THE RELATIONSHIP BETWEEN WORK ROLES AND INFORMATION SEEKING

BEHAVIORS AMONG SELECTED PROTESTANT MINISTERS

IN TARRANT COUNTY, TEXAS

DISSERTATION

Presented to the Graduate Council of the

University of North Texas in Partial

Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Robert L. Phillips, B.A., M.L.S., M.Div., Th.M.

Denton, Texas

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Is there a relationship between work role and information seeking behavior? Three behaviors were examined: choice of information channel, choice of method for information retrieval, and choice of method for storing retrieved information. The Protestant clergy was selected as a profession with clearly identified work roles, including preacher and administrator. Questionnaires were mailed to 150 randomly selected ministers in Tarrant County, Texas. Sixty-four responded. Additionally, fifteen ministers selected at random were interviewed for additional data. The data collected through the questionnaires were analyzed using nonparametric statistical techniques.

The research showed relationships between information seeking behaviors and both choice of information channel and choice of method for retrieving information. The research did not show a relationship between work role and choice of method for storing information.

When choosing an information channel, the minister as preacher preferred a relatively few formal information

channels, especially a personal book collection, a personal pamphlet file, and books specifically purchased for the sermon. In the administrator role, the minister was more likely to use a wide variety of informal information channels and only a few formal channels. These informal channels included another minister, a member of the congregation, or a staff colleague. A preferred formal channel for administration was printed information received from a denominational office.

When choosing a method for retrieving information, the minister as administrator preferred those methods which provided direct, immediate access to the information channel, especially interpersonal contact or a telephone conversation. The minister as preacher preferred individualistic or impersonal means for accessing information such as reading a book.

In addition to work role, the study also found a relationship between information seeking behaviors and years of experience, educational background, size of congregation served, denominational affiliation, and dollars spent to add materials to one's personal library. It could not show a relationship between age and the choice of information channels.

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CHAPTER I

INTRODUCTION

Different groups of persons obtain, use, and store information in different ways. Attempting to understand these processes has led to numerous studies, many of which seek only to describe a specific system's clientele and how they use that system (Ford 1977, 6). Fewer studies have attempted to build models of information that can contribute to a larger theory (Ford 1977, 6; Hewins 1990, 145-6). Results of these studies have led to some general conclusions about how users function within a group (Hewins 1990, 148), for example, as members of project teams (Ford 1977, 18).

Reviewers have begun to call for a renewed emphasis on the user as an individual rather than as a member of a group (Dervin & Nilan 1986, 16; Hewins 1990, 165-5). They suggest that information needs, which can vary, determine the channel a user chooses. Therefore research about information use also must include research on the need, or "critical incident," that gives rise to an information query. Several new variables have emerged because of this emphasis on the individual. Besides the usual demographic information and group characteristics, researchers have begun to study how the user expects to use the information,

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what prompted the user to seek information, how much the user knew when beginning the search, and how the user evaluates information received (Hewins, 1990, 158, summarizing Saracevic et al, 1988).

One variable not often studied is one's role when searching for information. Studies that focus on a group assume that those in the group function in a single role, usually work related. Information systems designed for individuals must consider the multiple roles that some persons perform. Otherwise the systems will have limited use; this may lead to dissatisfaction with the system.[1] Might not an individual's information seeking behavior vary from one work related role to another?

The Christian ministry forms one profession that requires its members to function regularly in different roles. One researcher into clergy roles has designated these as preacher, pastor, teacher, priest, administrator, and organizer (Blizzard 1985, 83). Like other professionals, ministers must assume individual responsibility for their work, although they do form networks with other clergy and may frequently lead a staff of paid or volunteer colleagues in their congregation. Little studied in recent years in terms of their information

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[1]Studies of public library users imply different roles when they research the differences between work related information needs and needs related to leisure activities.

needs, they appear to be a fruitful group to examine to find variations in information seeking behavior that may occur as the same person functions in different roles.

This study focuses on the information seeking behavior of selected ministers in Tarrant County, Texas, as they function in each of two roles: preacher and administrator. In addition to gathering information about this specific class of users, it also seeks to contribute to the general understanding of the impact one's role has on information seeking behavior and the problems associated with studying that impact.

