finding a place to live were the young, nonwhites, those with little education, individuals who were not working, and those living in tracts with the lowest median incomes. Rental problems were most frequent among the young and least frequent among the elderly.

- Neighborhood: Complaints about neighborhood children were most frequent among the elderly and those living in low-income tracts. Complaints about neighbors were similarly correlated with median tract income. In addition, complaints about neighbors were frequent among those with little education. Traffic and parking problems in the neighborhoods were more frequent among whites than non-whites. Housewives tended to complain about city services (e.g., sanitation) more often than other subgroups. It might also be mentioned that, contrary to expectations, complaints about city services were distributed evenly among respondents regardless of median

Table 5-18. Differences among demographic subgroups in citing the fifteen most important problems/questions

Specific Problem/Question	Percent of the 15 Most Important (N = 956)	Subgroup(s) with the Lowest Response (Percent)	Subgroup(s) with the Highest Response (Percent)
General fear of crime	14	7 not working (excluding housewife, students, retired) 9 7 - 11 years of education 9 median tract income of $4,000 - $7,999	22 professional or manager 21 13 - 15 years of education 32 median tract income of $15,000+
Househunting	11	8 64+ years of age 7 white 9 16+ years of education completed 9 professionals or managers 5 median tract income of $15,000+	19 <25 years of age 21 nonwhite 20 0 - 6 years of education completed 20 not working (excluding housewife, student, retired) 24 median tract income of <$4,000
Rental problems	9	4 64+ years of age	14 <25 years of age
Complaints about neighborhood children	7	3 <25 years of age 5 median tract income of $15,000+	14 64+ years of age 17 median tract income of <$4,000
Traffic and parking	7	2 nonwhite	10 white

Table 5-18. Differences among demographic subgroups in citing the fifteen most important problems/questions (Continued)

Specific Problem/Question	Percent of the 15 Most Important (N = 956)	Subgroup(s) with the Lowest Response (Percent)	Subgroup(s) with the Highest Response (Percent)
Specific crime	6	5 median tract income of <$4,000	13 median tract income of $15,000+
Product quality bad	6	2 professionals or managers	14 clerical or sales
Unemployed - looking for a job	6	0 64+ years of age 3 professionals or managers	15 <25 years of age 33 not working (excluding housewife, retired)
Complaints about the school system	5	1 7 - 11 years of education 0 median tract income of <$4,000	16 16+ years of education 13 median tract income of $15,000+
Complaints about neighbors	5	1 16+ years of education 0 median tract income of $15,000+	8 0 - 11 years of education 10 median tract income of $4,000 - $7,999
Complaints about city services	.5	2 blue collar and service workers	10 housewife

Table 5-18. Differences among demographic subgroups in citing the fifteen most important problems/questions (Continued)

Specific Problem/Question	Percent of the 15 Most Important (N = 956)	Subgroup(s) with the Lowest Response (Percent)	Subgroup(s) with the Highest Response (Percent)
Food prices too high	5	1 <25 years of age	7 64+ years of age
Other neighborhood problems	5	0 median tract income of <$4,000	13 median tract income of $15,000+
Inadequate bus service	4	2 professionals or managers 4 25 - 64 years of age	8 clerical or sales 7 64+ years of age
Complaints about maladies	4	2 <25 years of age 2 professionals or managers	11 64+ years of age 12 retired

tract income. Five percent of each of the subgroups based on income mentioned city services (data not shown).

- Consumer: The poor quality of products was of most concern to persons in clerical or sales positions while the cost of food was of great concern to the elderly.
- Employment: As might be expected, finding a job was of greatest concern to the young and those who were not working at the time of the interview (excluding housewives, and the retired).
- Education: Those individuals with the most education and living in tracts with the highest median incomes were most likely to complain about the school system.
- Transportation: Complaints about inadequate bus service were made most frequently by individuals in sales and clerical occupations and by those over 64 years old.
- Health: Complaints about illnesses were found most frequently among the elderly and retired persons.

While these data may seem obvious and give rise to many post-hoc explanations, they do specify precisely which subgroups should be the primary target for the dissemination of specific kinds of information. For example, finding another place to live is of little concern to the elderly; however, children who cause disturbances in their neighborhoods have resulted in less than ideal housing situations for them. Obviously, the most appropriate solution for the elderly would be information on how to effect some changes in their present neighborhoods.

5.4 How Individuals State Their Needs

During the developmental phases of this study, pretest data indicated that individuals differed in the ways in which they articulated their needs. Some respondents clearly expressed a

need for information or advice. Others suggested that their needs could only be met through the actual help or action of some outside party. Some respondents tended to express their needs in the form of complaints while others did not. Accordingly, a scheme was devised for making three dichotomous judgments for each problem/question mentioned by respondents:

- Does the respondent complain about or lament a problem/question of social or personal concern? (yes or no)
- Does the respondent state a need for information or advice? (yes or no)
- Does the respondent suggest a need for actual help, assistance, or action in order to answer his question or solve his problem? (yes or no)

Each of the three judgments was made independently of the other two so that all combinations of affirmative and negative judgments could be made for any problem/question. Intercoder agreement on judgments was sufficiently high to allow comparisons for aided and unaided problems/questions, for specific problems/questions, and for subgroups of individuals. In interpreting these data, it is necessary to bear in mind that the judgments were made on the basis of respondents' statements of their needs, not on the basis of expert judgments as to the appropriate solutions for their needs. For example, a need for information (second judgment) was coded only when the respondent specifically stated a need for information.

5.4.1 Statements of Unaided and Aided Problems/Questions

The wording of the questionnaire for unaided and aided responses decidedly played some role in the differences in the way respondents stated their problems/questions. As noted earlier, probes used to obtain unaided mentions of needs emphasized an

interest in needs for information. On the other hand, complaints were more heavily emphasized in the wording used to obtain directed mentions of problems/questions. Respondents' statements of aided and unaided problems/questions reflected these differences in questioning procedures (Table 5-19). Almost half of the unaided problems/questions were stated as needs for information in contrast with only 18 percent for aided problems/questions. Complaints were more frequent among aided than unaided mentions. Unaided problems/questions were also somewhat more likely to be stated as needs for help.

Table 5-19. Statements of total, aided, and unaided problems/questions*

Problems/Questions Stated As:	Percent of All Problems/ Questions (N = 8,932)	Percent of Unaided Problems/ Questions (N = 1,705)	Percent of Aided Problems/ Questions (N = 7,227)
Complaints	87	75	89
Needs for information or advice	24	47	18
Needs for actual help	16	22	15

* Multiple responses allowed.

5.4.2 Statements of the Most Important Problems/Questions

To determine whether the manner in which problems/questions were stated varied with specific kinds of problems or questions, we looked at how the fifteen most important problems/questions were stated (Table 5-20).

Respondents seem to view high food prices as something they could do nothing about. All mentions of food prices were

Table 5-20. Statements of the fifteen most important problems/questions

Specific Problems/ Questions	Percent of Problems/Questions Stated as:		
	Complaints	Needs for Information or Advice	Needs for Help
Total (N = 956)	93	20	17
Complaints about the school system	100	0	30
Complaints about neighbors	100	0	28
Food prices too high	100	0	0
General fear of crime	100	6	16
Complaints about children	100	3	4
Specific crime	100	6	11
Product quality bad	100	9	42
Other neighborhood problems	100	16	17
Complaints about maladies	100	13	18
Traffic and parking	99	3	15
Rental problems	95	19	22
City services	93	7	22
Inadequate bus service	93	8	21
Househunting	70	80	13
Unemployed - looking for a job	65	91	7

complaints while no such mentions suggested a need for information or a need for help. The fact that no respondents voiced the problem of high food prices in terms of possible solutions may indicate a feeling of helplessness in the face of rising prices as well as an inability to view this problem in terms of alternatives or possible solutions.

In contrast to high food prices, other problems/questions which were uniformly stated as complaints were sometimes stated as needs for information or needs for help. In particular, complaints about the school system, about neighbors, and about product quality were often stated as needs for help or assistance. Only two

specific problems/questions were stated almost uniformly as needs for information - looking for a house or apartment and looking for a job. These specific problems/questions were also less likely than other problems/questions to be stated as complaints.

5.4.3 How Do Subgroups of Individuals State Their Needs?

Some subgroups of individuals were less likely than others to state their problems/questions in terms of complaints (Table 5-21). Specifically, individuals with the most education, those who were professionals or managers, and those living in tracts with the highest median incomes were least likely to articulate their problems/questions in terms of complaints. It may also be noted that problems/questions mentioned by these subgroups were also more likely to be stated as needs for information or advice. Similarly, young respondents and students were less likely to complain and more likely to express a need for information. The elderly and retired persons, however, tended to complain more frequently and to express a need for information less frequently than other respondents. Expressions of the need for actual help did not vary consistently for subgroups of individuals.

These data tentatively suggest that when individuals see the solutions to their problems/questions in terms of information, they are less likely to display negative attitudes by complaining or lamenting their situations. This relationship between complaints and needs for information was also seen (Section 5.4.2) for two specific problems/questions (househunting and job hunting) which were stated frequently as information needs. For subgroups of individuals, the inverse relationship between complaining and stating a need for information or advice holds both for unaided and aided problems/questions (data not shown). Thus, the elderly were considerably more likely than young respondents to complain

Table 5-21. Statements of problems/questions by age, education, occupation, and median tract income

Specific Problems/ Questions	Percent of Problems/Questions Stated as:		
	Complaints	Needs for Information or Advice	Needs for Help
Total (N = 8,932)	87	24	16
Age			
<25 years	82	30	13
25 - 64 years	87	23	18
65+ years	92	16	12
Education Completed			
0 - 6 years	91	22	12
7 - 11 years	91	19	14
12 years	87	23	15
13 - 15 years	84	27	22
16+ years	79	29	18
Occupations			
Professionals or managers	78	30	21
Clerical or sales	86	23	18
Blue collar or service	87	20	13
Housewife	89	25	16
Student	81	29	20
Retired	95	13	17
Other not working	92	27	19
Median Tract Income			
Under $4,000	91	27	16
$ 4,000 - $ 7,999	90	22	15
$ 8,000 - $14,999	87	23	17
$14,999 and over	78	29	18

and less likely to consider information as a means to obtain an answer or solution for both unaided and aided problems/questions. One might hypothesize that if information were more frequently

considered an effective means of obtaining solutions by individuals, some psychological barriers to problem-solving might be removed.

5.5 Summary and Discussion

Overall, there was a high incidence of information needs among the sample population. Eighty-nine percent of the respondents mentioned at least one problem/question. These 1,945 persons mentioned a total of 8,932 identifiable needs -- an average of 4.59 problems/questions per person.

Some individuals were more likely than others to mention information needs to interviewers. In general, individuals who were young and those with the higher levels of education and income were most likely to report problems/questions. In addition, a high incidence of information needs was found for individuals who were gregarious, who considered themselves opinion leaders on a variety of topics, and who were members of a number of organizations. Ironically, those subgroups who would be expected to have the most needs (i.e., the poor, the least educated, the elderly, the socially isolated, etc.) reported the fewest needs. Although one might conclude that these individuals have fewer needs, it is more logical to attribute this finding to other factors such as the inability or unwillingness of these individuals to articulate their needs or to their resignation to a poor quality of life.

The most frequently cited problems/questions fell into the topic areas of neighborhood, consumer, housing, and crime and safety. These four topic areas accounted for more than half of the 8,932 problems/questions reported.

Some variations were noted for aided vs. unaided citations of topic areas, and appear to be the result of two factors. First, the more salient or urgent areas of needs such as public assistance, housing, and legal problems, were more likely to be mentioned spontaneously; whereas, less pressing areas of needs such as recreation and discrimination were reported when a more direct questioning sequence was used to aid recall. In support of this interpretation was the finding that a greater percentage of unaided than aided problems/questions were designated as most important by respondents. A second factor leading to variations in aided and unaided responses was the wording of the questionnaire. The questioning for unaided responses emphasized "needs for information" whereas "complaints" were emphasized in the more direct questioning of respondents. This interpretation is supported by an examination of the specific categories of aided and unaided responses. More problems/questions indicating needs for specific kinds of information were found among unaided responses than among aided responses; conversely, what might be considered "complaints" were more prevalent among aided responses. However, it was the more urgent needs such as public assistance rather than the needs for information which accounted for the greater importance ascribed to unaided problems/questions.

Some topic areas were of more concern to some subgroups of individuals than to others. For example, the general areas of crime and safety was cited most frequently as most important among those at the upper income levels. Within this topic area, a general fear of crime and mentions of specific crimes were more frequently cited as most important by these individuals. The general area of housing, on the other hand, was cited most frequently by nonwhites and low-income respondents. An examination of the more specific categories under housing revealed that househunting was an important concern for nonwhites, low-income respondents, those with little education, the young, and the

unemployed. Within the general topic area of neighborhood problems the elderly mentioned complaints about neighborhood children as most important. These data provide valuable information for pinpointing specific target groups with the view of disseminating information to meet specific needs.

In looking at how respondents stated their problems/questions, an inverse relationship between complaints and statements implying a need for information was found. Unaided problems/questions were less frequently expressed as complaints and more frequently expressed as information needs than aided responses. Some specific problems/questions (i.e., househunting and job hunting) were similarly less likely than other problems/questions to be stated as complaints and more likely to be expressed as needs for information. In addition, some subgroups of individuals -- notably the most educated, those with the highest incomes, professionals or managers, and the young -- were less likely to complain and more likely to express a need for information than other individuals. It is suggested that when the possible solution to a problem or question is seen in terms of information some of the psychological barriers to problem solving (i.e., apathy, feelings of helplessness) may be removed.

6. INFORMATION-SEEKING STRATEGIES

In this chapter, some of the major research questions raised in Chapter Two concerning information-seeking strategies will be addressed: Specifically, questions generated in the discussion of the second, third, and fourth linkages of the model: those of individuals to sources, of individuals to solutions, and of sources to needs are addressed (additional data concerning the linkage of individuals to solutions will be presented in Chapter Seven, Search Outcomes). Discussion of the data presented in this chapter will be focused on the following research questions.

- What subgroups of individuals attempt to solve their problems?
- How many sources do individuals use?
- What sources are used by which individuals?
- What are the characteristics of the sources used?
- What sources are seen as helpful by individuals?
- What source characteristics are associated with helpfulness?
- What kinds of assistance are given?
- What kinds of assistance do individuals see as helpful?
- What sources are used for what needs?

Since we are primarily concerned with variations in search strategies for subgroups of individuals, the data have been displayed separately for demographic subgroupings of individuals. In initial summary tabulations, a total of eight demographic variables were used: race, occupation, geographic location, 1970

Census median tract income, sex, years of education completed, annual family income, and age. In this chapter, however, only those demographic variables which were correlated with information-seeking strategies are reported. A discussion of the demographic variables used in the cross-tabulations can be found in Appendix C, Data Preparation and Tabulation.

The search strategies described in this chapter were used by respondents in their attempts to obtain answers to actual questions, or solutions to actual problems. Each respondent was asked to select his most important problem/question among all the problems/questions that he had mentioned to the interviewer and to describe the sources of information he had used in attempting to get an answer or a solution. The data on sources used reported in this chapter were collected in response to questions asked in Section II (pages 6-16) of the questionnaire. The wordings of some of the questions used have been given in this chapter where necessary to clarify the meaning of the data presented. The reader is also invited to refer to the questionnaire which can be found in Appendix B, Field Procedures.

Throughout this chapter, search strategies have been reported for those respondents who reported at least one problem/question. Of the sample of 2,189 respondents, 1,945 or 89 percent reported at least one problem/question.

6.1 Levels of Information-Seeking Activity

Several research questions are addressed in this section concerning the amount of information-seeking activity reported by respondents. Which persons initiate searches for information or seek to answer their questions or to solve their problems? How many sources are tapped? What sources do people use?

Respondents were questioned about three kinds of sources:

- interpersonal sources (i.e., personal contacts);
- media sources (television, radio, magazines, newspapers, and books or pamphlets); and,
- libraries.

To determine the number of sources used by each respondent, each person contacted was counted as one source, each use of a media form was counted as one source, and each use of a library was counted as one source. Since there were very few cases in which respondents reported using more than one example of a media form (e.g., two magazines), any mention of a media form was counted as one source. No respondent reported using more than one library. Thus, a respondent was considered to have used two sources if he contacted two persons for information, or if he contacted one persone and obtained information from newspapers, or if he obtained information from television and from a library.

6.1.1 What Subgroups of Individuals Attempt to Answer Their Questions or Solve Their Problems?

In order to answer this question, respondents were classified as to whether or not they used sources in an attempt to answer their questions or to solve their problems (Table 6-1). The subgroups least likely to initiate searches were those respondents with the least education, those with the lowest family incomes, persons living in tracts with the lowest median incomes, and the elderly. About one-third of each of these subgroups made no attempt to seek information. Conversely, about 10 percent or less of the most educated respondents and respondents with the highest incomes made no use of information sources.

Table 6-1. Number of sources used (personal contacts, media, and libraries) by respondent characteristics

Respondent Characteristics	Total With Problems/ Questions		Number of Sources Used		
	Number	Percent	Percent With No Sources	Percent With 1 Source	Percent With 2 or More Sources
Total	1,947	100	22	22	56
Years of Education					
1 - 6	132	100	34	30	36
7 - 11	645	100	33	26	41
12	615	100	20	20	60
13 - 15	293	100	11	19	70
16+	259	100	9	17	74
Family Income					
Under $4,000	296	100	34	29	37
$4,000 - $ 7,999	338	100	29	21	50
$8,000 - $14,999	695	100	20	23	57
Over $14,999	420	100	11	16	73
Age					
<25	342	100	17	21	62
25 - 64	1,359	100	22	22	56
65+	223	100	35	26	39
Median Tract Income					
Under $4,000	75	100	26	41	33
$4,000 - $ 7,999	335	100	29	23	48
$8,000 - $14,999	1,407	100	22	22	56
Over $14,999	130	100	8	9	83

These findings are consistent with those cited in Chapter Three concerning the linkage of individuals to solutions (e.g., that information-seekers are found among the highly educated). While the strong correlation between source use and education may indicate a lack of knowledge and training among

those who are not information-seekers (intellectual barriers), other variables noted in Chapter Three which could account for these differences include psychological or motivational barriers as well as physical barriers to information-seeking.

6.1.2 How Many Sources Do Individuals Use?

From Table 6-1, it can be seen that the most educated respondents, those with the highest family incomes, and those living in tracts with the highest median incomes were also more likely to use a greater number of sources. For example, whereas only 33 percent of those living in tracts with the lowest median incomes used two or more sources, 83 percent of those living in tracts with the highest median incomes used two or more sources. Age of the respondents also correlated with the number of sources used.

Thus, in terms of both initiation of searches and the number of sources used, the youngest respondents, those with the highest family incomes, those living in tracts with the highest median incomes, and respondents with the most years of education were most likely to be active information-seekers. These findings parallel those of Reiger and Anderson (1968) who similarly found that age, income, and education correlated with levels of information-seeking activity.

6.1.3 What Sources Are Used By Which Individuals?

6.1.3.1 Interpersonal Sources

Among those respondents with at least one problem/question, 61 percent reported making personal contacts in order to get

information or help (Table 6-2). Again, the strongest predictors of use of interpersonal sources are median tract income, education, family income, and age. The most-highly educated respondents, those with the highest family incomes, those living in tracts with the highest median incomes, and the youngest respondents were more likely to report making personal contacts than those in the sample as a whole. The average number of persons contacted is similarly correlated with these variables. Whereas persons with one to six years of formal education averaged less than one personal contact, those with 16 or more years of formal education contacted two persons on the average.

A corollary finding is that those who tend to be information-seekers are generally more gregarious (i.e., more exposed to other people on a day-to-day basis). In Section III of the questionnaire all respondents were asked "How many people have you had conversations with in the past week?" The most educated respondents, those with the highest incomes, and those living in tracts with the highest median incomes reported a greater number of interpersonal contacts on the average in the preceding week than the typical respondent (Table 6-3). The elderly reported fewer contacts than the typical respondent. Evidence was also found in this study that the subgroups of individuals who tend to be information-seekers are more likely to be members of organizations and to belong to more organizations on the average than the typical respondent (data not shown). This greater exposure to other persons may afford these individuals more opportunities to gather information from interpersonal sources than persons who are more isolated and have fewer contacts on a day-to-day basis. Thus, differences in life style may restrict or enhance the opportunities of individuals to seek information.

Table 6-2. Percent reporting personal contacts and average number of contacts by respondent characteristics

Respondent Characteristics	Total With Problems/ Questions		Personal Contacts	
	Number	Percent	Percent Reporting Personal Contacts	Average Number of Personal Contacts
Total	1,945	100	61	1.4
Years of Education				
1 - 6	132	100	52	.8
7 - 11	643	100	53	1.0
12	615	100	61	1.5
13 - 15	293	100	72	1.7
16+	259	100	70	1.8
Family Income				
Under $4,000	296	100	58	1.0
$4,000 - $ 7,999	338	100	58	1.3
$8,000 - $14,999	695	100	64	1.5
Over $14,999	420	100	64	1.6
Age				
<25	342	100	75	1.8
25 - 64	1,359	100	50	1.3
65+	222	100	49	1.0
Median Tract Income				
Under $4,000	75	100	65	1.1
$4,000 - $ 7,999	334	100	63	1.2
$8,000 - $14,999	1,407	100	59	1.4
Over $14,999	130	100	73	2.0

Table 6-3. Average number of contacts with other people during the past week by respondent characteristics

Respondent Characteristics	Number of Respondents Reporting	Average Number of Contacts
Total	2,186	44
Years of Education		
1 - 6	160	21
7 - 11	743	34
12	696	43
13 - 15	311	55
16+	271	77
Family Income		
Under $4,000	335	18
$4,000 - $ 7,999	389	26
$8,000 - $14,999	773	51
Over $14,999	444	74
Age		
<25	354	43
25-64	1,536	48
65+	269	22
Median Tract Income		
Under $4,000	82	22
$4,000 - $ 7,999	391	26
$8,000 - $14,999	1,579	46
Over $14,999	135	84

6.1.3.2 Media Sources

Although media use was not as prevalent as the use of interpersonal sources for information, media forms were used more frequently by those with the most education, those with the highest family incomes, and those living in tracts with the highest median incomes. Overall, the most frequently used media

source (Table 6-4) was newspapers (31 percent) followed by television (24 percent), radio (12 percent), magazines (12 percent), and books (9 percent). Use of all five media forms varied consistently with the respondent's education, family income, and median tract income. The most educated respondents, those with the highest family incomes, and those living in tracts with the highest median incomes reported getting information from media sources more frequently in comparison to total sample percentages. It may be noted that, although a number of studies have found that the lower socio-economic groups make heavy use of the electronic media (see for example, Greenberg and Dervin, 1970), the findings of this study indicate that they do not obtain information from these media forms.

6.1.3.3 Use of Libraries for Information

Only three percent of respondents overall used a library to obtain information on their most important problems, (Table 6-5). This type of library use varied with education and occupation of the respondent. Ten percent of those with 16 or more years of education and nine percent of those in professional or managerial occupations used libraries to obtain such information[1].