Hypotheses

Earlier preliminary research into the ways ministers use information suggested that ministers use, gather, and store information differently when preparing for sermons than they do when carrying out other responsibilities related to their position as minister to a local congregation.[2] Other factors also may be associated with variation in information seeking behavior. Three hypotheses guide this study. The primary hypotheses are:

H_1: Differences exist between the information seeking behavior exhibited in the minister's role as

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[2]Two brief research reports by the author, cited in the bibliography and available from the author, lead to this assumption. Further evidence is discussed in Chapter II.

preacher and the role as administrator in the
choice of a type of information channel;

H_2: Differences exist between the information seeking
behavior exhibited in the minister's role as
preacher and the role as administrator in the
choice of method for information retrieval;

H_3: Differences exist between the information seeking
behavior exhibited in the minister's role as
preacher and the role as administrator in choice
of method used for storing information gathered.

The study also examines the following analytic
variables to determine if they qualify the main hypotheses:
the minister's age; the minister's educational background,
the years of experience the minister has had in the
ministry, the size of the congregation the minister serves;
the minister's denominational affiliation, and the amount of
money the minister spends to add materials to his or her
personal library[3]

Definitions

Information

While "information" is an ambiguous term, this study

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[3]Two other variables, theological perspective and
administrative style, might also influence information
seeking behaviors. However, these themes are left for
future research. Porcella (1973) did find that theological
perspective made a difference in the age and provenance of
printed information sources used in sermon preparation.
Gender was also considered as a variable for this
study. However, the limited reponse by women ministers to
the survey precluded formal hypotheses testing of the
relationship between role, gender, and information seeking
behavior. For a discussion of the women's responses to the
survey, see Chapter IV, page 88.

follows the definition offered by Krikelas: "any stimulus that reduces uncertainty" (Krikelas 1983, 6). This distinguishes information from simply the use of literature and so allows for a variety of information sources, including memory, observation, or conversation. This definition also places the research emphasis more on the search for information than on the information itself (Krikelas 1983, 7). The stimuli may include facts, memories, observations, or ideas. The definition implies a source that generates a stimulus and a medium that carries the stimulus to the person. Still whatever creates the stimulus is not information until it reduces someone's uncertainty. Therefore the definition discerns between information, the information producer that creates the information (e.g., an author or speaker), and the information channel that stores the information until it reduces uncertainty.[4]

Information Needs

An "information need" reflects a condition or state of uncertainty that the person might reasonably expect to be

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[4]This discussion attempts to incorporate the three meanings that have been used when information is applied to user studies: a physical entity or phenomenon, a communication channel, and the factual data received (Wilson 1981, 3).

satisfied by finding the proper set of stimuli. Agreeing
with Chen and Hernon (1982), this definition assumes that
only the individual can determine when he or she has
acquired enough knowledge or received enough stimuli to
satisfy the information need (Chen and Hernon 1982, 5). An
information need leads to information seeking behavior.

Information Seeking Behavior

"Information seeking behavior" refers to those
activities that one undertakes to satisfy an information
need (Krikelas 1983, 6; Chen and Hernon 1982,6). Study of
these behaviors includes 1) the study of how one analyzes
his or her situation to determine an information need, 2)
how one chooses alternate information sources, and 3) the
actions one takes to obtain and preserve the information
that may satisfy the need. As Rouse and Rouse point out,
information seeking is not an end in itself but is part of a
process related to decision making, problem solving, or
resource allocation (Rouse and Rouse 1984, 130).

This study measures information seeking behavior by
quantifying preferences in choice of information channel,
choice of method for information retrieval, and methods for
storing information gathered for future use.

Information channel means the form in which the
information was delivered. The study measures the choice of
channel by asking if the subjects used formal channels such

as libraries or informal channels such as other ministers or staff colleagues.

The choice of method for information retrieval refers to how the subject gains access to the information channel. Possible choices include personal visits or telephone conversations.

The method of storing the information gathered refers to how the person saves the products of an information search for future use or re-use.

The Minister's Roles

For this study "minister's role" means those sets of activities related to his or her work for the church. Other research has identified at least six roles.[5] This study focuses on two: preaching and administration. Preaching is itself two activities: preparation and delivery of the sermon. This study focuses on the information behaviors associated with the preparation for the sermon. Normally sermon preparation involves studying a biblical text and choosing appropriate illustrations.