The reasons tendered by respondents for choosing not to use libraries to solve every day information problems point out some physical and psychological barriers to the use of libraries. Respondents who did not use a library were asked "Is these any particular reason why you didn't go to the library to get

[1] For all purposes (to take children to get material for leisure, etc.) forty-three percent of the respondents reported visiting libraries in the previous year (see Section IV of questionnaire).

Table 6-4. Percentages of respondents using media sources by respondent characteristics*

Respondent Characteristics	Total with Problems/ Questions		Media Use Percent				
	Number	Percent	Using Television	Using Radio	Using Newspapers	Using Magazines	Using Books
Total	1,945	100	24	12	31	12	9
Years of Education							
1 - 6	132	100	13	7	14	2	2
7 - 11	643	100	19	7	22	5	3
12	615	100	29	16	33	11	9
13 - 15	293	100	29	15	37	21	11
16+	259	100	27	16	50	25	21
Family Income							
Under $4,000	296	100	18	9	16	2	4
$4,000 - $ 7,999	338	100	20	8	25	6	4
$8,000 - $14,999	695	100	21	13	32	12	9
Over $14,999	420	100	38	15	48	24	16
Age							
<25	342	100	27	13	26	10	8
25 - 64	1,359	100	26	13	33	13	9
65+	222	100	13	9	22	5	6
Median Tract Income							
Under $4,000	75	100	13	7	24	--	3
$4,000 - $ 7,999	334	100	17	8	14	2	3
$8,000 - $14,999	1,407	100	26	12	34	13	9
Over $14,999	130	100	32	25	48	33	21

*Multiple Responses allowed.

Table 6-5. Percentages of respondents using libraries to obtain information on their most important problem by years of education and occupation

Respondent Characteristics	Total With Problems/Questions		Percent Using Libraries
	Number	Percent	
Total	1,947	100	3
Years of Education			
0 - 6	132	100	-
7 - 11	645	100	-
12	615	100	3
13 - 15	293	100	4
16+	259	100	10
Occupation			
Professional/Managerial	285	100	9
Clerical/Sales	339	100	3
Blue Collar	515	100	1
Not Working	801	100	2
Other/DK/NA	6	100	-

information?" The two types of responses which discriminated among subgroups of individuals were:

- mentions of physical barriers including age, illness, lack of transportation, etc., and
- statements implying the inappropriateness of the library as a source of information for the respondent's question or problem (i.e., "the library doesn't have that kind of information" or "the library couldn't help").

Other reasons given did not discriminate among subgroups of individuals and are not reported here. Low information-seeks (particularly the elderly and those with little education) were more likely than other respondents to cite physical barriers to using

the library (Table 6-6). Psychological barriers were evident in the overall frequency of response that libraries were inappropriate sources of information (28 percent). There was a tendency for this latter response to be given more frequently by the high information-seekers (i.e., those with the most education and income and young respondents) than by the low information-seekers.

Table 6-6. Reasons for not using libraries as an information source by years of education, family income, age, and median tract income

Respondent Characteristics	Total Not Using Libraries		Reasons For Not Using Libraries	
	Number	Percent	Percent Mentioning Physical Barriers	Percent Saying Library Inappropriate
Total	1,890	100	14	28
Years of Education				
1 - 6	132	100	39	18
7 - 11	643	100	14	27
12	597	100	13	27
13 - 15	282	100	9	32
16+	233	100	11	31
Family Income				
Under $4,000	290	100	23	24
$4,000 - $ 7,999	332	100	15	26
$8,000 - $14,999	679	100	11	30
Over $14,999	393	100	12	32
Age				
<25	326	100	10	32
25 - 64	1,318	100	13	28
65+	223	100	27	19
Median Tract Income				
Under $4,000	75	100	20	7
$4,000 - $ 7,999	328	100	23	24
$8,000 - $14,999	1,359	100	12	30
Over $14,999	127	100	11	24

In sum, a look at the levels of information-seeking activity has shown that certain subgroups of individuals clearly emerge as information-seekers. The highly educated, those with high family incomes, those living in tracts with high median incomes, and the young respondents are more likely to attempt to solve their problems by seeking information; and, in doing so, use more sources of information than other respondents. Information-seekers were distinguished by greater use of all sources of information - interpersonal sources, media sources, and libraries. It may also be noted that information-seekers are generally more gregarious, a fact which undoubtedly increases their opportunities to make use of interpersonal sources of information. Physical barriers to library use were noted in particular among low information-seekers and psychological barriers were found to be more prevalent among high information-seekers.

6.2 Characteristics of Interpersonal Sources

In this section, characteristics of the personal contacts made by subgroups of individuals will be described. In the tables which follow, the source characteristics will be presented with the total number of personal contacts made as a base for the computation of percentages.

6.2.1 Sex of the Persons Contacted

Nearly two-thirds of all contacts made were male (Table 6-7). The sex of persons contacted is correlated with the respondent's education and family income. Half of the contacts of those with the least education and the lowest family incomes were female in comparison to the overall sample percentage of 35 percent. More females were contacted by those who were not working (housewives,

Table 6-7. Sex of persons contacted by years of education, family income, and occupation

Respondent Characteristics	Total Contacts		Sex of Contacts (Percent)		
	Number	Percent	Male	Female	Not Available
Total	2,601	100	64	35	2
Years of Education					
1 - 6	106	100	45	55	-
7 - 11	638	100	65	33	2
12	889	100	63	37	-
13 - 15	497	100	69	30	1
16+	466	100	62	34	4
Family Income					
Under $4,000	292	100	47	50	3
$4,000 - $ 7,999	428	100	63	37	-
$8,000 - $14,999	1,002	100	60	29	1
Over $14,999	670	100	67	32	1
Occupation					
Professional/Managerial	411	100	71	27	2
Clerical/Sales	493	100	72	27	1
Blue Collar	619	100	70	30	-
Not Working	1,065	100	55	44	1
Other/DN/NA	14	100	29	--	71

the unemployed, and retired persons) than those who were working regardless of occupation. Sex and race differences in the use of male and female contacts are also evident (Table 6-8). Although both male and female respondents contacted proportionately more males than females, 73 percent of the male respondents' contacts as compared with 59 percent of the female respondents' contacts were males. The contacts of nonwhites were also more likely to be female in comparison to the overall sample percentage. It is interesting to note that those individuals with little income,

little education, the unemployed, retired persons, women, and nonwhites were more likely than other individuals to rely on female members of society who, like themselves, seldom occupy influential positions in society.

Table 6-8. Sex of persons contacted by respondent's characteristics

Respondent Characteristics	Total Contacts		Sex of Contacts (Percent)		
	Number	Percent	Male	Female	Not Available
Total	2,601	100	64	35	2
Sex					
Male	999	100	73	25	2
Female	1,599	100	59	40	1
Race					
White	1,826	100	68	30	2
Nonwhite	764	100	55	44	1

6.2.2 Personal Knowledge of Contacts

For each contact, respondents were asked "Is he/she someone you knew personally?" In 37 percent of the cases, contacts were known personally by respondents (Table 6-9). However, contacts were more likely to be known personally by respondents who had completed the most years of education, who lived in tracts with the highest incomes, and who held professional or managerial positions. Nearly half of the contacts made by individuals in these subgroups were known personally by respondents. In contrast, only 15 percent of the contacts made by those living in tracts with the lowest incomes were known personally by respondents.

Table 6-9. Percentage of contacts known personally by respondents characteristics

Respondent Characteristics	Total Contacts		Percent Known Personally
	Number	Percent	
Total	2,601	100	37
Years of Education			
1 - 6	106	100	39
7 - 11	638	100	35
12	889	100	30
13 - 15	497	100	39
16+	466	100	49
Occupation			
Professional/Managerial	411	100	50
Clerical/Sales	493	100	30
Blue Collar	619	100	33
Not Working	1,065	100	37
Other/DK/NA	14	100	36
Median Tract Income			
Under $4,000	79	100	15
$4,000 - $ 7,999	119	100	31
$8,000 - $14,999	709	100	38
Over $14,999	119	100	46

Consistent with findings of other studies (Dervin and Greenberg, 1972; Greenberg and Dervin, 1970; Katz, 1957), friends, relatives, and neighbors were cited frequently as interpersonal sources of information (Table 6-10). Among those contacts known personally by respondents, 65 percent fell into these categories. The remainder of the contacts known personally were professionals serving the respondent (e.g., a family doctor), co-workers, or persons known in a commercial capacity (e.g., car dealers, insurance salesmen, etc.).

Table 6-10. Basis for personal knowledge of contacts by respondent characteristics

Respondent Characteristics	Known Personally		Basis For Personal Knowledge (Percent)						
	Number	Percent	Friends	Relatives	Neighbors	Profes-sionals	Co-workers	Commer-cial	Other or Don't Know
Total	959	100	21	21	23	11	16	5	3
Sex									
Male	393	100	25	12	23	12	18	5	5
Female	566	100	17	27	23	10	13	6	4
Years of Education									
1 - 6	41	100	12	32	32	5	-	7	12
7 - 11	224	100	21	19	26	13	11	9	1
12	267	100	17	30	25	12	10	3	3
13 - 15	195	100	25	23	19	7	14	7	5
16+	226	100	22	7	19	13	31	3	5
Family Income									
Under $4,000	76	100	13	30	22	11	9	12	3
$4,000 - $ 7,999	125	100	15	26	25	12	16	4	2
$8,000 - $14,999	387	100	22	19	25	12	15	3	4
Over $14,999	287	100	20	18	21	9	19	7	6
Age									
<25	221	100	24	30	16	8	18	-	4
25 - 64	642	100	20	16	25	12	16	7	4
65+	88	100	11	32	34	9	4	8	2
Occupation									
Professional/ Managerial	206	100	19	7	13	9	42	5	5
Clerical/Sales	149	100	25	28	16	10	16	5	-
Blue Collar	204	100	32	16	27	5	8	7	5
Not Working	394	100	15	27	29	15	5	5	4
Other/DK/NA	5	100	60	40	-	-	-	-	-

Interestingly, subgroups of individuals showed different trends with respect to contacts known as relatives and co-workers. The contacts made by males, the highly educated, and professionals and managers were less likely to be relatives than were those in the overall sample. Conversely, the contacts made by those with family incomes of less than $4,000 a year were more likely to be relatives. Co-workers were contacted more frequently by the most educated individuals and by professionals or managers in comparison to the findings for the overall sample.

Age of the respondent was also correlated with the percentage of contacts who were relatives or co-workers. Close to one-third of the contacts known personally by those 25 years or younger were relatives. This finding may be attributable to the fact that a third of those interviewed in this age range were living with their parents when interviewed. Reiger and Anderson (1968) similarly reported that those in the youngest age range of their sample tended to rely on family for information or advice. Very few of the contacts made by elderly persons were co-workers. This finding could be expected since two-thirds of the elderly persons interviewed were retired and not working.

6.2.3 Occupations and Organizational Affiliations of Contacts

Occupations of persons contacted correlated with occupations of respondents (Table 6-11). For example, professionals were likely to be contacted by professionals and managers, sales workers by those in clerical or sales positions, blue collar workers by other blue collar workers, and those not working by others not working. In the case of the professional or managerial respondents, this finding may be related to the fact that half of their contacts were known personally and two-fifths of these were

Table 6-11. Occupation of persons contacted by respondent's education, family income, race, and occupation

Respondent Characteristics	Contacts		Occupation of Contacts (Percent)						
	Number	Percent	Professionals	Managers or Administrators	Sales Workers	Clerical Workers	Blue Collar Workers	Not Working	Other DK/NA
Total	2,601	100	25	19	8	14	15	9	10
Years of Education									
1 - 6	106	100	16	10	6	20	5	16	27
7 - 11	638	100	20	18	4	16	18	8	16
12	889	100	22	18	12	17	14	9	8
13 - 15	497	100	25	22	9	12	19	8	5
16+	466	100	39	22	4	9	11	8	7
Family Income									
Under $4,000	292	100	25	18	5	17	9	9	17
$4,000 - $ 7,999	428	100	22	21	5	19	11	10	12
$8,000 - $14,999	1,002	100	25	19	10	13	18	7	8
Over $14,999	670	100	29	21	9	9	15	10	7
Race									
White	1,826	100	25	20	9	12	16	9	9
Nonwhite	764	100	24	17	5	20	12	7	14
Occupation									
Professional/ Managerial	411	100	41	22	5	9	10	6	7
Clerical/Sales	493	100	22	20	15	11	16	6	10
Blue Collar	619	100	16	22	5	20	20	7	10
Not Working	1,065	100	25	15	8	15	14	12	11
Other/DK/NA	14	100	-	36	-	-	-	-	64

co-workers. Although respondents in the other occupational groupings did not report as frequently that their contacts were co-workers, it is likely that, at least among those contacts known personally, friends, neighbors, and relatives contacted would be at occupational levels similar to those of the respondents. Other studies (Dervin and Greenberg, 1972; Greenberg and Dervin, 1970; Katz, 1957) have also noted the homogeneity of interpersonal contacts for information or advice.

Other trends noted were that professionals were more likely to be contacted by respondents with the most education and those with the highest incomes. Clerical workers were less likely to be contacted by the most educated respondents, those with the highest incomes, and professionals or managers; whereas, clerical workers were more likely to be contacted by nonwhites and blue collar workers.

Some trends are also evident in the organizational affiliation of contacts (Table 6-12). Persons affiliated with public schools were more likely to have been contacted by those with 16 or more years of education, those in professional occupations, and those living in tracts with the highest incomes in comparison to the overall sample percentage. Contacts employed by governmental agencies (including the Department of Social Services, the Health Department, the Housing Authority, the Department of Sanitation, the Department of Transportation, and so on) were more prevalent among those with little education, low family incomes, those living in low income tracts, and the nonwhites interviewed. For example, 47 percent of the contacts made by persons living in tracts with the lowest median incomes were affiliated with governmental agencies (excluding public schools and police) as compared with 14 percent of those living in tracts with the highest median incomes.

Table 6-12. Organizational affiliation of contacts by respondent's characteristics*

Organization affiliation of contacts	Total	Respondent's Characteristics																			
		Years of Education					Family Income				Race		Occupation					Median Tract Income			
		1-6	7-11	12	13-15	16+	Under 4000	4000-7999	8000-14,999	14,999+	White	Non-White	Prof/Mgr	Clerical/Sales	Blue Collar	Not Working	DK/NA	Under 4000	4000-7999	8000-14,999	14,999+
Total number	2374	89	586	806	458	429	266	388	928	604	1655	708	386	462	577	934	14	76	359	1718	221
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Public schools	9		6	8	6	21	3	9	9	12	8	11	16	6	5	10		9	3	9	19
Police Dept.	7		3	5	11	9	4	4	7	11	8	3	8	10	6	7		4	9	7	11
Other governmental	26	45	31	27	21	17	49	25	26	19	21	37	21	26	25	28	50	47	40	23	14
Religious/private education	3			3	3	7	2	1	3	4	4	1	3	1	3	3		4		4	2
Community service/action	3		4	3	2	4	5	4	1	5	3	4	2	4	2	3		9	6	2	4
Health services	10	6	7	10	7	16	7	8	8	9	9	11	16	11	9	7		3	7	11	10
Legal services	3	4	6	2	2	2	4	3	3	4	4	2	4	4	2	3		3	3	3	4
Merchants	13	8	11	15	18	8	3	19	17	7	15	9	6	15	19	12		3	7	16	5
Financial/realty	15	12	12	20	17	7	9	15	16	18	17	11	10	16	17	16	14	12	14	14	22
Other, DK/NA	11	25	15	6	13	9	13	12	10	11	11	11	14	6	12	11	36	6	11	11	9

*Excludes contacts not working

In summary, interpersonal source characteristics varied for sub-groups of individuals. In particular, consistent patterns were noted for the most educated respondents and those receiving the highest incomes or living in tracts with the highest median incomes. Contacts made by these respondents were more frequently males and were more likely to be personal acquaintances. Personal acquaintances contacted by them for information were more often co-workers and were less likely to be relatives than contacts made by the typical respondent. In terms of occupation, contacts of these subgroups included more professionals and fewer clerical workers. Their contacts were also less likely to be affiliated with governmental agencies (excluding public schools and the police department). Thus these sub-groups of individuals who were found to be active information-seekers were also found to use consistently different kinds of interpersonal sources than other respondents. However, a similar pattern of source characteristics was not consistently found for younger respondents who were also active information-seekers.

6.3 Quality of Sources

In this section, we will look at how individuals rated the sources they used in terms of helpfulness. The relationship of helpfulness of sources to source characteristics and to the kinds of assistance received from sources will also be described.

6.3.1 What Sources Are Seen As Helpful By Individuals?

Respondents evaluated the information received from interpersonal and media sources on a continuum of helpfulness.

For each source, they were asked "Was this information very helpful, helpful, or not so helpful?" Respondents judged the input of persons contacted very helpful for 24 percent of the contacts, helpful for 30 percent of the contacts, and not helpful for 43 percent of the contacts (Table 6-13). Perceptions of the helpfulness of the information received varied considerably with respondents' education, race, family income, occupation, and median tract income. For example, 55 percent of the contacts made by those living in tracts with the lowest median incomes were reported as not helpful as compared with 23 percent of the contacts made by respondents living in tracts with the highest median incomes. Conversely, contacts were reported to be very helpful more often by those living in tracts with the highest incomes (41 percent) as compared with contacts made by those living in tracts with the lowest median incomes (six percent).

Ratings of media sources varied similarly with respondents' education and family income (Table 6-14). Information received from media sources was perceived as very helpful for 20 percent, helpful for 42 percent, and not helpful for 34 percent of the media sources used. As education and family income increased, perceptions of helpfulness of media sources increased.

Thus, those respondents who tend to be active information-seekers also tend to rate the sources they use as more helpful than other respondents. Since the people they contacted were also qualitatively different from contacts of other respondents (see Section 6.2 of this chapter), the relationship of interpersonal source characteristics and respondents' ratings or perceptions of helpfulness is examined further.

Table 6-13. Helpfulness of persons contacted by respondents' education, family income, race, occupation, and median tract income

Respondent Characteristics	Total Contacts		Helpfulness of Contacts (Percent)			
	Number	Percent	Very Helpful	Helpful	Not Helpful	Don't Know
Total	2,601	100	24	30	43	3
Years of Education						
1 - 6	106	100	21	22	55	2
7 - 11	638	100	22	27	49	2
12	889	100	19	31	48	2
13 - 15	497	100	26	35	38	1
16+	466	100	37	32	27	4
Family Income						
Under $4,000	292	100	14	28	56	2
$4,000 - $ 7,999	428	100	22	30	42	1
$8,000 - $14,999	1,002	100	23	32	42	3
Over $14,999	670	100	33	31	34	2
Race						
White	1,826	100	27	30	40	2
Nonwhite	764	100	16	32	50	2
Occupation						
Professional/ Managerial	411	100	36	35	26	3
Clerical/Sales	493	100	25	28	44	3
Blue Collar	619	100	19	30	51	-
Not Working	1,065	100	23	31	44	2
Other/DK/NA	14	100	-	14	-	86
Median Tract Income						
Under $4,000	79	100	6	37	55	2
$4,000 - $ 7,999	85	100	22	25	50	3
$8,000 - $14,999	434	100	23	31	43	3
Over $14,999	105	100	41	35	23	1

Table 6-14. Helpfulness of media sources by respondents' education and family income

Respondent Characteristics	Total Media Sources Used		Helpfulness of Media Sources (Percent)			
	Number	Percent	Very Helpful	Helpful	Not Helpful	Don't Know
Total	1,712	100	20	42	34	4
Years of Education						
1 - 6	48	100	18	34	48	-
7 - 11	383	100	19	37	40	4
12	606	100	21	37	38	4
13 - 15	334	100	15	48	35	2
16+	361	100	22	51	21	6
Family Income						
Under $4,000	146	100	8	35	56	1
$4,000 - $ 7,999	213	100	25	42	31	2
$8,000 - $14,999	601	100	17	47	34	2
Over $14,999	595	100	25	42	27	6

6.3.2 What Source Characteristics Are Associated With Helpfulness?

Perceptions of helpfulness were found to be related to a number of source characteristics including whether or not the contact was known personally by respondents, the basis for personal knowledge of contacts, the occupations of contacts, and organizational affiliations of contacts. The sex of persons contacted was the only source characteristic considered previously (Section 6.2.1) that was not correlated with perceptions of helpfulness.

Contacts known personally by respondents were perceived as helpful more often than contacts not known personally (Table 6-15). Whereas 64 percent of contacts known personally by respondents were perceived as either very helpful or helpful, only 49

percent of contacts who were not personal acquaintances of respondents were given similar ratings.

Table 6-15. Helpfulness by percentage of contacts known personally by respondents

Helpfulness	Percent of Contacts			
	Total	Known Personally	Not Known Personally	Don't Know No Answer
Very Helpful	24	31	20	12
Helpful	31	33	29	12
Not Helpful	43	32	49	28
Don't Know	2	4	2	48
Number of Total Contacts	(100%) 2,603	(100%) 950	(100%) 1,618	(100%) 25

Contacts who were friends or professionals serving the respondent were more likely to be rated very helpful than the typical personal acquaintance contacted (Table 6-16). On the other hand, neighbors and persons known in a commercial capacity were more likely to be perceived as not helpful.

Perceptions of helpfulness varied consistently with only two occupational categories: professionals and managers/administrators (Table 6-17). Professionals were more likely to be rated very helpful than the typical contact made by respondents. In contrast, managers and administrators were more likely to be perceived as not helpful. In fact, 55 percent of the contacts who were managers or administrators were rated as not helpful in comparison to 43 percent for the typical personal contact made.

Table 6-16. Helpfulness by basis for personal knowledge of contacts

Basis for Personal Knowledge	Total Known Personally		Helpfulness (Percent)			
	Number	Percent	Very Helpful	Helpful	Not Helpful	Don't Know
Total	963	100	31	33	32	4
Friends	197	100	38	38	23	1
Relatives	200	100	27	36	33	4
Neighbors	223	100	21	30	43	6
Professionals	104	100	47	24	24	5
Co-workers	147	100	31	35	31	3
Commerical	53	100	23	32	45	-
Other/Don't Know	38	100	47	34	19	-

Table 6-17. Helpfulness by occupation of persons contacted

Occupation of contact	Total Contacts		Helpfulness (Percent)			
	Number	Percent	Very Helpful	Helpful	Not Helpful	Don't Know
Total	2,610	100	24	31	43	2
Professionals	615	100	37	33	29	1
Managers and Administrators	502	100	21	23	55	1
Other	1,457	100	20	32	44	4

Contacts who were employed by religious or private educational institutions, by community service or action programs, by legal services, and by health-related organizations were perceived as very helpful more often than the typical contact (Table 6-18). However, merchants and employees of financial or realty organizations were typically perceived as being less helpful when compared to the percentages for all contacts made.