The administrative role involves planning, budgeting, promoting, and supervising other church employees or volunteers to carry out the work of the church. This

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[5]For a fuller discussion of the minister's roles, see page 27.

study will focus on information seeking behaviors that help one make or support decisions related to those activities.

Assumptions and Limitations

This study makes several assumptions. First, it assumes that the subjects are independent of each other and will not influence each other during the study. Second, while the subjects are unrelated, the samples are related since the study compares the subject's behavior within two different roles. This study focuses only on the differences in the behavior, not the degree of difference in the behavior. Third, the study assumes that there is not a strong underlying continuum related to the options available for information. These last two assumptions require nonparametric statistical techniques to analyze the data (Siegel and Castellan 1988, 34).

The study also assumes that the clergy in the survey, as members of a profession, share common roles and require similar types of information. The study assumes that all persons surveyed have weekly preaching responsibilities and some type of administrative responsibility.[6]

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[6]Some large churches have business administrators responsible for the day to day management of the organization. Even in these situations, the "senior minister" usually retains managerial responsibilities for goals, strategic planning, new programs, etc.

As ministers in Tarrant County, Texas, all have the same opportunities to choose among information channels, such as area libraries and religious bookstores, and share common transportation, telephone, and postal systems. The researcher would expect different results if the study were conducted outside an urban area.

Because this study makes no assumptions about the underlying distribution of the population, it cannot make strong inferences about causality, although it can help establish the relationships between the variables (Tabachnick 1983, 4).

Conclusion

Following the call of MacMullin and Taylor (1986, 109-110), this study contributes to the development of information systems designed to help the pastor function in more than one role. It also can suggest goals for bibliographic instruction that can be used during formal periods of training. This instruction can help the minister develop appropriate information seeking behaviors that will help him or her cope while working in an information rich society.

CHAPTER II

REVIEW OF RELATED RESEARCH

A vast amount of literature underpins this study.
Three areas of related research have contributed to the
formulation of this study. Reviews, critiques, and
summaries of the current trends in user studies provide the
general parameters for new research. Research reports of
studies made of how members of the legal, medical, and
teaching professions use information in their work provide a
model for similar research. Studies of how work roles
influence behavior, especially that of Protestant clergy,
open the possibility that information behaviors are also
influenced by role. Finally, the already existent small
body of literature linking ministers and information provide
a useful foundation for further study.

Current Trends in User Studies

This study follows two trends in user studies. The
first is a shift away from studies of the use people make of
libraries as information resources toward an emphasis on how
individuals find the information they need, whatever the
source. The second is an interest in professional groups
such as lawyers, doctors, and educators as information

users. Early research into user behavior studied engineers or other scientific researchers.[1]

The Shift in User Studies

Contrasts between the Two Approaches to User Studies

The two approaches in user studies show marked differences in their focus, their understanding of the nature of information, and their methodologies.

Contrast of the studies' foci. Recent review articles have identified and described well the continuing shift in user studies.[2] A key theme in the recent discussion of user studies is the sharp distinction drawn between "use studies" and "user studies." The former concentrates on uses individuals or groups make of information systems, such as library services and bibliographic tools; the latter concentrates on the needs of the users (or non-users) for information and the situation that gave rise to the need for

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[1]For reviews of research into the use of information by social scientists and by humanities scholars, see Morrison (1979) and Stone (1982) respectively.

[2]See Chen and Hernon 1982, 10-15; Dervin and Nilan 1986; Rhodes 1986; and Hewins 1990. Dervin and Nilan date the beginning of the shift in the early 1970s, with 1978 being the year research actually began to respond to the earlier writers' calls for new directions in user studies. Hewins bases her review on the analysis of Dervin and Nilan and finds that the movement continues much as described in 1986.

information[3] (Brittain 1981, 131; Dervin and Nilan 1986, 16; Cronin 1988, 132). Line observed that by examining information requests made of a system, studies overlooked the more nebulous needs and wants--what the person should have or would like to have to complete successfully his or her task. Not every need or want becomes a demand or is actually used (Line 1974, 87).