Table 6-18. Helpfulness by organizational affiliations of contacts*

Organizational Affiliation of Contact	Total Contacts		Helpfulness (Percent)			
	Number	Percent	Very Helpful	Helpful	Not Helpful	Don't Know
Total	2,375	100	24	30	43	3
Government	996	100	24	29	44	3
Religious/Private Education	73	100	51	23	26	-
Community Service/ Action	71	100	30	31	29	10
Health Services	230	100	30	37	29	4
Legal Services	76	100	50	24	22	4
Merchants	313	100	18	29	51	2
Financial/Realty	356	100	17	30	52	1
Other	260	100	20	32	43	5

*Excluding contacts not working.

In considering these findings in conjunction with the characteristics of contacts made by sub-groups of individuals (see Section 6.2 of this chapter), it may be noted that some attributes which characterized the contacts made by the active

information-seekers were also related to perceptions of helpfulness. In particular, proportionately more contacts of these sub-groups of individuals were known personally by them and proportionately more of their contacts were professionals. In addition, personal acquaintances and professionals were also more likely than other persons contacted to be perceived as helpful. Thus, the qualitative differences in the contacts made by the active information-seekers contributes to the finding that their contacts were typically perceived as more helpful in general than the contacts made by the less active information-seekers. These data may indicate that the active information-seekers have more influential acquaintances who are willing to assist them than do the less active information-seekers. Next, the question of whether the assistance provided by persons contacted varied for subgroups of individuals will be considered.

6.3.3 What Kinds of Assistance Are Given?

For each personal contact, respondents were asked "What information or suggestions did he/she give you?" Responses were classified as to whether or not the contact made a referral, said he or she could not help, offered to help, and/or gave advice or information (other than a referral). More than one response was allowed; for example, a contact may have offered to help the respondent (by making a phone call, writing a letter, or taking some other action on his behalf) and the person contacted may also have given the respondent some information, such as information about zoning regulations, etc.

Whereas few contacts made referrals or said that they could not help, 29 percent offered to help the respondent and 53 percent provided some advice or information (Table 6-19). However,

Table 6-19. Types of assistance provided by persons contacted by respondent characteristics*

Respondent Characteristics	Total Contacts		Types of Assistance (Percent)			
	Number	Percent	Made Referrals	Could Not Help	Offered To Help	Gave Advice/ Information
Total	2,630	100	13	8	29	53
Years of Education						
1 - 6	106	100	11	5	48	25
7 - 11	638	100	16	8	30	53
12	902	100	11	10	29	55
13 - 15	506	100	13	9	27	54
16+	474	100	13	5	27	57
Family Income						
Under $4,000	292	100	15	5	38	46
$4,000 - $ 7,999	428	100	12	11	32	52
$8,000 - $14,999	1,024	100	14	7	31	50
Over $14,999	670	100	11	9	23	63
Age						
<25	617	100	10	11	26	57
25 - 64	1,779	100	15	8	29	53
65+	213	100	7	6	39	43

*Multiple responses allowed.

there were marked differences in the percentages of contacts offering to help and giving advice or information for various demographic subgroups. Contacts made by those with the least education, lowest family incomes, and the elderly offered help more frequently than was typical for those in the sample as a whole. Conversely, advice or information was less likely to be given to these subgroups and more likely to typify the contacts made by those with the highest incomes.

It is interesting to note that those demographic groups most likely to report that their contacts offered to help (i.e., the least educated respondents and those with the lowest incomes) were also the most likely to report that their contacts were not helpful (see Section 6.3.1 of this chapter). An attempt will be made to clarify this finding below by examining the relationship between the kinds of assistance given and respondents' perceptions of the helpfulness of the assistance received from their contacts.

6.3.4 What Kinds of Assistance Do Individuals See as Helpful?

The types of assistance provided by persons contacted was not strongly related to how respondents rated their contacts in terms of helpfulness with one exception (Table 6-20): Contacts who said that they could not help were, as would be expected, more likely to be perceived as not helpful. Contacts who made referrals and those offering to help the respondent were somewhat less likely than those who gave information or advice to be perceived as not helpful.

The question remaining is why those individuals whose contacts were most likely to offer them help (the least educated

Table 6-20. Helpfulness of contacts by types of assistance provided

Types of Assistance*	Total Contacts		Helpfulness (Percent)			
	Number	Percent	Very Helpful	Helpful	Not Helpful	Don't Know
Total Contacts	2,602	100	24	30	43	3
Made Referral	338	100	31	38	30	1
Could Not Help	216	100	5	15	79	1
Offered to Help	770	100	30	33	36	1
Gave Advice/ Information	1,404	100	24	33	41	2

*Multiple responses allowed.

respondents and those with the lowest incomes) were also more likely than other respondents to perceive their contacts as not helpful. A possible explanation for this finding may be related to the search outcomes for individuals (i.e., individuals who have not obtained satisfactory answers or solutions may perceive their contacts as not helpful more often than individuals who have been successful). In the following chapter, search outcomes will be discussed for sub-groups of individuals.

6.4 Which Sources Are Used for Different Needs?

The sources used to answer questions or solve problems varied for specific problems/questions mentioned by respondents. In Table 6-21, the percentages of respondents using the major types of sources (personal contacts, media, and libraries) are displayed for the 15 specific problems/questions most frequently designated

Table 6-21. Specific problems/questions by sources used

Specific Problems/Questions	Total		Sources Used (Percent)							
	Number	Percent	Personal Contacts	Average Number of Contacts	Television	Radio	Newspapers	Magazines	Books	Libraries
Total Respondents	956	100	58	1.3	25	13	38	15	7	2
General Fear of Crime	133	100	44	.7	51	29	61	29	11	2
Househunting	106	100	68	1.7	16	3	46	9	3	-
Rental Problems	85	100	79	1.7	12	14	23	11	8	-
Complaints About Children	71	100	76	1.2	11	13	23	10	6	-
Traffic and Parking	69	100	33	.8	7	12	26	10	-	-
Specific Crime	62	100	69	1.7	26	15	42	19	13	3
Product Quality Bad	61	100	82	2.0	34	21	26	13	18	8
Unemployed-Looking	58	100	60	2.0	28	14	52	7	9	5
Complaints About School System	51	100	73	2.0	37	8	49	31	12	14
Complaints About Neighbors	47	100	53	1.0	9	11	9	-	-	-
City Services	46	100	63	1.0	17	7	39	7	-	7
Food Prices Too High	45	100	11	.1	31	20	47	22	4	-
Other Neighborhood Problems	45	100	22	.6	29	7	22	7	7	-
Inadequate Bus Service	39	100	46	.9	5	5	23	-	8	-
Complaints About Maladies	38	100	76	2.1	39	8	42	34	11	-

by respondents as most important. These 15 specific problems/questions account for 49 percent of all problems/questions cited as most important and, by definition, 49 percent of those problems/questions about which source data were collected.

Two specific problems/questions -- "general fear of crime" and "food prices too high" -- were associated with a pattern of few personal contacts and high media use. For these two problems/questions, newspapers ranked highest in frequency of mention among sources used by these respondents; whereas, for all but one of the remaining 13 problems/questions, personal contacts were the most frequently cited source used.

A pattern of high use of the media as well as a high incidence of interpersonal source use was found for three specific problems/questions: "product quality bad," "complaints about the school system," and "complaints about maladies." "Complaints about the school system" was the only specific problem/question associated with a relatively frequent use of libraries (14 percent) when compared with the sample percentage of 2 percent.

Relatively low levels of use of all types of sources were associated with two specific problems/questions: "traffic and parking" and "other neighborhood problems." High interpersonal source use and low media use were found for "rental problems," "complaints about children in the neighborhood," and "complaints about neighbors."

It appears that, when the cause or genesis of a specific problem/question is relatively tangible (i.e., an illness, the school system, rental problems), respondents are more aggressive about making personal contacts; however, when the target of concern is less obvious or easy to pinpoint as in the cases of complaints about food prices, parking problems, or general fear of crime,

respondents are less likely to make personal contacts. On the other hand, since media use is more passive than making personal contacts, levels of media use are probably more dependent on the frequency with which issues are discussed in the media (e.g., food prices, quality of the school system, product quality, etc.), rather than associated with active attempts by respondents to obtain information from media sources. It is also interesting to note that the percentages of respondents using newspapers were unexpectedly low for two specific problems/questions about which newspapers regularly publish information: "househunting" and "unemployed, looking for a job." Only half of the respondents having these problems/questions used newspapers for information.

6.5 Summary and Discussion

To summarize, an examination of the levels of information-seeking activity has shown that certain subgroups of individuals clearly emerge as information-seekers. The highly educated, those with high family incomes, those living in tracts with high median incomes, and young respondents are more likely to attempt to solve their problems by seeking information; and, in doing so, use more sources of information than other respondents. Information-seekers were distinguished by greater use of all sources of information-interpersonal sources, media sources, and libraries. It may be noted that these findings are consistent with those of other studies which have reported a correlation between information-seeking and education, income, and age. Active information-seekers were also shown to be more gregarious than other individuals, a fact which increases their opportunities to make use of interpersonal sources of information.

Although often the tendency is to conclude that low levels of information-seeking can be attributed to a lack of education, other barriers to information-seeking with respect to one

information source--libraries--were noted. Physical barriers (e.g., lack of transportation, etc.) to library use were more prevalent among the low information-seekers than among other individuals. Psychological barriers were also noted among those sub-groups who were found to be active information-seekers.

The characteristics of the personal contacts made also varied with subgroups of individuals. In particular, consistent patterns were noted for the most educated respondents and those receiving the highest incomes or living in tracts with the highest median incomes. Contacts made by these individuals were more frequently males and more likely to be personal acquaintances. Personal acquaintances contacted by them for information were more often co-workers and were less likely to be relatives than contacts made by the typical respondent. Their contacts were also less likely to be affiliated with governmental agencies (excluding public schools and the police department). Thus, some sub-groups of individuals who were found to be active information-seekers were also found to use consistently different kinds of interpersonal sources than other respondents. However, a similar pattern was not consistently evident for younger respondents who were also found to be active information-seekers.

Individuals with the highest levels of education and income also rated the contacts they made and the media sources they used as helpful more often than did other respondents. That these subgroups perceived their contacts as more helpful was found to be related to the fact that their contacts were more often personal acquaintances and professionals than were the contacts of the typical respondent. These findings may indicate that individuals with more education and income have more influential acquaintances to turn to for information or help than do other respondents.

The kinds of assistance received from persons contacted also varied for subgroups of individuals. Whereas relatively few contacts made referrals or said that they could not help, many contacts offered to help the respondent or gave some advice or information. Offers to help were more typical of contacts made by those with the least education and family incomes, while information or advice was more often provided to those with the most education and income. Although perceptions of helpfulness were related to whether a contact made a referral or could not help, contacts providing the two major kinds of assistance (information/advice and offers to help) were not rated differently in terms of helpfulness. It was noted that perceptions of helpfulness may be more dependent upon search outcomes than the types of assistance provided; that is, those respondents who have been able to answer their questions or to solve their problems may retrospectively perceive their contacts as more helpful than other individuals who have been less successful. Particularly when resource needs are involved, contacts offering information or help in obtaining needed services (e.g., emergency food or family counseling) may not be perceived as helpful until the resource is actually delivered.

In addition to variations in source use with respondent characteristics, the major types of sources used varied for specific problems/questions. The use of interpersonal sources appears to be associated with the specificity of the target of concern. For example, personal contacts were more frequent among those who had problems with their landlords than those who complained about high food prices. On the other hand, media use appears to be more dependent upon the frequency with which issues are discussed in the media (e.g., food prices, crime rates, etc.) rather than associated with active attempts to obtain information from media sources. Indeed, mentions of obtaining information

from newspapers were more frequent among those concerned with the high crime rates than among those who were unemployed and looking for a job.

7. SEARCH OUTCOMES

The linkage of individuals to solutions is the primary topic of concern in this chapter. What subgroups of individuals solve their problems or answer their questions? Is the success of individuals related to their particular needs or to the search strategies used? Is there an optimal search strategy for all subgroups of individuals? Do unsuccessful individuals plan to continue their searches for answers on solutions?

In the first section of this chapter, there is an examination of how successful and unsuccessful respondents differed in terms of three sets of variables: respondent characteristics, their specific problems or questions, and the search strategies they used. A statistical model developed to predict success based on respondent characteristics and search strategies is presented in the second section of this chapter. Finally, the stated future strategies of subgroups of individuals whose information searches were unsuccessful are presented in the third section of this chapter.

7.1 Successful and Unsuccessful Problem-Solvers

There are at least three sets of variables that one would expect to be related to success in problem-solving. These include respondent characteristics, the specific kinds of problems to be solved by individuals, and the search strategies used. Although interactions among these sets of variables undoubtedly contribute to successful problem solution, in this section we will examine, separately, how each set of variables is related to success. In the next section of this chapter, interactions

between two sets of variables -- respondent characteristics and search strategies -- will be discussed.

The criterion of success used in this chapter is based on responses to the following question asked of each respondent concerning the problem/question which he or she had designated as most important: "In your opinion do you feel that you have gotten a satisfactory answer to your question or solution to your problem at the present time?" Responses were coded into four categories: "yes, definitely," "yes, sort of," "no, still working on it," and "no." However, for this analysis, the codes have been collapsed to produce a dichotomy of those who were definitely or at least somewhat successful and those who were definitely, or at least to date, unsuccessful. There is, then, no absolute external measure of success -- only the perceptions of the respondents.

7.1.1 The Relationship of Success to Respondent Characteristics

The overall success rate was low, with only 26 percent of the sample reporting that they had been definitely or at least somewhat successful in obtaining answers or solutions (Table 7-1). The success rate for subgroups of individuals increased with education, family income, and median tract income. The most dramatic range in success rates was found for subgroups based on median tract income. Those living in tracts with the lowest median incomes experienced a success rate of only 10 percent as compared with a 35 percent success rate for those living in tracts with the highest median incomes. Professionals and managers were also more successful as a group than all other respondents who were either employed or not working.

Table 7-1. Success in obtaining answers or solutions by respondent characteristics

Respondent Characteristic	Total #	Total %	Percent Successful	Percent Unsuccessful	DK/NA
Total with problems/questions	1,945	100	26	73	1
Years of Education					
1 - 6	132	100	20	77	3
7 - 11	645	100	23	76	1
12	615	100	25	75	< 1
13 - 15	293	100	32	68	-
16+	259	100	35	65	-
Family Income					
Under $4,000	296	100	18	81	1
$ 4,000 - $ 7,999	338	100	22	76	2
$ 8,000 - $14,999	695	100	26	74	-
$14,999 and over	420	100	37	63	-
Occupation					
Professional/ managerial	285	100	34	66	-
Clerical/Sales	539	100	26	74	-
Blue Collar	515	100	26	73	1
Not Working	801	100	25	74	1
Median Tract Income					
Under $4,000	75	100	10	90	-
$ 4,000 - $ 7,999	335	100	23	75	2
$ 8,000 - $14,999	1,407	100	26	73	1
$14,000 and over	130	100	35	65	-

7.1.2 The Relationship of Success to Specific Problems/Questions

Setting aside the issue of the nature of the solutions or answers that were acceptable to the respondents, it may be noted in Table 7-2 that respondents with complaints about maladies were very successful as a group when compared with

Table 7-2. Success rates for the fifteen most important problems/questions

Specific Problems/Questions	Total		Percent Successful	Percent Unsuccessful
	#	%		
Total	947	100	26	74
Complaints about maladies	38	100	67	33
Complaints about the school system	50	100	40	60
Complaints about neighbors	48	100	38	62
Specific crime	62	100	35	65
Traffic and parking	69	100	33	66
Food prices too high	40	100	30	70
Product quality bad	58	100	28	72
General fear of crime	133	100	27	73
Househunting	105	100	24	76
Rental problems	85	100	24	76
Complaints about children	71	100	23	77
Other neighborhood problems	45	100	9	91
Inadequate bus service	40	100	8	92
City services	45	100	7	93
Unemployed - looking for a job	58	100	7	93

respondents who had other kinds of problems. Those who complained about the school system, about their neighbors, and about specific crimes also experienced relatively high success rates when compared with the sample average. A sharp drop in success rates was found for those who complained about other neighborhood problems, inadequate bus service, city services,

and difficulties in finding jobs. Looking at these data in another way, 25 percent of those who were unsuccessful had one of these latter four problems/questions as compared with only six percent of the successful respondents.

7.1.3 The Relationship of Success to Sources Used

Successful and unsuccessful respondents were clearly differentiated in terms of their use of interpersonal sources for information or help (Table 7-3). Seventy-four percent of

Table 7-3. Success related to source use for the fifteen most important problems/questions

Sources	Total (N = 947)	Successful (N = 247)	Unsuccessful (N = 700)
Personal Contacts			
Percent making personal contacts	59	74	54
Average number of personal contacts	1.23	1.66	1.16
Media (use in percent)			
Television	26	26	27
Radio	14	12	14
Newspapers	38	40	37
Magazines	15	22	12
Books	7	8	7
Libraries (use in percent)	2	2	3

the successful respondents as compared with only 54 percent of the unsuccessful respondents made personal contacts. Those who were successful also made more contacts on the average than those who were not successful. The only other source used which

differentiated among the two groups was magazines -- a somewhat puzzling finding. There were no appreciable differences between successful and unsuccessful individuals in terms of their use of television, radio, newspapers, books, or libraries as information sources.

In summary, success rates were seen to be related to certain respondent characteristics, the kinds of problems/questions that individuals were attempting to resolve, and to the nature of search strategies used. The most success was experienced by the most educated respondents, those with high incomes or living in high income tracts, and those whose occupations were professional or managerial. Respondents who had certain specific problems/questions (e.g., an illness) were more successful than those attempting to resolve other specific problems/questions (e.g., finding a job). Finally, those who were successful in solving their problems or answering their questions were more likely to make personal contacts and to use magazines than the less successful respondents. In the next section, we will look at how well success in problem-solving can be predicted by the analysis of respondent characteristics and search strategies.

7.2 Predicting Success in Problem-Solving

7.2.1 Multiple Linear Regression

In an attempt to gain a better understanding of the variables which contribute to successful problem-solving, a stepwise regression program with three sets of data was run. First, certain aspects of the search strategies used by respondents were examined to determine whether these would explain the variance in outcomes for individuals. A set of 25 variables which

described search strategies (e.g., number of sources used, percent of contacts known personally, occupation of contacts, use of newspapers for information, etc.) was selected as independent variables for the regression model with the dependent variable being success or lack of success in problem-solving as defined earlier in this chapter. The model developed using these data on source use explained only six percent of the variance in successful problem-solving.

A second regression model was developed using the demographic characteristics of respondents as predictor variables. Fifteen demographic variables (e.g., family income, sex, race, occupation of the respondents, education, age, etc.) were entered in a stepwise fashion, resulting in a model which explained only four percent of the variance in successful versus unsuccessful problem-solving.

Both source data and respondent characteristics were used to develop a third model. The 10 variables of each class which had contributed the most to explaining the variance in the two previous models were selected for use as independent variables in the third model. Eighteen of the twenty variables were entered with a resultant R^2 of .0966; that is, explaining only 10 percent of the variance (Table 7-4). The variables which contributed the most to the prediction of success were those describing the respondent's income (median tract income and family income) and the method of making personal contacts (*in person or by phone*).

The third regression model, although explaining more of the variance than the two previous models, was still unsatisfactory in contributing to an understanding of the variations in search outcomes. A major disadvantage of this type of regression modeling with survey data is the assumption that there

Table 7-4. Results of regression model to predict success using search strategy variables and demographic characteristics of respondents

Variables Entered (D = demographic, S = search strategy)	Multiple R (cumulative)	Multiple R^2 (cumulative)
D - Median tract income	.1732	.0300
S - Percent of contacts made in person	.2112	.0446
D - Family income	.2288	.0524
S - Percent of contacts made by phone	.2429	.0590
S - Percent of contacts known personally who were professionals	.2525	.0637
D - Race of respondent	.2611	.0682
S - Magazine use	.2683	.0720
D - Occupation of respondent -- blue collar	.2737	.0749
D - Sex of respondent	.2800	.0784
D - Respondent not working	.2869	.0823
S - Percent of contacts known personally who were relatives	.2918	.0852
S - Occupation of contacts -- percent who were social workers	.2962	.0902
S - Number of sources used	.3003	.0902
S - Occupation of contacts -- percent who were clerical workers	.3021	.0913
D - Occupation prestige index	.3038	.0923
D - Occupation of respondent -- professional	.3082	.0950
S - Occupation of contacts - percent who were professional	.3099	.0960
D - Occupation of respondent -- service worker	.3108	.0966

are no interactions between variables and that the data can be fitted with an additive, linear model. On the other hand, another modeling approach, multiple classification or tree analysis, makes fewer restrictive assumptions about the data. Presented in the following section is a more explanatory model, using tree analysis.

7.2.2 Tree Analysis Using the AID (Automatic Interaction Detector) Program

The AID program sequentially performs two-way splits of the sample, with each split resulting i the greatest reduction in variance. The AID program, thereby, makes a decision as to which variable and which breakpoints will maximally reduce the unexplained variance. No further splits are made (a) when no variance is left unexplained, or (b) when splits on the remaining variables will result in no further reduction in unexplained variance, or (c) when the cell size of a group is too small to be further subdivided.

Thirty variables were selected for use in the AID model to predict search outcomes (success or nonsuccess). Twenty-four variables described search strategies while the remaining six variables described demographic characteristics of the respondents. However, only 11 of these variables were useful in reducing the unexplained variance. In comparison with the regression models which explained little of the variance, the model developed with AID explained 52 percent of the variance in successful problem-solving. A complete listing of the 30 variables is presented below. The eleven variables used in the final model are starred.

A. Search Strategy Variables

* 1. Number of sources used
2. Number of personal contacts made
* 3. Percent of contacts who were male
* 4. Percent of contacts who were known personally
5. Percent of contacts known personally who were relatives
6. Percent of contacts known personally who were neighbors
7. Percent of contacts known personally who were professionals
8. Percent of contacts known personally who were co-workers

9. Percent of contacts who were social workers
10. Percent of contacts who were managers/administrators
11. Percent of contacts who were professionals
12. Percent of contacts who were clerical workers
13. Percent of contacts who were blue collar or service workers
14. Percent of contacts who were not working
15. Percent of contacts who were employed by public schools
16. Percent of contacts who were employed by other government agencies
*17. Percent of contacts made by phone
*18. Percent of contacts made in person
19. Total number of times all contacts were contacted
20. Used television as a source
21. Used radio as a source
22. Used newspapers as a source
*23. Used magazines as a source
24. Used a library as a source

B. Demographic Variables

*25. Respondent's race
26. Respondent's occupational prestige
*27. Median tract income
*28. Respondent's sex
*29. Respondent's occupation (professional, manager/administrator, clerical/sales, blue collar, service, housewife, retired, other not working)
*30. Family income

The tree diagram representing the model developed by AID is presented in Figure 7-1. As may be noted in the figure, the first box of the tree represents all respondents who replied to the question concerning the success of their searches (1,933 responses) having an overall success rate of 26 percent. The sample was then split on a search strategy variable -- percent of contacts made in person -- with 1,045 respondents making less than 30 percent of their contacts in person and the remaining 888 respondents making 30 percent or more of their contacts in person. Success rates for these subgroups were 21 percent and 33 percent

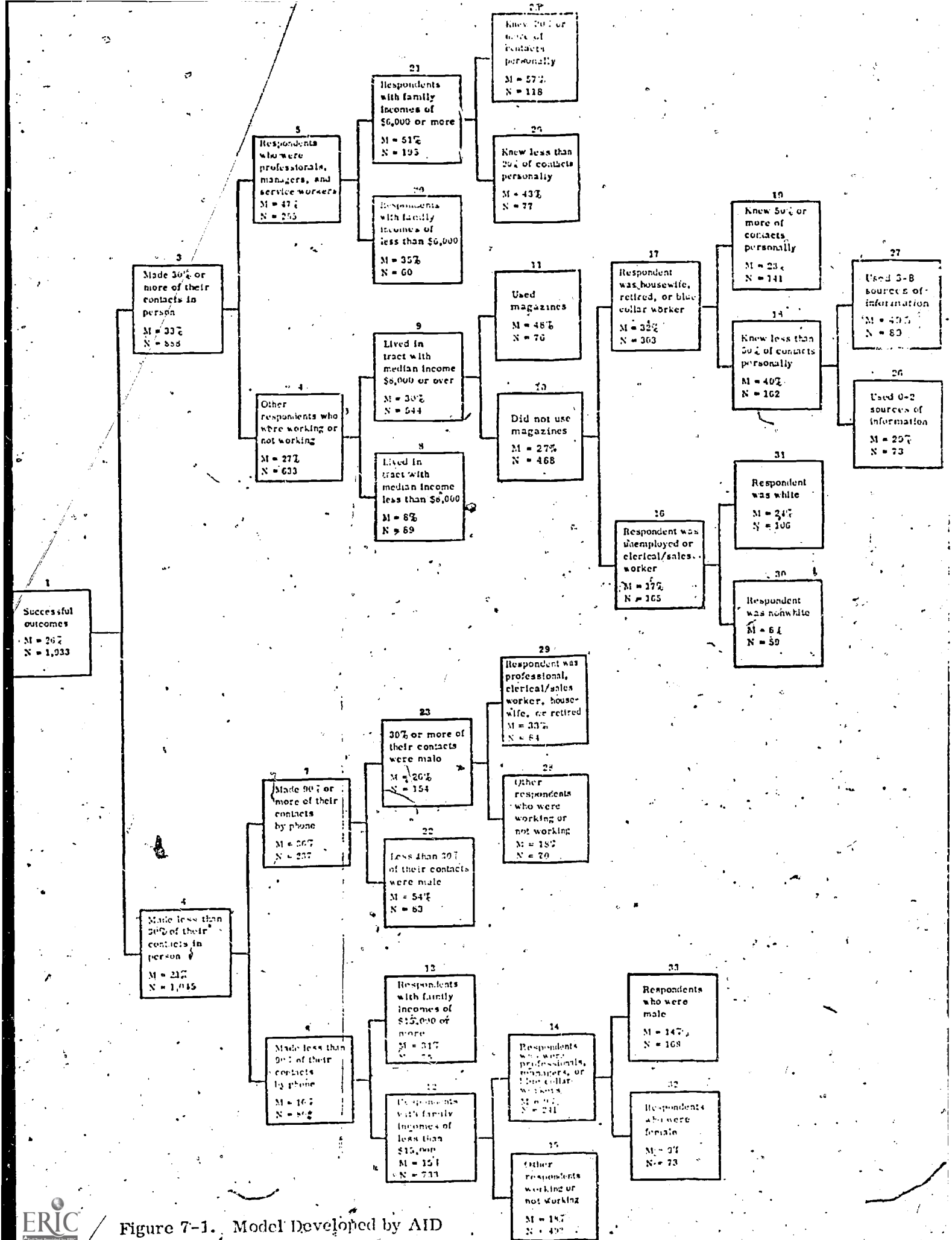

Figure 7-1. Model Developed by AID to Predict Search Outcomes

respectively, so that making contacts in person appears to be an advantage. In general, the upper part of the diagram represents the more successful respondents; however, this is not always the case. For example, group 22 in the lower part of the diagram has a success rate of 54 percent, second only to group 25 in the upper part of the diagram with a success rate of 57 percent. Each of the final groups in the diagram is unique and must be considered in terms of its membership in all groups preceding it in the diagram. In Table 7-5, each of the final groups is described in rank order by average rate of success.

Table 7-5. Successful outcomes: final (truncated) groups in rank order by the average rate of success

Group Number	Number of Cases	Average Rate of Success	Characteristics of Respondents and Search Strategies
25	118	57%	Respondents who made 30 percent or more of their contacts in person; and were professionals, managers, or service workers; and had family incomes of $6,000 or more; and knew 20 percent or more of their contacts personally
22	83	54%	Respondents who made less than 30 percent of their contacts in person; and made 90 percent or more of their contacts by phone; and less than 30 percent of their contacts were male
27	89	49%	Respondents who made 30 percent or more of their contacts in person; and were clerical/sales workers, blue collar workers, housewives, retired, or unemployed; and lived in tracts with median incomes of $8,000 or more; and who did not use magazines for information; and who were housewives, retired, or blue collar workers; and who knew less than 50 percent of their contacts personally; and who used 2-8 sources of information

Table 7-5. Successful outcomes: final (truncated) groups in rank order by the average rate of success (Continued)

Group Number	Number of Cases	Average Rate of Success	Characteristics of Respondents and Search Strategies
11	76	48%	Respondents who made 30 percent or more of their contacts in person; and who were clerical/sales workers, blue collar workers, housewives, retired, or unemployed; and who lived in tracts with median incomes of $8,000 or more; and who used magazines for information
24	77	43%	Respondents who made 30 percent or more of their contacts in person; and who were professional, managers, or service workers; and who knew less than 20 percent of their contacts personally
20	60	35%	Respondents who made 30 percent or more of their contacts in person; and who were professionals, managers, or service workers; and whose family income was less than $6,000
29	84	33%	Respondents who made less than 30 percent of their contacts in person; and who made 90 percent or more of their contacts by phone; and 30 percent or more of their contacts were male; and who were professionals, clerical/sales workers, housewives, or retired
13	75	31%	Respondents who made less than 30 percent of their contacts in person; and who made less than 90 percent of their contacts by telephone; and whose family incomes were $15,000 or more
26	73	29%	Respondents who made 30 percent or more of their contacts in person; and who were clerical/sales workers, blue collar workers, housewives, retired, or unemployed; and lived in tracts with median incomes of $8,000 or more; and who did not use magazines; and who

Table 7-5. Successful outcomes: final (truncated) groups in rank order by the average rate of success (Continued)

Group Number	Number of Cases	Average Rate of Success	Characteristics of Respondents and Search Strategies
			were housewives, retired, or blue collar workers; and who knew less than 50 percent of their contacts personally, and who used 0-2 sources of information
31	106	24%	Respondents who made 30 percent or more of their contacts in person; and who were clerical/sales workers, blue collar workers, housewives, retired, or unemployed; and who lived in tracts with median incomes of $8,000 or more; who did not use magazines; and who were unemployed or clerical/sales workers; and who were white
19	141	23%	Respondents who made 3. percent or more of their contacts in person; and who were clerical/sales workers, blue collar workers, housewives, retired, or unemployed; and who lived in tracts with median incomes of $8,000 or more; and who did not use magazines; and who were housewives, retired, or blue collar workers; and who knew 50 percent or more of their contacts personally
15	492	18%	Respondents who made less than 30 percent of their contacts in person; and who made less than 90 percent of their contacts by phone; and who had family incomes of less than $15,000 a year; and who were clerical/sales workers, service workers, housewives, retired, or unemployed
28	70	18%	Respondents who made less than 30 percent of their contacts in person; and who made 90 percent or more of their contacts by phone; and 30 percent or more of their contacts were male; and

Table 7-5. Successful outcomes: final (truncated) groups in rank order by the average rate of success (Continued)

Group Number	Number of Cases	Average Rate of Success	Characteristics of Respondents and Search Strategies
			who were managers, blue collar workers, service workers, or unemployed
33	168	14%	Respondents who made less than 30 percent of their contacts in person; and less than 90 percent of their contacts by phone; and whose family incomes were less than $15,000; and who were professionals, managers, or blue collar workers; and who were male
8	89	8%	Respondents who made 30 percent or more of their contacts in person; and who were clerical/sales workers, blue collar workers, housewives, retired, or unemployed; and who lived in tracts with median incomes of less than $8,000
30	59	6%	Respondents who made 30 percent or more of their contacts by phone; and who were clerical/sales workers, blue collar workers, housewives, retired, or unemployed; and who lived in tracts with median incomes of $8,000 or more; and who did not use magazines; and who were clerical/sales workers or unemployed; and who were non-white
32	73	0%	Respondents who made less than 30 percent of their contacts in person; and who made less than 90 percent of their contacts by phone; and who had family incomes of less than $15,000 and who were professionals, managers, or blue collar workers; and who were female

In interpreting the tree, only the major findings which contribute to our understanding of search outcomes will be discussed. First, it is interesting to note that the first variable which discriminated best among respondents was a search strategy variable, the percentage of contacts made in person. This variable was not expected to be such a good discriminator, although a post-hoc explanation readily comes to mind (i.e., face-to-face confrontation tends to lead to results whereas the strategies of making telephone calls or writing letters are less effective in producing the answers).

An obvious conclusion which can be made based on this model is that no one strategy works best and that demographic characteristics interact with search strategies resulting in some strategies being more effective for some demographic subgroups of individuals than for others. To illustrate this point, let us examine groups 25 and 27 in the upper portion of the tree diagram. For group 25, which includes primarily professionals who do not have low incomes, a particular advantage accrues to contacting personal acquaintances for information or for help. However, for persons in other occupational categories, contacting personal acquaintances appears to be detrimental to success (see groups 18 and 19) and making use of the greatest number of sources is positively related to success (see groups 26 and 27). In other words, these relationships lend credence to an earlier hypothesis (see Chapter Five) that professionals and persons at the higher income levels are more successful in problem-solving because they know influential persons. For those who do not hold such advantaged positions in society, personal acquaintances contacted tend to be relatives, friends, and neighbors at similar occupational and income levels. For these persons, the most effective strategy appears to be that of using a great number of sources (perhaps a "shot gun" approach), rather than turning to personal acquaintances.

The relatively high success rates for two other final groups, 22 and 11, are not as easy to interpret. Group 22 consists of individuals who made most of their contacts by telephone rather than in person and whose contacts were predominantly female. At a minimum, this may indicate that making telephone contact is the second best method of contact (followed by letter writing or making no contacts at all). The reason for the differences in success rates based on sex of the persons contacted is unclear, especially since there is no indication that females are considered helpful more frequently than males (see Chapter Five).

Turning now to group 11, a major factor entering into the success of this group appears to be the use of magazines for information. Similarly, in Section 7.1.3 of this chapter, a relationship was found between success and magazine use. A question which comes to mind is whether these individuals actually obtained helpful information from magazines or whether magazine use is a proxy variable for some other characteristic of these respondents or of their search strategies. In an attempt to answer this question, we went back to examine the success rates of those who used magazines and those who did not for the fifteen most important problems/questions. It was found that for three specific problems/questions (complaints about maladies, high food prices, and a general fear of crime) successful respondents were more likely, by a factor of two, to have used magazines than unsuccessful respondents (45 percent to 22 percent). It is conceivable that articles relating to these problems/questions such as doctor's columns, low-cost recipes, or how to protect one's home against burglary, etc. may have provided useful information to these respondents.

A final comment on the tree analysis concerns the income variables and their positions in the tree. In all but

one of the four major branches in the tree, either family income or median tract income entered in at the third level of two-way splits (i.e., for groups 6, 4, and 5 but not for group 7). The relative symmetry of the tree with respect to income points to a generally higher success rate for those at the higher levels of income regardless of which search strategy is used. However, the breakpoints are considerably lower in the upper portion of the tree, indicating that being at the very highest levels of income is not necessary to success provided that an effective search strategy is used (e.g., making contacts in person, using many sources, etc.).

7.3 Future Strategies of Unsuccessful Problem-Solvers

Individuals who indicated that they were not completely satisfied with the answers or solutions they had obtained were asked what else they planned to do (questionnaire item II-15, p. 15). The reply that "nothing can be done" increased with median tract income and age (Table 7-6). Only 13 percent of those living in tracts with median incomes of less than $4,000 said that nothing could be done in comparison to 33 percent of those living in tracts with the highest median incomes. The elderly were almost twice as likely to say that nothing could be done in comparison with younger respondents. Conversely, those living in low-income tracts and young respondents (less than 25 years) were more likely than the typical respondent to indicate that they planned to make contacts. Nonwhites and professionals also tended to give this response more frequently when compared to the sample percentage.

These findings with respect to the nonwhite and low income respondents are interesting since they appear to contradict the findings of others (see, for example, Caplovitz, 1967)

Table 7-6. Future strategies of unsuccessful problem-solvers by respondent characteristics*

Respondent Characteristics	Unresolved Problems/ Questions		Future Strategies (Percent)				
	#	%	Nothing Can Be Done	Plans to Make Contacts	Plans to Use Media	Plans to Wait and See	Not Specified
Total	1,623	100	26	46	5	9	19
Race							
White	1,055	100	29	42	4	7	22
Nonwhite	555	100	20	56	5	11	15
Median Tract Income							
Under $4,000	70	100	13	66	3	10	13
$ 4,000 - $ 7,999	299	100	27	44	3	11	18
$ 8,000 - $14,999	1,163	100	26	46	5	8	21
$14,999 and over	92	100	33	41	3	12	12
Age							
<25	277	100	20	64	7	8	11
25 - 64	1,359	100	24	45	5	9	22
65+	223	100	46	34	-	7	13
Occupation							
Professional/managerial	198	100	22	56	4	9	15
Other	1,409	100	26	45	4	9	20

* Multiple responses allowed.

which point to apathy and feelings of ineffectiveness among these subgroups. On the contrary, nonwhites and, more particularly, the poor respondents in the sample were most likely to have plans to make further contacts and were least likely to say that nothing could be done. The elderly, on the other hand, more nearly fit the characterization of apathy so frequently used to describe the poor.

7.4 Summary and Discussion

Success in problem-solving was found to be related to demographic characteristics of respondents. In particular, those with the highest incomes and at the highest educational levels had higher success rates than other respondents. These subgroups, it may be recalled, tended to make more active searches and to make qualitatively different kinds of personal contacts than the typical respondent (see Chapter Six). The information or help obtained by these subgroups of individuals was also more likely to be perceived by them as helpful. As noted earlier (Chapter Six) these individuals may have been more likely to perceive their contacts as helpful in retrospect precisely because they were more successful than other respondents.

Different problems/questions were associated with different success rates; however, no unitary concept was formulated to account for why some problems/questions tended to be resolved with greater frequencies than others. A dimension of the information system which has not been a major focus of this study may explain some of these variations -- that of resources being available in the community to meet the particular needs of residents. The complex issue of which problems or questions are "solveable" also hinges on the acceptability of alternative

solutions to individuals. What may be acceptable to one individual may be unacceptable to another. Where resources are limited, success depends on the ability of individuals to generate and/or accept alternative solutions.

Search strategies were also related to success in that those who made personal contacts and those who used magazines were more likely to be successful than those who did not. Interestingly, the use of newspapers, television, radio, books, or libraries was not related to success at this gross level of analysis.

A number of interesting findings resulted from the AID model which was developed to predict success based on respondent characteristics and search strategies. In particular, interpretation of the model leads to the conclusion that different strategies are effective for different subgroups of individuals. Contacting one's personal acquaintances is an effective strategy for professionals and managers. However, for other occupational groupings, this is an ineffective strategy, presumably because the people that nonprofessionals know personally are not likely to be powerful or influential. For nonprofessionals, the better approach is not to turn to friends or relatives but to use as many other sources as possible. Although this alternative strategy is effective, it remains a fact that the best resources are accessed more effortlessly by the more advantaged members of society.

While the income level of the respondent or of the tract in which he or she lived was highly predictive of success, some search strategies seemed to mitigate this effect. Specifically, making contacts in person resulted in more success than other methods of making contact. Consistent with findings reported earlier, magazine use was another strategy related to success.

Finally, with respect to the stated future strategies of unsuccessful respondents, it was encouraging to note that the subgroup characterized by the lowest success rate (i.e., those living in tracts with median incomes of less than $4,000) were least likely to be apathetic about continuing their searches. Nonwhites, while not characterized by a lower than average success rate, also could not be described as apathetic based on their responses. Hopefully, the stereotype of the apathetic poor and black population in the 1960's, will be a myth in the 1970's. On the other hand, the responses of the elderly in our sample were not as encouraging with almost half of them saying that nothing could be done and only a third planning to make further contacts.

8. EXPLORATORY TESTING OF SELECTED FINDINGS

By

Edwin E. Olson*

8.1 Objectives

The purpose of this final phase of the study was to develop a methodology for assessing the capability of library and information agencies to deal with the kinds of problems and questions identified by residents of the Baltimore Urbanized Area during the survey phase. It was desirable to consider the usefulness of such a methodology, if it could be developed, as a tool for library and information service planners. Because of limited resources and the restrictions of the Project to one urban area, efforts in this phase must be considered only exploratory; but, hopefully, the findings and implications of this phase will be a useful guide for future efforts.

8.2 Approach

The approach in this phase was analogous to previous studies designed to develop methods for measuring a library's capability for meeting the needs of its users for materials. By drawing samples of the materials cited by medical school faculty in their research and attempting to obtain these materials, a library's capability to deliver materials was calculated. After gauging a number of libraries with this document delivery capability test, a quantitative score for each library was constructed using the methodology developed by Orr, et. al. (1968). By

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* Principal investigator, exploratory testing phase.

analogy, the plan for this phase was to generate a pool of specific problems/questions that were identified by urban residents; sample this pool, and then determine what kind of solutions or answers to these problems or questions could be provided by information facilities in the Baltimore Urbanized Area. The assumption was that the information agencies have the capability of providing solutions/answers to resident's problems/questions either from their own resources or by tapping the resources of other institutions in the area. It was also hoped that a beginning could be made in developing a means of measuring, in the aggregate, the capability of the urban area to respond to resident problems/questions. The pool of residents' problems/questions which was used in this phase was made up of items previously identified by the various residents as "most important" to them.

The methods for presenting information agencies with a sample of these problems/questions were developed in a pretest with two information facilities in Prince George's County (not in the Baltimore Urbanized Area): (1) the Community Library and Information Center (CLIC) which serves as a referral center for branches of the Prince George's Public Library system and (2) a regular branch library in the same system.

From available lists of agencies in the Baltimore Urbanized Area which claimed general information and referral activities as a major function, eight agencies to approach for the experiment were identified. Because of the required commitment of well over one day's staff time, only five agreed to cooperate in this experiment. These were: (1) Anne Arundel County Public Library, (2) Baltimore County Public Library, (3) Enoch Pratt Free Library, (4) Health and Welfare Council of Central Maryland, and (5) Lighthouse (a "hotline" in Baltimore County).

8.3 Methodology

Two samples of the "most important" problems or questions identified in the survey were drawn: (1) a random sample of 100 and (2) a sample of 26, which was a subset of the sample of 100. The sample sizes of 100 and 26 were determined in the pretest to be the maximum number that information agencies would handle in a test situation. The second sample (subset) was selected from the 100 in the following steps: (1) the most predominant topic categories of problems/questions in the 100 items were identified, yielding a subset of 41 problems/questions; (2) all of the questions which had been previously coded as requests for information were selected from the subset, yielding 10 items; (3) an additional 16 problems/questions were selected from the subset of 41 (less the 10 already selected) to arrive at a sample of 26 questions.

8.3.1 Professionals' Ability to Perceive Problems/Questions

One major task was to determine the ability of information professionals -- representing the agencies -- to perceive the information needs of residents.

In an interview information professionals were asked to present a listing of their own perceptions of subject areas which frequently come up in the lives of people living in their agencies' service areas. Then upon probing (giving the respondents a list of topic categories which had been given to the residents of the survey), the respondents were asked to list the subject areas of problems/questions which came into their facilities regardless of whether or not these were topics they had previously mentioned. The intent was to be able to contrast the

latter listing with the problems perceived to exist in the community but which did not come into information facilities. After this opening section of the interview, the information professionals were asked to respond to each of 100 problems/questions which had been posed by residents in the earlier survey by placing the sheet upon which the problems/questions had been recorded into a pile according to how they would respond to them if they came into their agency during the normal course of business. The problems/questions as given to the information professionals were exactly as recorded in the field, including any misspellings or omissions of connecting words by the interviewers.

Along with a category of "other," the respondents were given four response categories which had been constructed on the basis of the pretest: (1) can provide information or a referral which we know will have information or help which the person needs; quite sure we can handle it; (2) can refer but uncertain if referral will meet the person's needs; (3) need more information about the problem; don't know what to do with it until we get more information from the person; (4) nothing we can do, not a problem we can deal with.

In the final section of the interview respondents were instructed to detail their responses to the sample of 26 problems or questions which were left behind for this purpose. The respondents were asked to deal with the questions or problems just as they would if they had been phoned in, or if the persons had come into their agency. For each question a recording form was provided for recording behavior in dealing with the problem/question. This form was designed to be similar to the interview schedule used in the survey of residents. The response record asks the information professional to describe for each problem/question the information-seeking behavior of those in the agency dealing

with the issue (usually only the one professional), including any contacts made with any person during the search. A sequence of questions on media probed for any radio, TV, newspaper, magazine, book, pamphlet, or other media or institutional sources which were used in the information-seeking activity. Finally, the information professionals were asked to contrast the various sources used and speculate whether they obtained satisfactory solutions/answers to residents' problems/questions.

8.4 Findings

Throughout the present section, the five participating agencies are referred to as A, B, C, D, and E. The various analyses reported herein do not necessitate the identification of the specific agencies. The "findings" outlined in this section are not in any way generalizable but are reported only as a means of illustrating and assessing the methods used.

8.4.1 Perceptions of Resident Problems/Questions

Table 8-1 compares the broad topic areas of problems/questions which the residents in the sample and each of the five information professionals considered to be most important. For the citizens these problems are the ones they had been attempting to cope with -- problems of changing neighborhoods, maintaining a household, consumer affairs, etc. Interestingly, there was no apparent correlation between these and the professionals' perceptions. For example, the problem/question topic area most frequently mentioned by the residents -- neighborhood -- was mentioned by only one information professional.

Table 8-1. Major information problem/question topic categories: comparison of residents' needs and information professionals' perceptions of residents' needs

Topics Most Frequently Mentioned by Residents	Residents' Rank Order	Information Professional's Perception of Residents' Rank Order					Total Times Mentioned
		A	B	C	D	E	
Neighborhood	1				9		1
Consumer	2		3		7	1	3
Housing/Maintenance	3	5	5		6	4	4
Crime and Safety	4	1	1		10		3
Education	5		8	4*	8	2	4
Employment	6	6	7		3		3
Transportation	7		2	4	5		3
Finance/Public Assistance	8				1.5*		1
Health	9	7		2			2
Miscellaneous	10	5*	7*	6	4	5*	5
Recreation	11	3			12		2
Discrimination	12	4	6				2
Legal	13		9	1	11	6	4

* Average rank derived when agency listed one topic category under two or more names.