The two approaches also differ in their estimate of those external phenomena, usually ignored in older studies, that shape user behavior. These phenomena, according to Paisley (1968) and Allen (1969), are the individual, the individual's work group or immediate colleagues, the organization in which the user works, professional societies, invisible colleges, and formal information systems. Paisley also calls attention to the influence of the larger social, economic, and cultural systems that envelop the individual (Kunz and others 1977, 12-14).

Brittain observes two other differences between the two approaches. Traditional user studies focused on document delivery, but not on the uses made of the documents once received--a concern raised in more recent studies.[4]

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[3]This focus on the user's situation marks the beginning point for theories identified with Dervin and with Belkin discussed below.

[4]Cf. Case (1986), who studies the ways in which users organize the materials they have received from an information system.

Also older studies lacked standardized approaches that would have simplified comparing the results of studies of different user groups (Brittain 1981, 141-45).

Because of the approaches taken in older user studies, twenty-five years of research did not provide a usable body of information for the practicing librarian or information scientist (Brittain 1981, 145). This failure to account for users' needs in the design of information systems may help explain the non-use of information, especially among those groups in society who are "less willing and less able to take in information" (Dervin 1980, 79).[5]

Contrasting views of the Nature of Information. The shift in user studies also reflects a shift in an understanding in the nature of information itself. Dervin accuses early researchers of looking at information as a "brick," a valuable message that exists independently of the user. Instead, she argues that researchers should focus on information as a "construct" developed by the user to meet his or her individual need (Dervin 1980, 88-91). This need forms when individuals, within their unique environment, seek to make sense out of a situation when they lack enough

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[5]Clergy and other professionals do not necessarily fall into this group. Dervin's research has focused on non-users of public libraries.

information to make a decision and proceed with their life
or work (Dervin 1983, 171-72).

Belkin also describes information in terms of the
individual's needs or underlying problem. Because the
person may not articulate the problem clearly, Belkin uses
the phrase "anomalous state of knowledge" to characterize
the early stage in the search for information. He argues
that information retrieval systems should take this
uncertainty into account through inter-active processes
designed to help both the user and the system understand the
complex nature of the need. Again, information takes on a
subjective meaning (Belkin 1980, 136-141).

New Methodological Approaches to User Studies

A move away from empirical research. This new
emphasis upon the user opens new approaches to studying user
behavior. Because the emphasis in on behavior, the non-
experimental methods used in the social sciences have found
new advocates within the information science community.
Katzer (1987) calls for more use of communication research
methods since, he observes, even formal information systems
simply adapt oral communication activities: thesaurii and
authority lists aim to standardize communication between the
indexer and the user.

Reporting on a 1979 seminar convened to explore ways
in which information research could benefit from social

science research, Hounsell and Winn emphasize how that type
of research can help understand the individual in his or her
life setting rather than as part of a carefully controlled
experiment. The two have expanded this approach from the
study of individual behavior to include the social forces
that operate in the background but still impact individual
behavior (Hounsell and Winn 1981, 203-5).

Cronin observes that use studies need depend only on
data related to the use of a system (e.g., bibliometric
studies or citation analysis), without studying those who
actually use the information (Cronin 1988, 132). Cronin
also likens the interest in use studies to market research,
with the principal difference being the goal of the
research. Market studies benefit a commercial interest.
Use studies may potentially benefit the user or the group
studied. Use studies can either describe the information
use patterns in place or they can have as their goal to
prescribe changes based either on users' suggestions or on
perceived needs to enhance the information product (Cronin
1981, 37-38).

New variables for user studies. The new approach in
user studies also suggests new variables for research. When
investigating why users seek information, Ford suggests that
it is better to look at information seeking in terms of role
instead of the more usual demographic patterns. He
theorizes that different roles equate with different

purposes. This not only applies to issues such as immediacy versus patience, but also to the choice of information channel as related to the work at hand. Different roles may show variation in one's awareness of current resources. Ford concludes that information researchers "need to study information-seeking behavior in the text of people's temperaments, interests, attitudes and total life-situations" (Ford 1979, 38-44).

Conceding that questionnaires and interviews will continue to be the most used ways of obtaining information, Brittain suggests the following refinements:

1. reflect the user's priorities, not those of the researcher

2. ask only these questions that the respondent can be reasonably expected to answer

3. use longitudinal studies to measure trends

4. make rigorous use of statistical tests of significance and report only those results that are statistically significant

5. state the study's objective clearly and indicate ways in which the results can be applied (Brittain 1975, 436).