The great amount of variation among the five professionals themselves also indicates that information professionals lack any type of common perception of the most important needs as indicated by the residents' problems/questions. This is possibly because, as revealed in the analysis of survey data, these needs are seldom communicated to library and information facilities (see Sections 6.1.3.3 and 6.2.3). In addition there might have been a better correlation if the comparison to the rank order of residents' problems had been restricted to respondents living in the area served by information professionals. However, the size of the sample did not allow this.

8.4.2 Response to Resident Problems/Questions

When asked to make a quick judgment about the sample of 100 information problems/questions, the information specialists on the average felt that they could deal with 46 percent of the items (Table 8-2). Of these approximately half were items they could refer to another agency and half were items with which they could not deal. Almost half were items that required more information from the respondent about his request -- either the problem or question was ambiguous or the specialists needed more information about the resident's situation. This could reflect a weakness in the methodology.

When given time to work with the subset of 26 problems/questions, it appears from Table 8-3 that the professionals' earlier quick judgments on the subset of 26 among the sample of 100 were either nearly accurate or were underestimates of their capacity to respond. In three instances the institutions significantly underestimated their ability to deal with these problems, while in two cases they slightly overestimated. The method of sorting problem statements in this test would appear to predict a minimum capability.

The differences among agency responses were not so pronounced when assessing only the quick-judgment sort of 100 sheets as opposed to actually dealing with the problems/questions (the sample of 26). At the extremes the difference among the five agencies for the initial sort was 27 percentage points, whereas for the sample of 26 it was 59 percentage points. This suggests that the agencies' ability to deal with typical residents' problems/questions can best be determined in actual (or possibly simulated) work situations.

Table 8-2. Information professionals' responses to problems/questions "most important" to residents

Information Professional	Number of Problems/ Questions	Response (number of problems/questions)					
		Can Deal With Problem/Question			Can't Deal With Problem/Question		
		Can Provide Answer	Can Refer	Sub-Total	Need More Information	Can't Handle	Sub-Total
A	100	19	25	44	10	46	56
B	100	13	21	34	19	47	66
C	100	35	20	55	22	23	45
D	100	31	18	49	32	19	51
E	100	24	26	50	14	36	50
Mean		24	22	46	19	34	53

Table 8-3. Information agency response to resident information needs: intrasample comparison of problems/questions dispositions

Agency	Percent of Problems/Questions Which Information Professionals or Agencies Could Handle (Categories 1 and 2)	
	Quick Judgments (N = 26)	Actual Solutions/Answers (N = 26)
A	46%	62%
B	19	26
C	46	81
D	42	46
E	46	85

When the information professionals' responses were analyzed by topic area (Table 8-4), the mean responses for the agencies showed that regardless of topic area, professionals could deal with over one-third or close to one-half of the problems/questions. Major areas with the lowest scores were crime and safety, consumer matters, and education. Further, the range among the individual agency scores revealed that generally there was not close agreement among the agencies as to whether or not a topic area could be dealt with. For problems/questions which agencies felt they could handle, either by using their own resources or by referral, there was greater consensus in the subject areas of housing and financial and public assistance. The area of health showed a large amount of disagreement and crime and safety, education, and miscellaneous also revealed high variation among agencies.

Overall, it appears that institutions may be judged individually as to particular subject-area strengths and weaknesses; but it is difficult to make a general statement because of a high degree of variability.

Table 8-4. Information professionals' responses to problems/questions "most important" to residents, by topic: mean response and range

Topic	Number of Problems (N = 100)	Mean Response and Range											
		Can Deal With Question/Problem						Can't Deal With Question/Problem					
		Can Provide Answer		Can Refer		Subtotal		Need More Information		Can't Handle		Subtotal	
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Neighborhood	17	28.2%	35%	26.0%	17%	54.2%	41%	9.6%	24%	36.4%	35%	46.0%	42%
Housing/Maintenance	16	31.6	31	25.2	31	56.8	19	20.2	12	23.8	18	44.0	18
Crime and Safety	14	9.8	14	28.4	57	38.2	64	18.6	29	42.6	50	61.2	65
Consumer	11	18.0	36	19.8	19	37.8	36	10.8	18	50.8	46	61.6	37
Employment	8	30.2	37	25.2	75	55.4	50	25.2	50	18.4	38	43.6	50
Financial	7	34.4	43	17.2	29	51.6	15	29.6	57	20.2	43	49.8	15
Education	6	20.8	50	6.8	17	36.6	67	13.4	33	49.8	50	63.2	67
Health	6	23.2	50	20.0	50	43.2	83	46.8	67	10.2	17	57.0	84
Miscellaneous*	15	21.2	20	19.0	20	40.2	27	21.4	33	40.0	26	61.4	26

* Includes transportation, legal, discrimination, recreation, child care, and family planning.

Table 8-5 indicates the degree of consensus among the information professionals' judgment with respect to their institutions' capability to deal with the problems/questions of the residents (either through their own resources or by referring them to another information disseminating agency within the community). The number in the left-hand column signifies the number of agencies which could handle the same individual problems/questions listed in the right-hand column. For instance, only 11 percent of all of the problems could be handled by all five information agencies (see Figure 8-1 for the list of these 11 problems/questions). Four agencies could handle an additional 21 percent and less than half (44 percent) of the residents' individual problems/questions could be handled by the majority of the information agencies. The large portion of the problems/questions which could not be answered by any of the information agencies may be explained by the fact that the unsolved problems/questions stated by the residents were generally vague and unspecific (see Figure 8-2).

Table 8-5. Degree of consensus among information professionals on the capability of their institutions to handle citizen questions/problems

Number of Professionals Stating They Could Handle Problem	Number of Cases Where There Was Agreement
5	11
4	21
3	12
2	22
1	12
0	22
Total	100

Number of Professionals Who Could Answer	Refer	
5	0	We like to know if there is a day care center here in the neighborhood.
3	2	There are rats in the back alley. Three or four people have called but no one has come to do anything about them.
3	2	I am concerned about these boarded up houses next to me. Is the government or city going to remodel or tear them down because sometimes people break in the rear of them, and climb on the roofs over there and on mine, too.
3	2	My back alley is all broke up from dump trucks when they built up out here.
3	2	Having trouble getting medical care card for wife and for myself from Welfare.
3	2	We had muddy water coming from the spigots. We got in touch with our councilman. We thought he could take care of it. We just wanted to know how to make the water cleaned up.
3	2	The union to which I belong was taking out more money than then should have out of my check. I wanted to find out why.
2	3	Why can't we have more policemen walking the beat in our neighborhood?
2	3	A place to live, I have to move out of this hell hole. The pipes leak -- there is a hole in the roof from that storm Agnes and water leaks on my sofa. The toilet won't flush right, I have to keep a bucket under it to keep the urine from going on the floor. The place stinks.

Figure 8-1. Residents' problems/questions which all information professionals could answer or refer (from sample of 100 "Most Important" problems/questions

Number of Professionals Who Could Answer	Refer	
		The landlord told me I had to move in three months. I don't know why. I pay $85.00 a month and I never miss a month. I told the landlord what a mess this place was. He sent a painter instead of a plumber. He sent a carpenter. They keep tearing the place up instead of fixing it up.
2	3	I had a auto theft. My son in college couldn't be insured. The insurance people still want me to pay full insurance. I don't think I have to. He doesn't even live here anymore, but I have to pay insurance for him. He never drives the car any.
2	3	Bought air conditioner. Sometimes it drips in the front. Have to keep a little plate under it. Drips insi[illegible] the house.

Figure 8-1. Residents' problems/questions which all information professionals could answer or refer (from sample of 100 "Most Important" problems/questions (Continued)

Figure 8-1 lists the 11 specific problems/questions which all five information agencies could answer either with their own resources or by referral to another information disseminating agency with the assurance of that agency's dealing with the referral. The problems/questions have certain similarities among them in that residents are stating problems/questions which require direct factual responses. For example, finding information on day care centers is a specific question which can be answered effectively by each information professional using information sources physically present in his or her agency.

	Examples
Category 1: Five Could Handle Problem	Why can't we have more policemen walking the beat in our neighborhood?
	We had muddy water coming from the spigots. We got in touch with our councilman. We thought he could take care of it. We just wanted to know how to have the water cleaned up.
	Bought air conditioner. Sometimes it drips in the front. Have to keep a little plate under it. Drips inside the house.
Category 2: Four Could Handle Problem	I'd like to know what they are doing now in the progressive schools and where they are located and what they are doing and if they are doing anything in the county schools here and I know they have English Labs and Math Labs and I don't understand them.
	I'd like to know where I can get info on them here. I am going to be a elem. school teacher in music.
	We need sewerage in this area. Our septic tank runs over -- we have to have it pumped out several times a year.
	Inferior lighting in the streets. Rapidly changing neighborhood. 50-50 is all right -- I'd like to know the experience in middle class areas in changing neighborhoods in Baltimore County -- Community. I'd like to know what extent the white people are moving or sticking it out.
Category 3: Three Could Handle Problem	My son filled out a letter at school for a summer job and he hasn't heard anything yet. He's 16 and he goes to Robert Poole

Figure 8-2. Information professionals' responses to citizen problems/questions: Random examples of problems/questions from six categories according to how many professionals could handle problems/questions

Jr. High School. I called the place he worked last summer. The Self Housing Project and they said they didn't have any positions. He also tried some other places but I don't know where.

My husband feels, as well as his coworkers, that there are unfairness going on at his place of work. He and his gang feel as if they are making it so miserable that he and his gang will quit. He and his gang are disgusted with their tactics in his company.

Increase in drug traffic.

Crime -- some man stole narcotics from local store and raids in neighborhood/ afraid it will hurt my children.

Category 4: Two Could Handle Problem

I am waiting for an apartment for Senior Citizens. So all I need do is wait until I am 62 years old.

We have a gang of teenagers who hang on the corner. When you call the police they don't do a thing about it.

Defective couch not taken care of to my satisfaction. I had to go to court twice.

Category 5: One Could Handle Problem

Other day I got a traffic ticket in the county and I don't think I was wrong. I slowed up to see if it safe and I turned up and a State trooper pulled me off and gave me a ticket and he said I should have stopped but there was no sign and my husband told me to go to court and I took some pictures and I'm going to the court and fight it. He said it was a highway

Figure 8-2. Information professionals' responses to citizen problems/questions: Random examples of problems/ questions from six categories according to how many professionals could handle problems/questions (Continued)

	but everyone said it was just a back road. I'm going to fight it (else?) No
	Streets are not safe. Judiciary too limit. People are afraid to go out. I do not go out casually (for a walk)
	My wife has arthritis -- isn't able to do much.
Category 6: None Could Handle Problem	
	I have a lawyer at legal aid who's taking care of my problems; financial and bill problems. I won't go into this because it's confidential and in his hands now.
	Gathers that they are some sort of genteel, covert discrimination against blacks. Seems to me that it makes it a little uncomfortable for him to live around here in that sort of structure.
	Look for 1-1/2 years for house and good neighborhood; just moved into new house, but forced to send children to private school.

Figure 8-2. Information professionals' responses to citizen problems/questions: Random examples of problems/questions from six categories according to how many professionals could handle problems/questions (Continued)

Figure 8-2 lists random examples of the residents' problems/questions from all six categories (i.e., all five information professionals could handle, four could handle, ... none could handle). The problems/questions in Figure 8-1 were ones that required direct factual answers; this is the probable reason for the successful handling of the problem/question by all five agencies. Going down the list, it can be seen that when only one or two information professionals could handle the problem/question, the actual problem/question itself is generally vague and unspecific -- a lament more than an actual problem.

The problems/questions that none of the five information professionals could answer are even more general. In addition to the examples listed, there are many others in the same category which are basically complaints about the high cost of...(everything), a general fear (such as crime or living in a deteriorating neighborhood), or lamenting the fact that an expressway has already been built through one's backyard.

8.4.3 Agency Modes of Dealing With Problems/Questions

Table 8-6 indicates the modes of dealing with residents' problems/questions by comparing the information agencies to each other and to the residents. The sample of 26 problems/questions is divided into two major units: (1) those with which the agencies and citizens could not deal and (2) those with which they could deal, which are further divided into three main categories based on whether respondents used their own resources, used contacts with persons and TV/radio, or used a combination of these two. This and other analyses reveal the great differences in the manner in which agencies, when compared to each other and to the residents, gathered information in order to solve the residents' problems/questions.

For example, Agency E is radically different from all other agencies and the residents because it relied heavily on the files, books, pamphlets, newspapers, and magazines within the agency's physical facility. Agency E did not have any need for contacts with persons or TV/radio and yet had the highest number (22) of problems/questions answered. Agency C and the residents seem to be similar in all categories, and both were able to deal with 21 of the 26 problems/questions. It is

Table 8-6. Modes of dealing with problems/questions: intra-agency and agency-resident comparisons

Agencies/ Residents	Could Deal With Problems/Questions			Could Not Deal With Problems/ Questions	Total Problems/ Questions
	Own Resources*	Contacts With Persons or TV/Radio	Own Resources and Contacts With Persons or TV/Radio		
A	2	13	4	7	26
B	1	2	4	19	26
C	3	2	16	5	26
D	3	0	8	15	26
E	22	0	0	4	26
Mean	6.2	3.4	6.4	10.0	
Residents	4	5	12	5	26

* Includes intuition and experience; files and directories, books, pamphlets, newspapers, magazines.

interesting to note that both Agency C and the residents were using a large number of the combined modes (own resources, TV/radio, contacts with persons), to answer their problems/questions. Agency A, which dealt with 19 problems/questions was successful by using primarily contacts with persons and TV/radio; and this agency was the highest of all groups that used these modes. On the whole, agencies B and D were not too successful with their information sources as seen in the low number of problems/questions they could deal with; yet, they responded by using all modes.

As can be seen in Table 8-7, in contacting persons to assist with the 26 problems/questions, professionals made the greatest use of individuals who were case workers, referral workers, or agents; whereas, landlords and maintenance men were most frequently contacted by the residents in the same subset.

Table 8-7. Occupation of persons contacted by agencies and residents

Occupation	Number of Persons Contacted by Agency:						Residents
	A	B	C	D	E	Mean	
Caseworker, referral worker, agent	5		9	5		3.9	0
Policeman	1	1	5	3	1	2.2	3
Head of program, government official, city planner	1	1	4	2	1	1.8	1
Clerk, salesclerk, secretary, programmer	1	2	4			1.4	5
Housing inspector, investigator	1			6		1.4	0
Landlord, maintenance man	2					0.4	7
Lawyer	1	1				0.4	0
Teacher, librarian			1			0.2	4
DPW worker				1		0.2	0
Friends						0.0	3

Other frequencies-of-contact, by occupation, are also indicated. Information agencies appear to have a repertoire of contacts, mainly with individuals who are connected with other institutions, particularly those with a community-service orientation (data not shown). A possible explanation for this is that among information specialists there is a greater knowledge of available relevant services and an acquaintance with individuals attached to them.

In connection with the use of print and other media sources, the information specialists relies most heavily on books and pamphlets, primarily in the problem/question areas of housing and crime; whereas, residents made minimal use of these sources, although they did place a heavy reliance on newspapers. Each group placed some reliance (on a recall basis) upon TV and radio talk shows, news programs, and specials (data not shown).

Both groups seem to make use of the print material most readily available to them -- information agencies having generally easier access to books and pamphlets; residents to newspapers.

8.4.4 Satisfaction and Helpfulness

The information specialists felt that they had definitely provided or obtained satisfactory solutions/answers to 36 percent of the residents' problems/questions and had provided or obtained partially satisfactory solutions/answers in another 55 percent of the cases. On the other hand, residents were entirely satisfied only 16 percent of the time and partially satisfied only 21 percent of the time in their search for solutions/answers to the same problems/questions (Table 8-8).

Table 8-8. Estimation of adequacy of solutions/answers to residents' problems/questions: agency and residents compared

Agency/ Resident	Number of Responses Attempted	Was a satisfactory solution/answer obtained?				Total
		Yes, Definitely	Yes, Sort of	No, Still Working On It	No	
A	14	29%	50%	7%	14%	100%
B	7	71	29	0	0	100
C	21	29	62	5	5	100
D	12	17	83	0	0	100
E	22	32	55	9	4	100
Mean		36	56	4	5	
Resident	19	16	21	21	42	100

It would appear that information agencies are capable of finding satisfactory solutions/answers to resi..nts' problems/questions; but, considering that one agency attempted to respond to only 7 of the 26 problems/questions, this may be too optimistic. By contrast, as pointed out earlier, residents tend not to use information specialists in attempting to deal with their problems/questions.

Personal contacts made by agencies in their quest for solutions/answers were perceived by them to be very helpful 32 percent of the time and at least helpful 46 percent of the time. However, the residents' responses corresponding to the subset of 26 showed that only 18 percent of their personal contacts were very helpful and 38 percent helpful; nearly half (44 percent) of their personal contacts were perceived as not so helpful (Table 8-9). In one sense, then, residents' information-seeking with respect to personal contacts may be more "haphazard" than that of the professionals who appear to know the right people to contact

Table 8-9. Perceptions of helpfulness of personal contacts: comparison of agencies and residents

Agency/ Residents	Number of Persons Contacted	Helpfulness of Information or Suggestions Obtained from Personal Contact			
		Very Helpful	Helpful	Not So Helpful	Total
A	9	22%	67%	1%	100%
B	5	60	40	0	100
C	18	78	22	0	100
D	9	0	100	0	100
E	0				0
Mean Residents	16	32 18	46 38	0 44	100

and are thus more efficient in seeking contacts with a correspondingly greater degree of effectiveness.

8.5 Summary and Discussion

In this final exploratory phase, we were able to quantify library and information agency capabilities to deal with samples of actual problems/questions posed as "most important" by residents during a cross-sectional sample survey of households in the Baltimore Urbanized Area. By asking information specialists in five agencies to sort 100 sheets, each listing a problem/question, we were able to arrive at an apparent minimum capability in dealing with actual resident problems/questions. A subsequent problem-solving exercise using a subset of 26 problems/questions provided more exact tentative measures for the overall performance of each agency in providing solutions/answers through their own resources or through referrals.

It was found that the capability of the individual agencies in handling residents' problems/questions varied significantly among them. However, 78 percent of the problems/questions posed could be handled by at least one agency. If these agencies had been linked together so as to have formed an "information pool," the community (comprised in this case, of those agencies in the sample) would have scored as high as 78 percent. If the hypothetical chain of agencies, perhaps linked through a switching center, were expanded by adding member agencies, the theoretical score on the sample of problems/questions would probably have been higher. The assessment in this final exploratory phase of the professionals' information-seeking behavior pointed to an apparent lack of cooperation (perhaps by omission rather than design) among information agencies. There appeared to be no referral pattern among those agencies tested, implying that the development of a referral network and/or a prime referral agency might be considered.

An expanded testing program, involving more agencies and drawing upon the repertoire of information needs provided by this or future studies, might be pursued in the Baltimore and other urban areas. Outcomes might be assessed with a view to dealing with needs through the most effective and efficient configuration of agencies, strengthening each of the participating agencies, better utilizing heretofore underutilized or unused agencies, allocating resources among population subgroups or topical areas of need, etc. Moreover, the data obtained and methodology suggested herein have obvious implications for the training of information specialists -- in terms both of responsiveness and affirmative action.

Because agency responses may well have been influenced by the conditions of testing (e.g., a "Hawthorne" effect), further work should seek to measure these effects, perhaps by means of unobtrusive measuring.

We recommend further experimentation in the directions suggested herein, and look to the modification and refinement of the methodology thus far developed. At the least, the application of these and similar methods with feedback to participating agencies will allow both a more meaningful evaluation by those agencies of their own capabilities and a means of generating data for planning increased effectiveness.

BIBLIOGRAPHY

Ackoff, R. K. Toward a behavioral theory of communication. Management Science, Vol. 4, 1958, pp. 218-234.

Alexander, C. et. al. A pattern language which generates multi-service centers. Berkeley: Center for Environmental Structure, 1968.

Allen, T. J. Sources of ideas and their effectiveness in parallel R & D projects. Cambridge: Research Program on the Management of Science and Technology, Massachusetts Institute of Technology, July 1965 (Report No. 130-65).

Ascroft, J. Modernization and communication: Controlling environmental change. (Doctoral dissertation, Michigan State University). East Lansing: 1969.

Berelson, B. The library's public. New York: Columbia University, 1949.

Bernard, S. E., Kurtagh, E. and Johnson, H. R. The neighborhood service organization: specialist in social welfare innovation. Social Work, Vol. 13, No. 1, January 1968, pp. 76-84.

Block, C. E. Communicating with the urban poor: An exploratory inquiry. Journalism Quarterly, Vol. 47, No. 1, Spring 1970, pp. 3-11.

Bowes, J. Information control behaviors and the political effectiveness of low-income urban adults. (Doctoral dissertation) East Lansing: Michigan State University, 1971.

Brownson, H. L. Research on the handling of scientific information. Science, Vol. 132, December 30, 1962, pp. 1922-1930.

Bundy, M. L. Urban information in public libraries. Library Journal, January 15, 1972, pp. 161-169.

Campbell, A. and Metzner, C. A. Public use of the library and other sources of information. Ann Arbor: University of Michigan, 1950.

Cangelosi, V. E., Robinson, D. M., and Schkado, L. L. Information and rationale choice. Journal of Communication, Vol. 18, June 1968, pp. 131-143.

Caplovitz, D. The poor pay more. New York: The Free Press, 1963.

Clark, K. B. Dark ghetto: dilemmas in social power. New York: Harper, 1967.

Cohen, A. K. and Hodge, H. M. Characteristics of the lower blue collar class. Journal of Social Problems, Vol. 10, No. 4, Spring 1963, pp. 103-134.

Cole, S. and Cole J. Visibility and the structural basis of awareness of scientific research. American Sociological Review, Vol. 33, 1968, pp. 397-412.

Davies, J. R. The problem of information exchange and complete information center concept. The Information Scientist, 1970, Vol. 4, pp. 39-45.

Dervin, B. and Greenberg, B. S. The communication environment of the urban poor. In Kline, Gerald and Philip Tichenor, Current perspectives in mass communication. Beverly Hills: Sage Communication Research Annuals, Vol. I., 1972.

Dervin, B. Communication behaviors as related to information control behaviors of black low-income adults. (Doctoral dissertation) East Lansing: Michigan State University, 1971.

Dervin, B. Report on information needs survey -- Seattle and Syracuse. Seattle: School of Communications, University of Washington, January 1973.

Dordick, H. S., Chesler, L. G., Firstman, S. I., and Bretz, R. Telecommunications in urban development. Santa Monica: The Rand Corporation, July 1969.

Eisenstadt, S. N. Communication systems and social structure: An exploratory comparative study. Public Opinion Quarterly, Vol. 19, Summer 1955, pp. 153-167.

Etzioni, A. Toward a theory of guided societal change. Social Science Quarterly, Vol. 50, No. 3, December 1969, pp. 749-754.

Frey, F. Political development, power, and communications in Turkey. In L. W. Pye, Communication and Political Development. Princeton: Princeton University Press, 1963, Chapter 17.

Furman, S., Connell, S., and Goldman, J. The indirect values of information and referral services. Social Work Practice. New York: Columbia University Press, 1962.

Furman, S., Sweat, L., and Crocetti, G. Social class factors in the flow of children to out-patient psychiatric clinics. American Journal of Public Health, Vol. 55, No. 3, March 1965, pp. 12-18.

Greenberg, B. S., and Dervin, B. The use of the mass media by the urban poor. New York: Praeger Press, 1970.

Greenleigh Associates, Inc., Diagnostic survey of tenant households on west side urban renewal area of New York city. New York: Greenleigh Associates, 1965.

Grunig, J. E. Communication in community decisions on problems of the poor. Journal of Communication, March 1972, pp. 5-10.

Havelock, R. G. Planning for innovation: through dissemination and utilization of knowledge. Ann Arbor: Institute for Social Research, 1971.

Health and Welfare Council of Central Maryland, Inc., Description of operation of the information and referral service. 1962-1971, Baltimore, Maryland: October, 1971.

Heidt, S. Knowledge and its consequences: The impact of information on a family planning program. American Behavioral Scientist, Vol. 12, No. 3, November 1968, pp. 43-47.

Herzog, E. Some assumptions about the poor. Social Service Review, Vol. 38, No. 4, December 1963, pp. 389-402.

Hill, R. Judgment and consumership in the management of family resources. Sociology and Social Research, Vol. 47, 1963, pp. 446-60.

Hiltz, S. Black and white in the consumer financial system. American Journal of Sociology, Vol. 76, May 1971, pp. 987-98.

Hirschleifer, J. Private and social value of information and the reward of inventive activity. American Economic Review, Vol. 61, Spring 1971, pp. 561-74.

Kahn, A. J. et. al. Neighborhood information centers: a study and some proposals. New York: Columbia University School of Social Work, 1966.

Katz, E. The two-step flow of communication: An up-to-date report on an hypothesis. Public Opinion Quarterly, Vol. 21, Spring 1957, pp. 61-78.

Katz, E. and Lazarsfeld, P. F. Personal influence. Glencoe Free Press, 1955.

Kilpatrick, P. Source Book of a Study of Occupation Values and the Image of the Federal Service. The Brookings Institution: 1964, pp. 20-24.

Kline, G. F. Media time budgeting as a function of demographics and life style. Journalism Quarterly. 1971, Vol. 2, Summer, pp. 211-221.

Kurtz, N. R. Gatekeepers: Agents in acculturation. Rural Sociology, Vol. 33, No. 1, March 1968, pp. 63-70.

Levin, J. and Taube, G. Bureaucracy and the socially handicapped: a study of lower-class tenants in public housing. Sociology and Social Research, Vol. 54, No. 2, January 1970, pp. 209-219.

Levine, S. L., White, P. E., and Paul, B. D. Community interorganizational problems in providing medical care and social services. American Journal of Public Health, Vol. 53, No. 8, August 1963, pp. 1183-1195.

Levine, F. J. and Preston, E. Community resource orientation among low-income groups. Wisconsin Law Review, Vol. 80, No. 1, 1970, pp. 80-115.

McIssac, H., and Wilkinson, H. Clients talk about their caseworkers. Public Welfare. Vol. 23, No. 4, July 1965, pp. 147-154.

Mendolsohn, H. Operation Gap-Stop: A study of the application of communication techniques in reaching the unreachable poor. University of Denver, Communication Arts Center, February 1968.

Menzel, H. The information needs of current scientific research. The Library Quarterly. Vol. 24, 1954, pp. 4-19.

Morris, C. A proposed taxonomy for communication research. Department of Communication, Michigan State University, East Lansing (mimeo), 1969.

National Citizens' Advice Bureaux Committee. Advising the Citizen. London, National Council of Social Services, 1961.

Noble, J. H., and Wechsler, H. Obstacles in establishing community-wide information systems in health and welfare. Welfare in Review, Vol. 8, No. 6, 1970, pp. 18-26.

Ogg, E. Tell me where to turn: the growth of information and referral services. New York: Public Affairs Committee, 1969.

Orr, R. H., Pings, M. Pizer, H., Olson, E., and Spencer, C., "Development of Methodologic Tools for Planning and Managing Services: II, Measuring a Library's Capability for Providing Documents," Bulletin of the Medical Library Association, 56: No. 3, 241-267, July 1968.

Parker, E. B., and Paisley, W. J. Patterns of adult information seeking. Stanford University, Institute of Communications Research, 1966.

Pratt, L. Level of sociological knowledge among health and social workers. Journal of Health and Social Behavior. Vol. 10, No. 1, 1969, pp. 59-65.

Price, J. L. The use of new knowledge in organizations. Human Organization, Vol. 23, No. 3, Fall 1964, pp. 224-234.

Rainwater, L. Comment...looking back and looking up. Transaction, Vol. 6, No. 9, 1969.

Regional Health and Welfare Council, 5,400 inquiries and those who made them. Kansas City, Missouri: Regional Health and Welfare Council, December 1965.

Rieger, J. H., and Anderson, R. C. Information sources and need hierarchies of an adult population in five Michigan counties. Adult Education Journal, Vol. 18, 1968, pp. 155-177.

Roe, A. Communication resource centers. American Psychologist, Vol. 25, 1970, pp. 1033-1040.

Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, Vol. 80, (1, whole no. 609), 1966.

Scott, R. A. The selection of clients by social welfare agencies: The case of the blind. Social Problems, Vol. 14, Winter 1967, pp. 248-257.

Seeman, L. Alienation, membership, and political knowledge. Public Opinion Quarterly, Vol. 30, 1966, pp. 353-367.

Sjoberg, G., Brymer, A., and Farris, B. Bureaucracy and the lower class. Sociology and Social Research, Vol. 50, April 1966, pp. 325-336.

Spitzer, S. F. and Denzin, N. K. Levels of knowledge in an emergent crisis. Social Forces, Vol. 44, 1965-66, pp. 234-37.

Stark, F. B. Barriers to client-worker communication at intake. Social Casework. Vol. 40, April 1959, pp. 177-183.

Tichenor, P. J. et. al. Mass media flow and differential growth in knowledge. Public Opinion Quarterly, Vol. 34, Summer 1970, pp. 159-170.

Udell, J. G. Prepurchase behavior of buyers of small electrical appliances. Journal of Marketing, Vol. 30, No. 4, 1966, pp. 50-52.

Voice of experience, Wilson Library Bulletin, September 1970, pp. 45-53.

Voos, H. Information needs in urban areas: A summary of research in methodology. New Brunswick: Rutgers University Press, 1969.

Wade, S., and Schramm, W. The mass media as sources of public affairs, science, and health knowledge. Public Opinion Quarterly, Vol. 33, No. 2, Summer 1969, pp. 197-209.

Waisensen, F. B., and Durlak, J. T. Mas media use, information source evaluation, and perception of self and nation. Public Opinion Quarterly, Vol. 31, 1967.

Westley, B. H., and Severin, S. J. Some correlates of media credibility. Journalism Quarterly, Vol. 41, Summer 1964, pp. 325-335.

Zucker, M. Citizen's Advice Bureaux: The British Way. Social Work, Vol. 10, No. 4, October 1965, pp. 85-91.

Zweizig, D. Predicting library use: an empirical study of the role of the public library in the life of the adult public. (Dissertation proposal, Syracuse University School of Library Science), June 1972.

APPENDICES

APPENDIX A

SAMPLE DESIGN

A.1 Population Description

The geographical area chosen for study was the Baltimore Urbanized Area as defined by the U.S. Bureau of the Census. In 1970 the population of this Urbanized Area was 1,579,838 persons. Other geographical boundaries considered were Baltimore City (1970 population - 905,757) and the Baltimore Standard Metropolitan Statistical Area (1970 population - 2,070,668). An objective of the study was to include the suburbs as well as the more central part of the city and the Urbanized Area provided such a boundary.

Although the units of analysis were to be individual respondents, a probability sample of households was desired. Data were available from the Third Count Census Summary Tapes on individual blocks within the urbanized area. Information items useful for sample design were available for each block (e.g., number of year-around housing units). The Urbanized Area con tained about 512,000 year-around housing units.

A.2 Sample Methodology

An important design consideration was the need for a sample that would be representative of certain classes of the overall population. Low-income blacks were of particular interest, which required certain sampling procedures to insure the sample included an adequate number for interviews. The study specifications called for interview attempts with 1,500 households with expected completed interviews for about 1,000 respondents.

The sample design for this study used a stratified multi-stage sampling procedure to identify a representative sample of urban residents 18 years of age and over within the Baltimore Urbanized Area. Interviews were conducted with these individuals utilizing field procedures as discussed in Appendix B.

The first stage sample was selected by drawing a probability sample of blocks, followed by a sample of households within blocks and ultimately a sample of individual residents within households. Details will be given in the remaining sections of this appendix on the sample selection for each of the three stages.

A.3 Block Sample

In order to assure ourselves of a representative sample of blocks in the Urbanized Area, several factors were considered important as stratification variables for each individual block, viz., size of block in terms of year-around housing units, percentage of block population that is black, and estimated median family income for a block. Except for the income estimates, these data were available for each block on the Third Count Summary Tape from the 1970 Census. A Westat regression model was used to estimate the median family income for each block. Each block was also classified by its city and county codes into Baltimore City and the remaining Urbanized Area.

Using the data available on each block, tables were generated that displayed the number of blocks and the number of housing units in each cell of a 14 x 6 matrix where the rows were 14 levels of income and the columns were 6 levels of percent black composition. Tables were developed for three geographical areas: Baltimore City, balance of Urbanized Area, and total

Urbanized Area. Upon inspection, figures for the total Urbanized Area were used to compare blocks as shown in Table A-1. In Table A-1 the number of levels for income and black composition have been reduced. The heavy line in the table indicates how the total number of blocks in the urbanized area was divided into two segments as follows:

Type I - all blocks with less than $8,000 estimated family income and all blocks where the black composition was 50 percent or more.

Type II - all blocks with estimated family income of $8,000 or higher and less than 50 percent black population.

Table A-1. Percentage of housing units for Urbanized Area of Baltimore as a function of income and black population composition

Estimated Median Family Income[1]	Black Composition				
	Less Than 10%	10-49%	50-89%	90% and Over	Total
Under $4,000	.4	.2	.3	3	3.9
$ 4,000 - $ 5,999	2	.6	.6	3	6.2
$ 6,000 - $ 7,999	9	2	1	4	16.0
$ 8,000 - $ 9,999	16	2	2	7	27.0
$10,000 - $11,999	14	2	.9	1	17.9
$12,000 - $15,999	24	1	.2	.2	25.4
$16,000 - $19,999	3	.2			3.2
$20,000 and over	.4	.008			.4
Total	63.8	8.0	5.0	18.2	100.0%

[1] This figure was derived from Westat's multiple regression model.

From Table A-1, approximately 37 percent of the year-around housing units are located in Type I blocks and the remaining 63 percent of housing units in the Type II blocks. It was desirable to have a near-optimal sample design that produced reasonable numbers of housing units in various subgroups or categories within each of the two block types. With only 37 percent of the total units in Type I blocks and the particular interest in the low-income predominantly black areas, such a design required oversampling of Type I blocks.

In the paragraphs above, we have discussed the data available on individual blocks and the separation of blocks into two types. Actually, there were blocks with the data suppressed by the U.S. Census Bureau which were referred to as zero blocks. For example, if a block contained only a few households the data on the housing units were suppressed so as not to reveal information on specific individuals or households. Two kinds of zero blocks existed as follows:

1. Blocks specified on summary tapes with information suppressed (127 count on tape).

2. Blocks not on tapes but designated by Census Bureau and shown in the publication, Block Statistics, Baltimore, Maryland Urbanized Area, U.S. Bureau of the Census, Final Report HC(3)-106.

In order to sample the second class of zero blocks not available on the summary tapes, a sample of census tracts were selected and the zero blocks were identified.

We also discovered other "special" blocks shown in the Block Statistics publication as cases where the data were not processed in time for release in the publication and summary tapes. Also, a few blocks had been omitted by error from both the

publication and summary tape and were shown on an errata sheet. These blocks were identified for sampling purposes.

Prior to determining the total number of blocks to sample from the Urbanized Area, we adopted a guideline of wanting on the average about eight year-around housing units per block for interviewing. Furthermore, assuming a 65-70 percent response rate, a sample of 1,500 households would yield 1,000 completed interviews or a sample requiring about 200 blocks. Processing the block summary tapes, we found about 210,000 year-around housing units located in Type I blocks (lower income and black) and approximately 350,000 housing units in Type II blocks (upper income white). In order to oversample residents in Type I blocks, overall sampling fractions of 1/260 for Type I households and 1/520 for Type II households were used. For example, in the case of Type I blocks a sample of one household from every 260 households was chosen. These overall sampling fractions were estimated to yield 800-850 year-around housing units (210,000/260) in Type I blocks and about 650-700 year-around housing units (350,000/520) in Type II blocks. Consequently, the Type I blocks were oversampled by a factor of two or twice their actual proportion of the Urbanized Area. This type of sample design required that results from the interviews must be weighted properly according to whether they came from a Type I or Type II block prior to any analysis using combined data from the two types of blocks.

Another important stratification variable within each of the two block types was block size in terms of the number of year-around housing units. It was important that the sample selected be representative of the population density within the Urbanized Area. The next sampling decision was how to sample individual blocks. Blocks were selected within each size group in such a fashion that the overall sampling fraction for housing units would be 1/260 and 1/520 for Type I and Type II,

respectively. Consider f_I as the overall sampling fraction for housing units in Type I blocks, then

$$f_I = f_1 \times f_2$$

where

f_1 = fraction of blocks sampled
f_2 = fraction of housing units sampled.

This procedure can be viewed in Tables A-2 and A-3 for the two block types.

Table A-2. Number of blocks, year-around housing units, and sampling fractions by size of block - Type I (low-income and black)

Block Size[1]	Number of Blocks	Number of Housing Units	Fraction of Housing Units Sampled (f_2)	Fraction of Blocks Sampled (f_1)
<10	828	3,297	1	1/260
10 - 19	601	8,716	1/2	1/130
20 - 39	1,185	34,627	1/4	1/65
40 - 79	1,541	84,630	1/7	1/37.1
80 - 159	422	44,648	1/12	1/21.7
160+	124	31,218	1/4 x 1/8	1/8.1
Total	4,701	207,136		

[1] Year-around housing units.

Table A-3. Number of blocks, year-around housing units, and sampling fractions by size of block - Type II (upper income white)

Block Size[1]	Number of Blocks	Number of Housing Units	Fraction of Housing Units Sampled (f_2)	Fraction of Blocks Sampled (f_1)
<10	1,533	8,402	1	1/520
10 - 19	2,094	30,104	1/2	1/260
20 - 39	2,612	73,461	1/4	1/130
40 - 79	1,806	98,565	1/7	1/74.3
80 - 159	584	63,131	1/12	1/43.3
160+	261	78,397	1/4 x 1/8	1/16.2
Total	8,890	352,060		

[1] Year-around housing units.

The blocks on the summary tape were sorted into Type I and Type II blocks and within each type by size class and within size class by income within geographical area. This was the ordering of the tape prior to actual sample selection. Within each size class the blocks were sampled at the rates (f_1) shown in Tables A-2 and A-3. For example, in the first size class, less than 10 year-around housing units, Table A-2 shows that 1/260 of the blocks were drawn and for those sampled blocks each household was included in the sample. For each separate size class, a random number was chosen to start and a systematic sample was drawn yielding a total of 104 Type I and 84 Type II blocks.

The households in "zero" blocks mentioned earlier were sampled at the same rate as Type II, 1/520. Our sample was 13

"zero" blocks with 808 year-around housing units identified. Households in blocks for which the housing data were not available in time for release in the summary tape and Block Statistics publication were sampled at the 1/260 rate, or the same as Type I block households. A sample of 4 "special" blocks resulted.

The above procedures produced a sample of 205 blocks within the Baltimore Urbanized Area as follows:

104	Type I blocks
84	Type II blocks
17	"Zero" and "special" blocks
205	

The next phase of the sample design was that of sampling households within these sample blocks.

A.4 Household Sample

For interviewing we desired the final sample to be a list of individual households. To arrive at such a sample required the listing of households for each of the sample blocks. The actual listing operation is discussed in Appendix B, Field Procedures. The listing operation entails sending interviewers or other personnel into the sample blocks and recording each address located in the block. Large blocks, 160+ year-around housing units, were segmented into quarters for listing. For example, a block with several large apartment buildings was divided into four parts and one part chosen at random for complete listing of household units. This segmentation was reflected in Tables A-2 and A-3 in the sampling fraction, f_2, for large blocks.

To accomplish the listing, interviewers and professional staff of Westat identified the sample blocks on Census maps and explored the blocks recording addresses. This produced about 15,000 listing units in the 205 sample blocks. We were then ready to sample the individual listing units or households. Using the sampling fractions, f_2, shown earlier in Tables A-2 and A-3, a sample of individual households was drawn for interviewing. This resulted in a sample of approximately 1,600 households.

Just as the interviewing operation was commencing, we discovered that certain sampled blocks (24 of the 205) were outside the Urbanized Area according to maps being used. This led us to question the data on the census summary tape and we found that approximately 50,000 year-around housing units were on the tape that didn't appear in the published reports for the Urbanized Area. Checking with the U.S. Bureau of the Census, we found that prior to the 1970 Census a block-publishing area was planned that was likely to be somewhat larger than the expected Urbanized Area. The summary tape contained those blocks for the entire block-publishing area. Ultimately, in the case of Baltimore, the Urbanized Area was defined such that the tapes contained about 50,000 too many housing units.

The 24 sample blocks that were outside the Urbanized Area were removed from the sample and a supplementary sample of housing units was selected within the remaining 181 sample blocks. We wanted to replace the 200 sample housing units in the 24 blocks. Using the sample sampling fractions (f_2) as shown in Tables A-2 and A-3 a supplementary sample of 192 year-around housing units was drawn. This resulted in a sample design with somewhat more clustering than originally planned but with a fully workable design.

The final sample contained 1,593 households as follows:

813	units in Type I blocks
487	units in Type II blocks
114	units in Type I supplemental sample
78	units in Type II supplemental sample
101	units in "zero" and "special" blocks
1,593	total year-around housing units

During the actual interviewing operations 22 additional households were discovered that had not been previously listed; hence, the final sample size was 1,615 households.

A.5 Respondent Sample

Once a household was identified as being in the sample, procedures were used that provided a random selection of respondent within the household. The interviewer completed a screening form listing each member of the household 18 years of age and over in a specified order by age. Each household was assigned a specific pattern of random digits for respondent selection that identified the specific individual for interviewing. In almost all cases only one respondent per household was selected. However, in households with more than four persons 18 years old and over, more than one respondent could be selected with known probability. Interview attempts, using up to three callbacks, at each of the 1,615 households resulted in 1,000 completed interviews.

APPENDIX B

FIELD PROCEDURES

B.1 Listing

Using the procedures described in Appendix A, Sample Design, 205 Census blocks were drawn for listing. The sampling rates were set such that the blocks drawn would contain approximately 15,000 households or dwelling units and that an average of eight households would be selected for interview per block.

A decision was made to prelist the selected blocks rather than to use a colisting procedure in which the interviewer simultaneously lists dwelling units, randomly selects households for interview, and conducts interviews all in one operation. Prelisting was preferred because it would provide the opportunity to validate the listings before interviewing was begun and to maintain tight control over sampling of households for interview.

B.1.1 Listing Procedures and Materials

Maps of all blocks to be listed were prepared from 1970 Census Bureau maps. Large drawings of each sampled block were made with the boundaries of the area to be listed outlined in red. Instructions were prepared which specified which addresses were to be listed. Addresses to be listed included: all year-around housing units, all trailers in trailer parks and other trailers which had a permanent foundation or permanent utility tie-ins, and all residential hotels. Those addresses which were to be excluded were: any seasonal housing, transient hotels, military bases, institutions (hospitals, prisons, etc.), and group quarters

(dormitories, boarding houses, etc.). The listers were instructed to list all housing units on a block which met the requirements as stated above.

For blocks with more than 160 housing units, a subsegmenting procedure was used. The lister cruised the entire block once, counting the total number of housing units. He then subdivided the area into equal quarters based on the number of housing units. Then, one of the quarters was randomly selected for listing. The subsegmenting procedure was used in order to reduce the amount of time required for listing of large blocks.

The listing of blocks of less than 160 units was carried out by an interviewing service in Baltimore. Blocks which required subsegmenting were listed by a member of Westat's home office staff.

B.1.2 Listing Results and Validation

In a number of cases, there were discrepancies between the results of our listings as compared to the 1970 Census figures of the number of housing units for the sampled blocks. Whenever differences of more than 10 percent occurred between our listings and Census figures several methods were used to verify the accuracy of our listings. First, of course, all maps and figures were checked for accuracy. We then consulted the Baltimore Geographic Base File, an address coding guide showing the range of street addresses on each Census block face. However, this method of validation was abandoned when it was found that the file contained many errors.

We then referred to the Criss Cross Directory for Baltimore which lists addresses and telephone numbers by street. Since cross streets are not always listed in the directory, it was not possible in all cases to determine which addresses marked the boundaries of a block face. This method of validation was also found to be unsatisfactory since residences without telephones are not listed in the Criss Cross Directory.

The final validation technique used was a relisting of the blocks which showed the largest discrepancies, by an independent interviewing service. In the 16 blocks that were relisted no significant differences were found between the original listings and the relistings.

Overall, there was a seven percent difference between the 1970 Census figures (15,786 units) and our listings (14,193 units). In 108 blocks out of the total of 205 blocks listed, fewer listing units were found than indicated by 1970 Census data. In 62 blocks, more units were listed. These latter blocks included 13 blocks for which the Census Bureau reported no housing units. In the 13 "zero" blocks in the sample, 808 units were found. Since the validation procedures used did not reveal any gross inaccuracies in our listings, we can only hypothesize that the differences were due to other factors beyond our control such as changes which have occurred during the two years that have elapsed since the 1970 Census, Census Bureau coding errors (i.e., errors in assigning housing units to blocks), or actual errors in taking the Census.

As a further check against the possibility of underlisting, during the interviewing phase of the study interviewers were instructed to check for additional housing units at all apparent single-family dwellings. If a housing unit was "discovered," interviewers conducted an interview with an eligible

member of the discovered household. A total of 22 discovered households were found using this procedure.

B.2 Interviewing

The questionnaires were administered to 1,000 respondents in the Baltimore Urbanized Area which included the City of Baltimore, and urban portions of Baltimore County and Anne Arundel County.* The personal interviews ranged in length from less than a half an hour to as much as two hours, averaging, as expected from pilot study results, about 50 minutes. The wide range in the length of the interview was due to variations in the number of information needs identified per respondent.