Kunz states that this new approach to user studies requires that one understand how individuals make decisions, what additional information they need to make the decision, and how they obtain that needed information (by guessing, by finding an authoritative source, by experimenting, by asking others, etc.) (Kunz 1977, 65).

Mick and others point out that though research has focused on many variables related to information use, not all of these variables can enter into the design of information systems. Mick and others call for a focus on four areas: describing the individual, assessing the individual's attitude toward information, assessing how the individual perceives management's attitudes toward information seeking behavior, and assessing attitudes toward specific attributes of information products and services (Mick and others 1980, 355).

Brittain suggests two other subjects for study: the use of both formal and informal information channels and the uses made of information received or discovered, especially how the person studies and evaluates information to satisfy an information need (Brittain 1981, 145-6).

MacMullin and Taylor call for research that will help system designers understand the type of information one needs and the dimensions of the user's problem that help the person judge the relevance of the information for his or her situation (MacMullin and Taylor 1984, 108-109). Dervin also calls for study of the user's situation that causes the search for information. If information seeking is rooted in the individual's situation, information seeking behavior should be predictable based on an analysis of the situation (Dervin 1980, 103-104).

At least one article demonstrates the new type of research into information seeking strategies. Donohew and others (1978) asked two questions. Do factors such as prior knowledge, personality, and moods influence a person's approach to finding information? Do some search strategies lead to success while others lead to failure? Their research identified four types of seekers and their strategies.

"Loners" usually had less prior knowledge of their subject and were not affected by mood. They had less interaction with others giving and receiving information. "Formal seekers" sought information before making decisions. They had more information available to them, were willing to purchase information, and took longer to reach decisions. They felt less depressed and showed less anxiety about their research. "Risky seekers" also had more prior knowledge, relied on a few good sources, used information discriminately, perceived that less information was available, and made decisions quickly. They reported feelings that would label them egotistical, aggressive, and depressed. "Informal seekers" reported the highest need for variety in their information sources, made high use of interpersonal communication, and did not rely on formal information sources.

Donohew and others concluded that prior knowledge was the key factor in determining the group into which one

was placed. The "risky seekers" and the "loners" were more clearly distinguished from the others. No strategies employed by one group proved more successful than others.

In summary, older approaches to user studies focused on individuals' background and environment to understand information seeking behavior. Newer approaches focus on an individual's situation that gave rise to the need for information as well as the background and environment to understand information seeking behavior. The newer studies have also broadened the understanding of information seeking behavior by including an emphasis on a variety of information systems. This places libraries and other institutional information providers on the same level as informal or personal information resources that the individual has developed or learned of to answer questions that have arisen because of particular information needs.

Extended to its logical conclusion, each situation for each individual could result in a different pattern of individual behavior. More likely, because of one's environment the answers that satisfy differ only in content, not in type. Also, individuals will repeat and re-enforce those behaviors that have proven most useful, including returning to specific information sources that the person has used before successfully. Studies of professional groups confirm this.

Recent Studies of Professionals as Information Users

The shift in the approach to user studies has begun to appear in recent dissertation level research into information seeking behavior. While many of these studies have focused on the medical professions, there are examples from education and the legal profession.[6]

Summers and others (1983) report their study of educators in British Columbia that analyzed information seeking behavior in terms of position, education, experience, dissemination, attitude toward information, and perceived isolation for information sources. They also examined information sources in terms of accessibility.

Sources that were closer at hand were used more frequently than other sources, with the most distant sources used the least. School and district administrators used more information sources more frequently than did persons in other positions; there was a significant difference based on amount of education. Years of experience had little effect on information uses. Those who distributed information more, used more information sources. Those who had a more positive attitude toward information used more information sources frequently; finding time was a significant barrier

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[6]This survey purposely excludes studies of public library patrons and members of the scientific/technical community.

to finding and using information sources (Summers and others 1983).

Al-Salem (1989) studied how faculty in adult education varied their information seeking patterns as they functioned in their roles as both teachers and researchers. He concluded that there were significant differences in information seeking patterns based on role. Colleagues' personal libraries, information learned at professional meetings, conversations with colleagues both on and off campus were all more important for the research role than for the teaching role. Audio-visual materials, electronic media, and sound recordings were preferred for the teaching role. Professionally oriented journals and textbooks were used more frequently in the teaching role while scholarly books and journals, theses, conference proceedings, and pre-prints were used more frequently in the research role (Al-Salem 1989, 133-35).

Another recent study focused on how lawyers search for information. In a study of 751 lawyers in Toronto, Canada, Vale (1988) shows that three factors influenced the choice of media (print versus online when the information is available in both formats) when searching for legal information: the seeker's task requirements, the institutional freedom a lawyer has to choose his or her information environment, and the seeker's sensitivity to

cost, expressed both as access charges and the cost of billed time used to search for the information.

Physicians' information needs and use have been frequently studied. Elayyan summarized many of these studies published through 1987. His analysis falls into three principal sections: use of library related sources, use of non-library related sources, and the factors that affect information use. Printed materials were the most frequently used information source (Elayyan 1988, 250-51, citing Stinson and Muller 1980, Vollan 1983, Murray 1981, Northup 1983, and Ojo 1980). Journals in the physicians' specific field were an important source for staying aware of new developments (Elayyan 1988, 251-2, citing Farmer 1979, Bowden 1971, Murray-Lyon 1977, and Strasser 1978). However, as important as journals were as an information source, the physicians showed little knowledge or use of indexes to the journal literature, in either print or online format (Elayyan 1988, 252, 254, citing Woodsworth and Neufeld 1972, Darson 1983, Marlowe 1983, Means 1979, Krieger 1974, Strasser 1978, and Renford 1982). Two 1970 studies gave conflicting reports about the importance of audio tapes to the physician, especially as they listen to them during travel times. They may be more beneficial to the specialist than to the general practitioner (Elayyan 1988, 252, citing Leveridge 1975 and Murray-Lyon 1977).

Physicians consulted these information sources in either their personal library or a medical library. One's personal library was the preferred source (Elayyan 1988, 253, citing Rosenberg 1967 and Northup 1983). Physicians preferred hospital libraries over libraries maintained by medical schools or medical societies (Elayyan 1988, 253, citing Kough 1973). In both instances, their convenient proximity to work accounted for these preferences. Studies in the 1970s and early 1980s documented the emerging value of clinical librarians (Elayyan 1988, 255, citing Scura and Davidoff 1981, Greenberg and others 1978, Claman 1978, and Friedlander 1973).

Non-library related information sources include personal contacts with colleagues, attending professional seminars and conferences, radio and television medical programs, pharmacists or pharmaceutical representatives, and formal course work. Several studies show the importance of personal contacts (Elayyan 1988, 256-7, citing Fineberg and others 1978, Farmer 1978, Weinberg and others 1981, and Kough 1973). Radio and television function best when used to make to physicians aware of new advances. Again, easy and convenient access to the information may account for this preference (Elayyan 1988, 259, citing Marshal and Alexander 1977).

Several researchers have identified age, experience, educational background, and convenience of access to

information sources as key factors in understanding physicians' information seeking behavior (Elayyan 1988, 269-72, citing Chen 1982, Ford 1980, Werner 1965, Herner 1966, and Allen 1969). When compared to medical researchers, general practitioners relied more on informal sources of information than they did on formal sources (Elayyan 1988, 261-62, citing Ford 1980, Friedlander 1979, Menzel 1966b, and Meyada 1969). Physicians' lack of knowledge of the use of medical libraries negatively affected their use of libraries (Elayyan 1988, 264, citing Woodsworth and Neufeld 1972).

Salasin and Cedar (1985), in a study overlooked by Elayyan, focused on the relationship between information sought, sources used, and characteristics of the respondents. They found statistically significant but weak relationships between the health professionals' roles, the number of topics for which he or she needed information, and the number of sources needed to find the information; the number of sources used and the work setting; the choice of sources and the work role. Overall they made three conclusions: the respondents seldom sought information outside their organization, those engaged in research used and valued research reports, and physicians relied more on colleagues for information than did other health professionals surveyed (Salasin and Cedar 1985).