B.2.1 Interviewing Staff

The interviewing phase of this project was scheduled for a six-week period beginning in July, 1972. Lottier-Nixon, a locally based interviewing service, conducted more than half of the interviews. This interviewing service had conducted several studies for Westat in the past and was particularly experienced at inner-city interviewing. Since our sampling plan included oversampling in the low-income and predominantly black areas of the city, experience in inner-city interviewing was a major factor in selecting an interviewing service. The interviewing staff consisted of 37 experienced interviewers, approximately half of whom were black and 25 of whom were female. Using 1970 Census block data, interviewers were assigned segments in such

* Although some areas of Howard County are in the Baltimore Urbanized Area, no blocks from this county fell into our sample.

a way as to match interviewers as nearly as possible with respondents on race. For example, black interviewers were assigned only those blocks where the Census data indicated that 50 percent or more of the population was black. Interviewers were instructed to notify their supervisors if they encountered households of the opposite race in their areas so that an interviewer of the same race as the respondent could be substituted. However, this situation arose infrequently since most of the sampled blocks were characterized by either very high or very low percentages of blacks.

Interviewers were paid by the hour and were also given bonuses for completed interviews. The amount of the bonus increased with the number of interviews satisfactorily completed by an interviewer. The bonus system was designed to provide interviewers with an incentive to stay with the study so that additional interviewers would not have to be trained to complete the study. Despite the bonus system, the interviewing service had some difficulty retaining interviewers. The difficulty appeared to stem from the screening procedure (more fully described below) which often resulted in many callbacks to find the selected respondent at home.

In addition to attrition among the interviewing staff, the interviewing service also had a shortage of white interviewers and therefore our number of completed interviews in the white areas was disproportionately small. When it became apparent that we were not going to realize the desired number of interviews, we contacted another supervisor who recruited a staff of 10 white interviewers from Westat's files and from Census Bureau lists of interviewers in the Baltimore area. Working with the records from the first interviewing service, this new staff attempted to call on all those addresses in the predominantly white areas which had not yet been visited, and all those where the initial interviewing

staff had unsuccessful initial calls (refusals, not at homes, etc.). After approximately four weeks in the field, this second staff of interviewers was able to complete a proportionately higher number of interviews overall than the first service.

B.2.2 Training and Interviewing Procedures

Before any of the field work began, two training sessions were held, each lasting four hours. Each session was attended by half of the staff of the first interviewing service. Similar training procedures were used for the second staff of interviewers.

The first part of the session consisted of an introduction describing the purposes of the study and an explanation of procedures for screening, random respondent selection, and callbacks. The screening procedure involved the listing of all members of the household 18 years of age or older on the screening and call record form, and the random selection of a respondent. In most cases, only one respondent per household would be selected. However, in households with more than four persons 18 years old or older, there was a chance that more than one respondent would be selected for interview. Since each household had been assigned a specific pattern of random digits for respondent selection, we were able to verify to some extent that the screening procedures were conducted properly. After the initial attempt, up to three callbacks were required in order to complete the screening and interviewing at each household. As mentioned earlier, the random respondent selection and callback procedures resulted in some frustration among the interviewing staff since no substitutions were allowed if the randomly selected respondent was not found at home.

The second half of the session consisted of a detailed question-by-question review of the questionnaire itself, followed by a mock interview, in which all of the interviewers took part. In previous studies conducted by Westat, the mock interview had been found to be a successful training technique. Prior to the training session, the person responsible for conducting the training makes up answers to an interview. Answers are carefully selected to illustrate skip patterns, probing techniques required, and other procedures which should be followed by the interviewer in conducting the interview. During the group training session, the trainer serves as respondent for the mock interview while interviewers alternate administering portions of the questionnaire. Using this procedure, important points which were missed or not understood by interviewers during the question-by-question review can be re-emphasized and clarified before the entire group.

After the training session, interviewers were given two additional hours to study the training materials which included a general and specific manual of interviewing instructions. Another two hours were allotted for conducting a practice interview which was reviewed and approved by the supervisors of the interviewing service before interviewers began the actual field work. Including the training session, study time, and time spent practice interviewing, a total of eight hours was spent by each interviewer in preparation for the field work.

Upon approval of practice interviews by the supervisors, interviewers were assigned several selected areas based on proximity to their own homes and racial make-up of the areas. Two supervisors worked full-time during the field period supervising the interviewing staff. The supervisors were in contact with their staff frequently by telephone and interviewers followed a weekly check-in schedule to receive additional assignments and individual corrective instruction based on an edit of their work.

B.2.3 Validation

All interviews were edited for completeness and consistency by the supervisors of the interviewing service and by Westat staff. Throughout the period of field work, on-going telephone validation was conducted by the supervisors and by Westat. The purpose of the validation was two-fold. First, it was used to check on each interviewer's work (i.e., to determine whether he or she had actually conducted an interview in the household selected for validation and to ascertain whether the screening procedure had been followed properly). Secondly, validation was used to correct interviewing errors since, as a result of the edit, some interviews were found to be incomplete or to have improperly recorded responses. Overall, 20 percent of the completed questionnaires were validated. Each interviewer's work was, of course, represented in the validation sample.

Following this appendix, copies of the Screening Form and Questionnaire have been reproduced.

#0247

WESTAT RESEARCH, Inc.
11600 Rebel Street
Rockville, Maryland 20852

SCREENING FORM

BALTIMORE INFORMATION STUDY

INTERVIEWER'S NAME _____

SEGMENT NO. _____ TRACT NO. _____

BLOCK NO. _____ HOUSEHOLD NO. _____

RESPONDENT'S ADDRESS _____

CITY OR COUNTY _____ _____

THIS SCREENING FORM SHOULD BE TAKEN WITH A RESPONSIBLE ADULT AGE 18 OR OVER WHO IS A MEMBER OF THIS HOUSEHOLD.

INTRODUCTION: Hello, I'm _____ from Westat Research in Washington, D. C. We are doing a study for Regional Planning Council. We are talking to people in all areas of Baltimore. *(Explain study)*

May I speak to an adult member of this household?

	DATE	TIME	RESULT OF CALL (Specify)
1st CALL			
2nd CALL			
3rd CALL			
4th CALL			

Result of Call Legend

I - Interview
A - Appointment made
NA - No responsible adult at home
NH - No one at home
V - Vacant
R - Refusal

In order to know which question to ask of whom, I need to know a little bit about the members of your household. Could you tell me:

1. How many members of this household are 18 years of age or older? _____

   Have you included any roomers or boarders who might be living here? Have you included yourself in the number you gave me?

   IF NO, CORRECT ABOVE

2. Now I wonder if you could tell me the first names and ages of the *(give number)* persons who are 18 years of age and older starting with the youngest.

RECORD FROM YOUNGEST TO OLDEST NAMES IN COLUMN A AND AGES IN COLUMN B OF SCREENING TABLE.

	COLUMN A Names of Persons 18 and older	COLUMN B Age	COLUMN C Selected Respondents
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

USE RANDOM RESPONDENT SHEET TO SELECT RESPONDENT AND PLACE A CHECK MARK IN COLUMN C BESIDE EACH SELECTED RESPONDENT.

BALTIMORE INFORMATION STUDY

INTERVIEWER'S [illegible] _____ DATE _____

SEGMENT NO. _____ TRACT NO. _____ TIME INTERVIEW BEGAN _____ AM PM

BLOCK NO. _____ HOUSEHOLD NO. _____ TIME INTERVIEW ENDED _____ AM PM

RESPONDENT'S ADDRESS _____

CITY OR COUNTY _____

LINE NUMBER FROM SCREENING FORM _____

WESTAT, INC.
Research Division
11600 Nebel Street
Rockville, Maryland 20852

INTRODUCTION

Hello, I'm _____ from Westat Research doing a study for Regional Planning Council. We are talking to people living in all areas of Baltimore. In this study we want to find out what kinds of questions come up in people's lives that they have trouble getting answers to. We are interested in finding out about questions that come up on any subject.

Only people like yourself can give the information we need. Everything you say will be kept strictly confidential; in fact, we are not asking for the last name of any person we interview. If I could have a few minutes of your time, I'd like to explain a little more about what we're doing.

SECTION I

1. I'd like you to think back over the past few days or weeks and tell me if you can think of an instance when you needed useful and reliable information about something and you found it difficult to get. Can you think of something like that?

/ ☐ NO—→*PROBES:* We're interested in questions you've had on any subject.

For example, has anything come up when you've needed some help *(PAUSE)* or you've needed to know what to do *(PAUSE)* or maybe you just needed some information.

Or, have you had trouble finding out where a particular person, place, or thing is located *(PAUSE)* or have you needed information about an organization, company, or agency?

IF NO, GO TO Q.2 ON PAGE 2

A. DESCRIPTION OF QUESTION OR PROBLEM: *(Get a thorough description using probes such as: What information did you need? What else did you need to know about this?)*

_____

_____

_____

_____

_____

PROBE: Can you think of anything else like that - an instance when you've found it difficult to get information to answer a question or solve a problem?

B. DESCRIPTION OF QUESTION OR PROBLEM: *(Get a thorough description using probes such as: What information did you need? What else did you need to know about this?)*

_____

_____

_____

_____

PROBE: Anything else?

C. DESCRIPTION OF QUESTION OR PROBLEM: *(Get a thorough description using probes such as: What information did you need? What else did you need to know about this?)*

_____

_____

_____

_____

INTERVIEWER: IF A TOPIC AREA WAS PREVIOUSLY MENTIONED BY THE RESPONDENT, INSERT WORDING IN ITALICS FOR Q.2-6.

NEIGHBORHOOD

2. Let's talk for a minute *(a little more)* about your neighborhood. Some other people we've talked to in Baltimore have complained about problems in their neighborhoods. Think about your own neighborhood - can you think of anything in this neighborhood that you personally or members of your family have had questions or concerns about recently *(that you haven't already mentioned)*?

☐ NO ⟶ *Go to Q.3*

Could you tell me about it? *(Get a thorough description of a SPECIFIC problem/question.)*

_____

_____

_____

_____

3. Today people need to make every dollar go a long way. Sometimes they have questions about what products to buy or complaints about things they've bought. Have you personally or members of your family had any questions or concerns like this recently *(that you haven't already mentioned)*?

☐ NO ——→ *Go to Q.4*

Could you tell me about it? *(Get a thorough description of a SPECIFIC problem/question.)*

HOUSING

4. Let's talk *(again)* about housing. Some other people we've talked to are looking for another place to live or are trying to improve their current housing. Have you personally or members of your family had any questions or concerns about housing recently *(that you haven't already mentioned)*?

☐ NO ——→ *Go to Q.5*

Could you tell me about it? *(Get a thorough description of a SPECIFIC problem/question.)*

EMPLOYMENT

5. Now let's talk *(again)* about jobs. Has anything come up recently where you have had questions concerning a job or employment for yourself or members of your family *(that you haven't already mentioned)*?

☐ NO ——→ *Go to next page*

Could you tell me about it? *(Get a thorough description of a SPECIFIC problem/question.)*

ADDITIONAL TOPICS

We've talked about neighborhood conditions, housing, employment, and getting the most for your money. These are just a few of the things people have questions about. I have a list of subjects that people in Baltimore have mentioned in talking about the kinds of questions that have recently come up in their lives. I'd like to know if you've had questions recently about any of these topics.

6. How about *(EACH TOPIC)*. Have you personally or have any members of your family had any questions or concerns about *(EACH TOPIC)* lately *(that you haven't already mentioned)*?

Education and schooling	☐ NO
Health.	☐ NO
Transportation.	☐ NO
Recreation and culture.	☐ NO
Financial matters or assistance	☐ NO
Discrimination.	☐ NO
Day care.	☐ NO
Family planning/birth control .	☐ NO
Legal problems.	☐ NO
Crime and safety.	☐ NO
Anything else?.	☐ NO

FILL IN A SECTION BELOW FOR ANY TOPIC RESPONDENT SAYS HE HAS HAD QUESTIONS ABOUT. MARK "NO" TO EACH TOPIC IN THE LIST THAT RESPONDENT HAD NO QUESTIONS ABOUT.

A. *Topic*: _____

What were these questions or concerns? *(PROBE for a SPECIFIC problem/question.)*

_____

_____

_____

_____

SECTION II

You've mentioned several questions that you've had recently - *(Name problems/questions mentioned by respondent in Q.1 - Q.6).*

1. A. If you had to pick one of these, which one would you say has been the most important to you; that is, the one that you have been concerned about most during the past few days or weeks?

   (Describe problem/question) _____

   B. And which one would you say has been the second most important question you've had in the past few days or weeks?

   (Describe problem/question) _____

I'd like to discuss one of these questions in a little more detail with you. Let's take *(problem/question mentioned as most important).*

2. How long has it been since this problem/question first came up?

   _____ # days or _____ # weeks or _____ # months or _____ # years

3. Have you tried to get information from anyone about this?

   ☐ YES ——→ *Go to Q.5 in the middle of page 7*
   ☐ NO ——→ *PROBE:* For instance, have you talked to anybody about it or have you done anything to get an answer to this question or solution to this problem?

      ☐ YES ——→ *Go to Q.5 in the middle of page 7*
      ☐ NO ——→ *Ask Q.4, top of page 7*

B. *Topic:* _____

What were these questions or concerns? *(PROBE for a SPECIFIC problem/question.)*

_____

_____

_____

_____

C. *Topic:* _____

What were these questions or concerns? *(PROBE for a SPECIFIC problem/question.)*

_____

_____

_____

_____

D. *Topic:* _____

What were these questions or concerns? *(PROBE for a SPECIFIC problem/question.)*

_____

_____

_____

_____

4. A. Do you think there is anyone who would have information about this?

☐ YES ——→ Who? *(Specify)* _____

_____

_____

How do you know that *(person/organization mentioned above)* might have this information?

_____

_____

_____

☐ NO ——→ *Go to page 12*

B. Is there any particular reason why you haven't tried to get this information yet?

☐ YES ——→ What reason? _____

_____

_____

☐ NO ——→ *Go to page 12*

5. Could you tell me how you've gone about it - that is, who have you contacted and what have you done? *(Record verbatim the respondent's description of what he did and who he spoke to.)*

_____

_____

_____

_____

_____

IF RESPONDENT MENTIONS PERSONS HE CONTACTED (INCLUDE PERSONS CONTACTED AT ORGANIZATIONS, FRIENDS, RELATIVES, CO-WORKERS, ETC.), ASK Q.6. OTHERS GO TO Q.7 ON PAGE 12.

6. You mentioned some contacts you made to get information about this problem/question. Altogether, how many people have you spoken to or contacted to get some information? _____

Now, I'd like to find out a little about each contact you made. Let's take the first person you contacted. *(Ask A-J in the table for each person contacted.)*

	A		B		C	D	E
	Is this person a male or female?		Is he/she someone you knew personally?		*If Yes to B:* How do you happen to know him/her? *(Specify friend, relative, co-worker, family doctor, etc.)*	What is his/her occupation? *(Specify also not working, housewife, student, retired)*	*If Person Works:* What kind of a place does he/she work in? *(Probe for name of organization and type of industry)*
	M	F	YES	NO			
1st							
2nd							
3rd							

F	G			H			I	J
What information or suggestions did he/she give you? *(Probe for specific information given or solutions recommended.)*	Was this information very helpful, helpful, or not so helpful?			How did you contact him/her - by phone (PH), in person (P), or by letter (L)? *(Check all that apply)*			How many times have you contacted him/her about this question/problem? *(Record number of times)*	How did you know to contact this person about your question/problem? *(Probe for how respondent heard or knew that this person might be able to help.)*
	VH	H	NH	PH	P	L		

6. *(Continue asking A-J for each person contacted.)*

A		B		C	D	E
Is this person a male or female?		Is he/she someone you knew personally?		*If Yes to B:* How do you happen to know him/her? *(Specify friend, relative, co-worker, family doctor, etc.)*	What is his/her occupation? *(Specify also not working, housewife, student, retired)*	*If Person Works:* What kind of a place does he/she work in? *(Probe for name of organization and type of industry)*
M	F	YES	NO			

F	G			H			I	J
What information or suggestions did he/she give you? *(Probe for specific information given or solutions recommended)*	Was this information very helpful, helpful, or not so helpful?			How did you contact him/her - by phone (PH), in person (P), or by letter (L)? *(Check all that apply)*			How many times have you contacted him/her about this question/problem? *(Record number of times)*	How did you know to contact this person about your question/problem? *(Probe for how respondent heard or knew that this person might be able to help)*
	VH	H	NH	PH	P	L		

ALL RESPONDENTS

Now I'd like to talk about some other ways you may have gotten some information about this question/problem.

7 TELEVISION	8 RADIO	9 NEWSPAPER
Have you seen anything on a television program concerning this kind of question/problem? ☐ NO ——→ *(GO TO 8)* ☐ YES	Have you heard anything on the radio about this kind of question/problem? ☐ NO ——→ *(GO TO 9)* ☐ YES	Have you read anything in a newspaper concerning this kind of question/problem? ☐ NO ——→ *(GO TO 10)* ☐ YES
What kind of program was that? What station?	What kind of program was that? What station?	What newspaper? What kind of article?
What was said about this kind of question/problem?	What was said about this kind of question/problem?	What was said about this kind of question/problem?
Was this information: Very helpful?. . . 1 Helpful? . . . . . 2 Not so helpful?. . 3	Was this information: Very helpful?. . . 1 Helpful? . . . . . 2 Not so helpful?. . 3	Was this information: Very helpful?. . . 1 Helpful? . . . . . 2 Not so helpful?. . 3

10 MAGAZINE	11 BOOKS
Have you seen anything in a magazine concerning this kind of question/problem? ☐ NO ——→ *(GO TO 11)* ☐ YES	Was there anything else you saw or read in a book or in a pamphlet about this kind of question/problem? ☐ NO ——→ *(GO TO 12)* ☐ YES
What magazine? What kind of article?	What book/pamphlet was it?
What was said about this kind of question/problem?	What was said in the book/pamphlet?
Was this information: Very helpful?. . . 1 Helpful? . . . . . 2 Not so helpful?. . 3	Was this information: Very helpful?. . . 1 Helpful? . . . . . 2 Not so helpful?. . 3

12. Did you use a library to get any information or materials concerning this question/problem?

☐ YES

A. Which library? Where is it located?

_____

_____

_____

ASK C

☐ NO

B. Is there any particular reason why you didn't go to a library to get information?

_____

_____

_____

GO TO NEXT PAGE

C. What kind of information or materials? *(Specify whether books, newspapers, magazines, or other.)*

_____

_____

_____

D. Did you find this information:

Very helpful? 1
Helpful?. 2
Not so helpful? 3

E. In getting this information, were you assisted by a librarian or other staff member?

No. . . . . *(GO TO NEXT PAGE)*. 1
Yes 2

F. Was this assistance:

Very helpful?. 1
Helpful? 2
Not so helpful?. 3

INTERVIEWER - REFER BACK TO Q. 6-12 AND CHECK ONE:

☐ RESPONDENT USED NO SOURCES OF INFORMATION. GO TO Q.14.

☐ RESPONDENT GOT INFORMATION FROM ONLY ONE SOURCE (E.G., FROM ONE PERSON ONLY OR FROM A MAGAZINE ONLY). GO TO Q.14.

☐ RESPONDENT GOT INFORMATION FROM TWO OR MORE SOURCES (E.G., FROM TWO PERSONS OR FROM A PERSON AND A TV PROGRAM). ENUMERATE EACH SOURCE RESPONDENT USED IN LEAD-IN AND ASK Q.13.

LEAD-IN:

We've talked about various ways you've tried to get information -

- *each person contacted from Q.6*
- *television from Q.7*
- *radio from Q.8*
- *newspaper from Q.9*
- *magazine from Q.10*
- *books/pamphlets from Q.11*
- *library materials and/or library staff from Q.12*

13. Which one of these things you've tried has given you the best information - that is, which one has been most helpful to you in getting an answer to this question or a solution to this problem? *(Specify the source of information, i.e., the particular person spoken to or the specific newspaper article and so on.)*

_____

14. In your opinion do you feel that you have gotten a satisfactory answer to your question or solution to your problem at the present time?

Yes, definitely . . . . *(GO TO SECTION III, page 16)*	1
Yes, sort of.	2
No, still working on it	3
No.	4

15. What else do you plan to do to get a satisfactory answer to your question or solution to your problem? (*PROBE:* Anything else?)

_____

_____

_____

SECTION III

Now I would like to ask you a few questions about your day-to-day contacts with other people:

1. Please think for a moment of the people you've seen and talked to in the past week. How many people have you had conversations with in the past week who are:

   A. Relatives and in-laws not living in your household?. . . . ___

   B. Your present neighbors?. . . . . ___

   C. Friends or personal acquaintances? . . . . . ___

   D. People you work with? (*PROBE* - only the ones you had conversations with last week.) . . . . . ___

   E. People who are not friends, relatives, neighbors, or co-workers - just other people you had conversations with?. . . . . ___

2. Compared with other people that you are friends with, would you say that you are more or less likely than most of them to be asked for information or advice about:

   A. Things that go on in the neighborhood?

   More . . 1
   Same . . 2
   Less . . 3

   B. Local politics in Baltimore?

   More . . 1
   Same . . 2
   Less . . 3

C. Where to go to buy things?

More . . 1
Same . . 2
Less . . 3

D. Financial matters such as getting credit, filing taxes, or questions about insurance, or investments?

More . . 1
Same . . 2
Less . . 3

E. Health problems such as what to do when people are sick or where to get the proper care?

More . . 1
Same . . 2
Less . . 3

F. Making home repairs?

More . . 1
Same . . 2
Less . . 3

G. Bringing up children?

More . . 1
Same . . 2
Less . . 3

3. Are you a member of any organizations, clubs, or other groups? These might include church groups, unions, professional associations, school organizations, neighborhood groups, and so on.

☐ NO ——→ *Go to SECTION IV on page 18*
☐ YES ——→ Could you please give me the names of these groups? *(List names below)*

_____

_____

_____

_____

_____

_____

SECTION IV

Next I'd like to ask you some questions about other ways people sometimes get information such as by going to libraries, reading magazines and newspapers, and so on.