Dee (1990) described how twelve rural doctors in
central Florida used hospital libraries, their personal book
and journal collections, and colleagues as information
sources. She concluded that the information needs of rural
physicians were similar. Despite their ease of access to a
hospital library, the importance of different sources of
information, the lack of time (the chief obstacle to
gathering information), and rural doctor's preference for
new modes of information retrieval, especially computers,
showed no differences. Most important to her study was her
conclusion that the presence of a medical library made no
impact on the information seeking behavior of the group.
They all relied on their personal collections, colleagues,
and medical meetings as preferred sources of information.
In sum, the above cited studies share a common interest in
the broad range of information sources. Only Al-Saleem
tests for differences in role.

The Minister's Roles

The Concept of Role

The word "role," borrowed from the theater, means
simply conduct related to one's position rather than to
one's self (Sarbin & Allen 1968, 488). Research into the
elements of roles examines the number of roles one performs,
what level of involvement one engages in while in the role,
and the amount of time spent in a role (Sarbin & Allen 1968,

491-497). Because a role is related to one's position, what others expect of a person in the role sets the limits on the rights one has and the duties one performs as the result of his or her position (Sarbin & Allen 1968, 497). The combined results of ability, experience, and training determine how well a person meets the expectation of the role, i.e., one's "role skills" (Sarbin & Allen 1968, 514).

Persons develop complex role phenomena as they juggle their different roles. These phenomena may display themselves either successively or simultaneously. Successive roles can cycle through one's lifetime or just through the day. Simultaneous roles can either merge or alternate between being active or latent (Sarbin & Allen 1968, 536-37).

Because persons must usually manage multiple roles, they develop mechanisms to coordinate their work in different roles. If they cannot perform all roles equally well, they must make choices. When making these choices the person considers three factors: how important the role is to the person, the person's estimate of the expectations of his or her "audience," and the person's assessment of the effect of the choice on his or her well-being ("estimate of reward and punishment") (Sarbin & Allen 1968, 538-39). Despite how well one manages his or her roles, emotional and cognitive pressures are by-products of the inevitable role conflicts. Persons may adopt as many as four strategies to relieve the

pressures. By altering external events, one can segregate or merge the conflicting roles. Strategy two is to simplify the conflicting roles. Some relieve pressure by re-ordering priorities among roles. Frequently persons will use "tranquilizers and releasers" (medication, sleep, food, and/or recreation) to manage role conflicts (Sarbin & Allen 1968, 541).

In summary, how one performs in a role is the result of six variables: role expectations, role location (its place in the social structure), role demands, role skill, self-role congruence, and the audience. One's ability to seek and use information may be one role skill a person develops to enact various roles.

Roles within the Christian Ministry

Men and women in the Christian ministry perform work according to "roles" expected of them. These roles remain fairly constant despite who is in the specific position as a minister (Smith 1972, 23). Samuel Blizzard pioneered the study into ministers' roles with his mid-1950s survey of 690 clergy. As a result of this study he differentiated between six different "practioner roles": preacher, pastor, priest, teacher, organizer, and administrator.[7] Preacher, priest,

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[7]Blizzard first published the results of his research in 1958. The full study was published posthumously in 1985. The following paragraphs summarize pages 84-86 of Blizzard's fuller work.

and teacher, the "traditional roles," focus on the world of ideas and place the minister in front of an audience. As preacher, the minister prepares sermons for both regularly and irregularly scheduled services. As priest, the minister leads in worship, including performing weddings, funerals, and administering other sacraments. As teacher, he or she instructs various groups of persons, potentially of varying ages, on doctrine, church history, and other matters related to the Christian faith.

In the role of pastor, the minister visits with members of the congregation, ministers to the sick, and engages in guidance and counseling. Certain aspects of the minister's work in this role are traditional; other aspects, especially the counseling, mark a shift away from the traditional work of the minister. At the time Blizzard conducted his research, counseling was still an emerging and ambiguous ministerial activity.

The final two roles, administrator and organizer, are modern additions to the work of the minister, made necessary by the growth of the church as an organization. Planning, budgeting, promoting, and supervising other church employees serve as examples. The minister's emphasis must here be on completing specific tasks.