1. A. When was the last time you went to a library or contacted a library?

Less than a year ago. . . . . *(GO TO Q.2)*. 1
A year or more ago. 2

B. *IF A YEAR OR MORE AGO:* Is there any particular reason why you haven't used a library since then?

_____

_____

_____

GO TO Q.4 ON PAGE 19

2. A. Could you tell me the names of the libraries you've used in the past year and where they are located? *(Record in Col. A of table below.)*

B. *For each library*: About how many times have you been to *(each library)* in the past year? *(Record in Col. B of table below.)*

C. *For each library*: What means of transportation do you usually use to get to *(each library)*? *(Specify private automobile, public transportation, taxi, walk, etc. Record in Col. C of table below.)*

D. *For each library*: Did you ever contact *(each library)* by telephone in the past year? *IF YES*: About how many times? *(Record in Col. D of table below.)*

	A Name Libraries and Location	B Times Visited	C Transportation	D Times Phoned
1				
2				
3				
4				
5				
6				

3. What do you usually go to or contact a library for? *(Check all that apply)*

To take children. . . . . ☐
To get materials for leisure use. . . . . ☐
To get information. . . . . ☐
To use as a place of study or work. . . . . ☐
Other (Specify) _____ ☐

_____

4. Are there any magazines that you read regularly (that is, spend 20 minutes or more with most issues)?

☐ NO ——→ *Go to Q.5*
☐ YES ——→ Which ones? *(List names below)*

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

5. Are there any newspapers that you read regularly (that is, spend 10 minutes or more with most issues)?

☐ NO ——→ *Go to Q.6*
☐ YES ——→ Which ones? *(PROBE also for neighborhood or community newspapers)*

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

6. A. Suppose you had to get some information about your income tax or about some personal matter or something like that and the only time you could call to get the information you needed was between 8:30 in the morning and 4:30 in the afternoon on weekdays. Would it be difficult for you to use a telephone to call during these hours or weekdays?

Yes 1
No . . . *(GO TO C)* . 2

B. *IF DIFFICULT*: Why would it be difficult?

_____
_____
_____

C. When would be the most convenient time for you to make such a phone call? *(PROBE for times and days of the week)*

_____
_____

7. Do you have a telephone in working order here at home?

Yes . . . 1
No . . . 2

8. A. Do you have any television sets in working order?

YES. How many? _____. 1
NO . . . . . *(GO TO Q.9)*. 2

B. *IF YES*: Is any set equipped to receive UHF broadcasts, that is, channels 14 to 83?

Yes . . 1
No . . . 2

9. Do you have any radios? *(Include car radios)*

YES. How many? _____. . . 1
NO 2

10. A. Do you or members of your family own any cars?

YES. How many? _____. . . 1
NO 2

B. What is your major means of transportation?

_____

SECTION V

We need to get some background information about all the people we're interviewing. I'd like to ask you a few questions about yourself and your family.

1. A. How many members of your family are living here including yourself? *(Include only persons related to respondent.)*

_____ *(If only one member, go to Q.2 on page 24)*

B. Are there any children under 18 in your family who are living here with you? *(Include respondent's children and children related to respondent.)*

YES. How many? _____. . . 1
NO 2

C. Are there any persons 65 or older in your family living here with you? *(Exclude respondent)*

YES. How many? _____. . . 1
No 2

D. Who is the head of this family?

Respondent. . . . . *(GO TO Q.2 ON PAGE 24).* 1
Respondent's spouse 2
Respondent's mother or father 3
Respondent's brother or sister. 4
Other related to respondent *(Specify)* . . . 5

_____

E. What is his/her occupation? *(PROBE for job title. If not working, retired, student, or housewife, specify and go to Q.2 on page 24.)*

_____

_____

F. *IF WORKING*: What kind of work does he/she do? *(PROBE for specific kind of work, for example: What are his/her most important duties?)*

_____

_____

G. *IF WORKING*: What kind of place does he/she work in? *(PROBE for type of industry.)*

_____

_____

2. A. What is your occupation? *(PROBE for job title. If not working, retired, student, or housewife, specify and go to Q.3.)*

_____

_____

B. *IF WORKING:* What kind of work do you do? *(PROBE for specific kind of work, for example: What are your most important duties?)*

_____

_____

C. *IF WORKING:* What kind of place do you work in? *(PROBE for type of industry.)*

_____

_____

3. Are you married, widowed, divorced, separated or have you never been married?

Married. 1
Widowed. 2
Divorced 3
Separated. 4
Never been married . . 5

4. What was the highest grade in school you completed? *(Circle "12" for a GED or high school equivalency degree.)*

Elementary: 1 2 3 4 5 6 7 8
High School: 9 10 11 12
College: 13 14 15 16
Post Graduate: 17+

5. A. Are your living quarters owned or rented?

Owned (or being bought by family) 1
Rented. 2
Other *(Specify)* _____ 3

_____

B. *CHECK BY OBSERVATION (ASK IF NECESSARY):*

One-family house. 1
A building for two or more families 2

C. How long have you lived in this house (or apartment)?

_____ # months or _____ # years *(If less than 5 years, ask D. Others go to Q.6.)*

D. How many times have you moved in the last five years?

Times moved _____

6. What is your date of birth?

_____ month _____ day _____ year

7. I need to know approximately your annual family income before taxes. *(Show income card)* In which of these broad groups does your total family income from all sources fall. Just give me the letter on the right. Be sure to include your own income as well as income of members of your family who live with you.

If respondent gives wages based on a weekly, monthly, or other time period which is not annual and has no other source of family income record gross wages and time period below:

$_____ per _____
round to nearest dollar *time period*

A. Under $2,000. 1
B. $ 2,000 - $ 3,999 2
C. $ 4,000 - $ 5,999 3
D. $ 6,000 - $ 7,999 4
E. $ 8,000 - $ 9,999 5
F. $10,000 - $14,999 6
G. $15,000 - $19,999 7
H. $20,000 and over. 8

8. Is there a telephone number where you can be reached so that my supervisor can verify that I was here?

Telephone Number _____

INTERVIEWER COMPLETE AFTER INTERVIEW:

1. Sex
Male. 1
Female. 2

2. Race
White 1
Black 2
Other ethnic *(Specify)*. 3

_____

APPENDIX C

DATA PREPARATION AND TABULATION

C.1 Coding

C.1.1 Codebook Development

The task of coding was one of turning the questionnaire data into number codes so that they could be punched on standard 80-column IBM cards for machine reading and manipulation. Since more than half of the questionnaire items were open-ended or free-response questions, preparation of the codes for these items was a lengthy and time-consuming process. For each free-response question, a content analysis scheme had to be developed so that trained coders could analyze questionnaire responses and assign numerical codes to the data. Altogether, 26 content analysis schemes were developed.

There were several major considerations which guided the development of the content analysis schemes for free-response questions. First, we realized that the codes must emerge from the responses but at the same time had to bear a relation to the objectives and hypotheses of the study. For example, in coding the questions or problems identified by respondents, had we only been concerned with those questions which could be answered using print media, an entirely different set of code categories would have been developed. Instead, we were primarily interested in the frequency with which kinds of problems or questions were mentioned irrespective of the means to answer or solve them. Therefore, we developed a content analysis scheme based on subject or topic areas. We were also interested in how the respondent perceived

the answer or solution to his problem/question (i.e., in the form of information or in the form of active intervention or assistance by some outside party). A second content analysis scheme was developed for coding this aspect of the questions or problems mentioned by respondents. Had we been interested at this point in an information expert's perception of the answer or solution rather than the respondent's perception, different code categories and procedures would have been developed.

A second consideration in developing the content analysis schemes was the specificity of the code categories. For example, in developing the codes for the questions/problems, we found that certain specific questions such as "how to get loans" were frequently mentioned by respondents. Rather than simply assign one code to all financial questions, we decided to develop a highly specific classification system which would allow for separate codes for frequently mentioned questions or problems. However, we knew that such a content analysis scheme would be too lengthy and complex for use in many parts of the final tabulation and analysis. Therefore, we used a collapsing coding system in which specific codes were grouped or clustered into a smaller number of categories which were more inclusive and less specific. We would then have the option of either tabulating to the level of specific questions (e.g., "how to get loans") or to the more inclusive level of topic areas (e.g., "financial"). The final result was a coding scheme with 109 specific codes clustered into 17 major topic areas such as education, health, employment, etc. A collapsing coding system was used for several other content analysis schemes when we were interested in specific responses as well as broader groupings of responses. For example, by assigning each public library branch a unique code, we could tabulate the number of times each branch library was mentioned as well as group branches within larger systems (i.e., Enoch Pratt, Baltimore County, etc.).

Another consideration in developing the codes was comparability of coding among the responses to different questions. For example, in order to make direct comparisons among sources (both personal contacts and media sources) used by respondents the same coding scheme was used for questions pertaining to the information received from these sources. Similarly, the occupations of heads of households, respondents, and personal contacts were coded using one content analysis scheme for comparison purposes.

The procedure used for developing the content analysis schemes was as follows. First, we drew a sample of 200 completed questionnaires (20 percent of the total). These questionnaires were referred to as the Content Analysis Development Subsample (CADS). Of these questionnaires, 150 were used to develop preliminary code categories and 50 were put aside as a test sample (CADS-T) for later use in testing the adequacy of the preliminary codes developed. The CADS questionnaires were then reproduced and the pages containing the free-response items were cut up and separated into batches by question. Two people, both thoroughly acquainted with the aims of the study, conjointly sorted, combined, and recombined the questionnaire responses to obtain sets of categories for each open-ended question in the questionnaire. In order to develop the content analysis scheme for classifying the questions or problems, approximately 600 responses were sorted in this manner since there was an average of four questions or problems per respondent. After a set of preliminary categories were developed for an open-ended question, the codebook developers used the 50 CADS-T questionnaires to test the adequacy of the preliminary coding scheme. Adjustments were made as needed and the content analysis scheme was finalized. This process was repeated for each open-ended item in the questionnaire. After the 26 content analysis schemes were finalized, a codebook of more than 100

pages was developed which specified the IBM card layouts and contained specific coding instructions and concrete examples. A copy of the codebook and card layouts has been provided to the U.S. Office of Education as part of the initial Draft Final Report.

Many of the procedures for codebook development were designed for us by Brenda Dervin of the School of Communications at the University of Washington (formerly of the Library School at Syracuse University). Because of her previous experience in developing content analysis schemes, she was asked to assist us in this important phase of the study. Without her excellent contributions, our task of creating the codes would have been extremely difficult.

C.1.2 Coding Procedures

Assignment of code numbers to responses was performed by four coders who were at the college or graduate student level. The four coders were trained and supervised by the two codebook developers. Because of the complexity of the coding task, it was decided to code the questionnaire section-by-section. Section I of the questionnaire was coded first followed by Sections III, IV, and V, and lastly Section II (see questionnaire at end of Appendix B). All coders participated in the coding of all sections of the questionnaire. Before coding was begun on any section, the codebook developers conducted a training session which consisted primarily of explanations of codes using examples drawn from the CADS questionnaires. Altogether, coders spent a total of 72 hours in training for the coding operation. On the average, each questionnaire took 40 minutes to code so that a total of more than 600 hours was spent in actual coding of the questionnaires.

In order to check on the accuracy of the coding of the open-ended responses, 10 percent of the questionnaires were randomly selected and coded by the codebook developers and subsequently coded independently by the coders. Thus, approximately every 10th questionnaire coded by the coders was used for checking the amount of agreement between the coder and the codebook developers. Coding was checked daily and percentages of agreement were computed for individual coders as well as cumulatively for the total coding staff. The results of the checking operation were fed back to the coders as a group daily. Every disagreement was discussed so that problems of interpretation and judgment which would otherwise have continued throughout the coding were corrected immediately.

In Table C-1 question-by-question results are given in the form of percentages of agreement, when agreement is defined as the assignment of the same code to a response by the coder and the codebook developers. In addition to percentages of agreement on exact codes, the percentage of agreement is also presented using a "relaxed" criterion for some questions. For example, considering the classification of questions or problems, assignment of a response to the same topic area would be counted as an agreement even though the coder and codebook developers disagreed on the exact code for that response. When the percentage of agreement has been presented in the table using a relaxed criterion, the definition used for an agreement has been explained in a footnote.

Overall, we were very pleased with the intercoder agreement. There were only six content analysis schemes where the intercoder agreement fell below 80 percent. For two of these (see CA A3 and CA G in Table C-1), a relaxed criterion of agreement brings the percentages of agreement above 80 percent. The variation in agreement is accounted for primarily by the

Table C-1. Intercoder agreement for open-ended questions in a sample of questionnaires[a]

Question Number[b]	Content Analysis Scheme[c] (CA)	Number of Coded Responses	Percentage of Agreement (exact code)	Percentage of Agreement (relaxed)
I,Q.1-6	Counting questions/problems (CA A1)	351	90%	
I,Q.1-6	Classifying problems/questions (CA A2)	394	85%	93%[d]
I,Q.1-6	First judgment (CA A3)	394	89%	
	Second judgment (CA A3)	394	89%	
	Third judgment (CA A3)	394	78%	84%[e]
II,Q.4A & II,Q.6C	Basis for personal knowledge of sources (CA B)	42	90%	
II,Q.4A, II,Q.6C, V,Q.1E & V,Q.2A	Occupation (CA C)	296	82%	
II,Q.4A & II,Q.6E	Organizational affiliation (CA D)	138	86%	
II,Q.4A & II,Q.6J	Reason for selecting source (CA E)	148	72%	
II,Q.6F, II,Q.7C, II,Q.8C, II,Q.9C, II,Q.10C, II,Q.11C & II,Q.12C	First judgment (CA V)	216	94%	
	Second judgment (CA V)	216	97%	
	Third judgment (CA V)	216	97%	
	Fourth judgment (CA V)	216	89%	
II,Q.9B	Type of newspaper article (CA L)	24	92%	

Table C-1. Intercoder agreement for open-ended questions in a sample of questionnaires[a] (Continued)

Question Number[b]	Content Analysis Scheme[c] (CA)	Number of Coded Responses	Percentage of Agreement (exact code)	Percentage of Agreement (relaxed)
II,Q.9B & IV,Q.5	Newspapers (CA M)	270	98%	
II,Q.7B	TV station (CA I)	24	79%	
II,Q.7B	TV program (CA H)	19	74%	
II,Q.10B & IV,Q.4	Magazines (CA D)	236	93%	
II,Q.12B & IV,Q.1B	Reason for not using the library (CA R)	139	77%	
II,Q.12A & IV,Q.2A	Libraries (CA Q)	82	94%	
II,Q.15	First judgment (CA W)	74	95%	
	Second judgment (CA W)	74	91%	
	Third judgment (CA W)	74	99%	
	Fourth judgment (CA W)	74	96%	
III,Q.3	Membership in organizations (CA S)	106	84%	
IV,Q.6B	Reasons why difficult to use the telephone (CA T)	18	83%	
IV,Q.6C	Times when convenient to telephone (CA U)	142	88%	
V,Q.1E & V,Q.2A	Occupational prestige (CA G)	148	72%	89%[f]

Table C-1. Intercoder agreement for open-ended questions in a sample of questionnaires[a] (Continued)

[a] The sample consisted of 105 questionnaires. Intercoder agreement has not been reported on some content analysis schemes because the number of coded responses was so low as to preclude tabulation of these items for analysis. These included II,Q.4B, Reason for not getting information (CA F); II,Q.8B, Radio station (CA K); II,Q.8B, Radio program (CA J); II,Q.10B, Type of magazine article (CA N); II,Q.11B, Type of book/pamphlet (CA P); and II,Q.12C, Kind of information or materials (CA P). The number of coded responses using these content analysis schemes was 5, 10, 9, 13, 9, and 2, respectively.

[b] The percentage of agreement has been computed for all uses of a content analysis scheme. Question numbers for each use are listed in this column.

[c] The letters in parentheses are designations used in the codebook for content analysis schemes. They are included here for reference.

[d] The relaxed criterion of agreement consisted of coding a response within the same broad topic area, i.e., education, health, etc.

[e] The relaxed criterion consisted of making the judgment dichotomous, i.e., some solution vs. no solution by collapsing codes 1, 2, and 3.

[f] Agreement within one point on the occupational prestige scale was the relaxed criterion.

differences among questions in terms of the precision with which the coding categories could be described and differentiated. For example, in the content analysis scheme for reasons for not using the library (CA R), the distinction between the use of two codes (06 and 07) was difficult to make. If these two codes had been originally created as one code, the percentage of agreement would have been above 80 percent. In analyzing and interpreting the tabulated results, it is important to keep in mind that not all questions can be relied upon to the same degree. We have tried to exercise proper caution in our analysis.

C.2 Editing and Keypunching

C.2.1 Manual Editing

All coding sheets were manually edited before keypunching. The consistency of skip patterns was checked by simply scanning certain columns on the coding sheets. For example, if a personal contact was coded as not working in the columns allotted for an occupation code, organizational affiliation was not applicable and the field for this code was checked to see if it was left blank. The coding sheets were also scanned for number of entries (i.e., if a total of eleven questions/problems was recorded, the editor checked to see that eleven problem fields were used). When an error was found, the editor, who had previously participated in the coding operation, referred to the original questionnaire in order to recode the columns that were in error.

C.2.2 Keypunching

Once the manual edit was completed, the coded responses to all the questions were punched onto standard 80-column IBM cards. In order to reduce keypunching error, the coders had coded directly onto coding sheets rather than in the margins of the questionnaire. Keypunching from the questionnaire is more efficient for precoded fixed-response questionnaires but results in many errors when questionnaires contain complex coding systems for open-ended questions. A complete verification of all keypunching was performed. Each questionnaire required nine IBM cards to record all the information; hence a total of 9,000 cards was used.

C.2.3 Computer Edit

Before any tabulations were made, a 100 percent computer edit of all cards was performed. The numbers and kinds of checks made were similar to those made in the manual edit but were much more extensive. Some of the kinds of checks made are described below.

Range checks were made on every field to identify non-allowable codes. For example, since no respondents were younger than 18 years of age, the columns for recording age were checked to see that no values of less than 18 were coded.

Where possible, consistency checks were made. The fields for coding respondent's and head of household's occupations were checked for consistency. Occupation was coded in two ways, once using an occupational prestige scale and secondly using the 1970 Census Bureau classification system. Comparable codes were used in both instances for respondents and heads of

households who were not working. If, for example, a respondent was assigned a code of 23 for housewife in the columns provided for occupational prestige, a code of 400 should have been used in the columns allotted for occupational classification. Whenever a match did not occur on the various not working codes, an error message was printed.

Another important consistency check was made on the coding of the most important question/problem. The cards used for coding questions/problems from Section I of the questionnaire were searched for the exact code used to designate the most important of these problems/questions in Section II of the questionnaire. If there was not a match on the identical three-digit code, an error message was printed.

Whenever there were skip patterns, logic checks were made. For example, if a respondent had indicated in IV,Q.1A that he or she had not used a library in the past year, the fields for coding the names of the libraries used had to be left blank. Whenever any fields were left blank to indicate that a question was not applicable, this was checked in the computer edit.

The coder who had performed the manual edit of the coding sheets before keypunching was responsible for tracking down all error messages from the computer edit by going back to the original questionnaires, recoding the columns in error, and having new corrected cards punched. The edit program was then rerun several times until no error messages were printed and the data base was considered clean for tabulations.

C.3 Tabulations

C.3.1 Response Rates and Weighting Procedures

Before discussing the summary tabulations, it is necessary to comment on the response rates and weighting procedures. Households were drawn into the sample based on two overall sampling fractions as follows:

Type I and "special" blocks - 1/260.

Type II and "zero" blocks - 1/520.

A sample design using differential sampling fractions requires that the individual respondents be assigned a weight to account for the difference in the probabilities of selection. In one case the households in Type I and "special" blocks were selected with a probability equal to twice the selection probability of the households in the other blocks. Consequently, each household in Type II and "zero" blocks needs to be weighted by a factor of 2 in order for the two groups of block types to be in the proper proportion.

Since the primary purpose of the tabulations and analyses was to investigate the information needs and information-seeking behavior of respondents, it was not necessary to project the sample to the total population in the Baltimore urbanized area. In other words, our estimates were percentages and averages based on totals for the sample. This allowed a weighting procedure that put the samples from the two groups into the proper proportions but did not project to population totals. An example will make this clearer. Assume that X respondents in the sample had a characteristic of interest. Now, if we wanted to estimate the

actual number of persons in the total population of the urbanized area, each of the X respondents would be assigned a weight of 260 or 520 depending on the type of block the respondent resided in. Furthermore, assume only two respondents (X = 2) had the characteristic and one was selected from each of the two block groups. One respondent would be representing 260 persons in the population while the other respondent is representing 520 persons. In the case where the analysis is only interested in an estimate of the percentage of persons having the characteristic, it is not necessary to weight by the actual sampling weight as long as the difference in the overall sampling weights is handled properly.

For our purposes of analysis, it sufficed to assign a sampling weight of 2 to each of the households in the Type II and "zero" blocks and a sampling weight of 1 to each of the households in the other block types. A further adjustment was made to these two class weights to account for nonresponse. Interviews were completed with 521 respondents residing in Type I and "special" blocks and 479 interviews from Type II and "zero" blocks. The initial sample included 927 households in Type I and "special" blocks; during the interviewing we discovered 10 year-around housing units that had not been listed and also found 34 vacancies. In the case of Type II and "zero" blocks we started with 666 housing units and we found 27 vacancies and 12 discovered households. Taking these factors into account, the response rates were as follows:

$$\text{Type I and "special" blocks} - \frac{521}{927 + 10 - 34} = 58\%$$

$$\text{Type II and "zero" blocks} - \frac{479}{666 + 12 - 27} = 74\%$$

Combined response rate - 69%

Due to the difference in the response rates between the two classes, it was decided to adjust the responses in order to dampen the possible effects due to the difference in response rate. These adjustment factors were 1/.58 and 1/.74 in view of the response rates shown above. Such a procedure is sometimes referred to as inputing for nonresponse.

Considering the sampling weight and the adjustment for nonresponse each respondent was assigned one of two overall weights as follows:

Type I and "special" blocks - $W_I = \frac{1}{.58} = 1.72$

Type II and "zero" blocks - $W_{II} = 2 \times \frac{1}{.74} = 2.70$

Estimates were constructed by multiplying the reported characteristic for each respondent by the appropriate weight and summing over all responses. Implications of the weighting procedures are evident in the figures shown in the marginal tabulations discussed in the next section. Applying the weights to the 1,000 respondents, we have the following:

Type I and "special" blocks	1.72 x 521 =	896
Type II and "zero" blocks	2.70 x 479 =	1,293
Total combined respondents		2,189

The 1,000 completed interviews are representing a sample of 2,189 persons. The tabulations are in terms of these weighted sample responses on the basis of 2,189 respondents.

C.3.2 Summary Tabulations

The first tabulations produced were a set of marginal tabulations for all questions in the questionnaire as a function of demographic variables. Responses to each question were tabulated against the following banners:

Total All Respondents

Race of Respondent

- White
- Nonwhite

Occupation of Respondent

- Professional/Manager
- Clerical/Sales
- Blue Collar
- Housewife/Unemployed
- Other/Don't Know/Not Applicable

Geographical Residence of Respondent

- Baltimore City
- Baltimore County Outside City
- Anne Arundel County

Median Income of Respondent's Census Tract

- Under $4,000
- $4,000 - $ 7,999
- $8,000 - $14,999
- Over $14,999

Sex of Respondent

- Male
- Female

Years of Education for Respondent

- 1 - 6
- 7 - 11
- 12
- 13 - 15
- 16+

Median Family Income

Under $4,000
$4,000 - $ 7,999
$8,000 - $14,999
Over $14,999

Age of Respondent

<25
26 - 64
65+

The summary tabulations were included as part of the initial Draft Report to the U.S. Office of Education. Numerous other cross-tabulations and marginal tabulations were produced for the analyses presented in the report.