As organizer, the minister works with groups within the congregation or community that have been organized either as a member of the group, a leader, an advisor, or

one who must develop new leadership for the group. As an organizer, the minister must emphasize defining specific tasks to be accomplished.[8]

When Blizzard compared the ministers' perception of the relative importance of these roles with their reports of how much time they spent in each role, he discovered an almost inverse relationship between the two. Those activities that the ministers in the survey considered the least important to their ministry (administration and organization), proved to be the most time consuming. They were unable to devote as much time as they wished to those roles that they considered the most important (preaching, priestly activities, counseling, and teaching) (Blizzard 1985, 97-102). Subsequent studies have confirmed the general pattern of these findings.[9]

The Minister as an Information User

Books and articles on the practice of ministry abound with advice about the importance of reading and study, although few have actually attempted to study the extent to which ministers have heeded this advice. The

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[8]Blizzard also recognizes the minister's non-professional roles and extra-professional roles (Blizzard 1985, 36-37).

[9]Most recently Ryding 1989. See also Ardrey 1985, Perry and Wiersbe 1980, Robbins 1980, Douglas and McNally 1980, and Coates and Kistler 1965. Donald Smith also compares Blizzard's work with other research about issues related to the minister's role (Smith 1973, 23-30).

advice falls into two categories: 1) study for sermon preparation and 2) read widely to gain a balanced perspective on the world. A recent textbook on preaching includes a chapter, "The Life of Study," which gives both encouragement and practical advice to the preacher, some of which relates to information seeking. About choosing materials to read, the author warns that many books rework seminal ideas. Therefore it is better to have read a few of the classics than to spend time reworking old ideas. Of contemporary works, one should rely on the advice of peers, professors, and review journals.[10] One should read novels, short stories, and poetry to enlarge one's mind, not simply for illustrations. Suggested sources for books include institutional libraries ("many pubic and small college libraries hold great surprises"), one's personal library, exchanging books with friends, and bookstores, although one should be wary of investing too much money in books. In addition to books, the minister also should participate in workshops and other continuing education events; Craddock encourages participating in a peer group to exchange ideas. To keep a record of one's study, the minister must develop and use a workable filing system, retaining not only sermon notes, but all notes on most reading that may have potential value (Craddock 1985, 76-82).

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[10]This applies especially to commentaries, which while numerous, vary in quality (Craddock 1985, 223).

Stowe (1976) advises that the minister develop a core personal library built around resources for Bible study plus theology, church history ("standard college and seminary texts"), biography, sermon collections, and religious periodicals. He also advises using public and church-related college libraries to supplement the personal library (Stowe 1976, 72-3).[11] General reading also helps one relate to his or her congregation (Steindam 1985, 73-6). Some advise that general reading should include recent books, newspapers, and a news magazine. Public libraries help one achieve variety in reading (Sugden & Wiersbe 1973, 67).

Information Storage and Retrieval

According to Case, few have investigated how educators and other professionals organize the information gleaned from their research. His review of the literature describes what is known abut these habits. Generally, people will organize information by format, project or task, and subject. Information needed for current projects will be kept closer at hand than other gathered information. Indexing may take the form of file folders or index cards. The major problem with storing information was how to

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[11]Cf. Sugden and Wiersbe 1973, 65-67.

categorize it by subject (Case 1986, 100-102, citing Malone 1983, principally). Ministers, though a different type of researcher than those studied by Case and Malone, face similar problems.

Because clergy, through the course of their careers, generate and use so much material, they develop individualized systems for storing and retrieving previously preached sermons, research used to prepare the sermons, illustrations for future sermons, etc. Traditionally this has been organized with some type of system with an index. They may arrange their personal libraries by subject and even create their personal index to passages in books. (Demaray 1990, 71-87). Within the last decade some have begun to use personal computers to aid in storing and indexing.[12]

In a 1986 survey of five hundred randomly selected graduates of Dallas Theological Seminary, Troxel found that 32.9 percent of the 243 respondents were using personal computers. Of these, 79 percent of the newer pastors and 62 percent of the older pastors were using their computers for sermon preparation, 31 percent and 36 percent were using

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[12]For a discussion of the personal computer's potential as an aid to the minister, see Bidell (1984), Johnson (1985), or Dilday (1985). For an example of a minister's filing systems, see Gericke (1989) or Elliott (1959). Gericke's indexing system can easily be adapted for use with a personal computer.

computers for Bible study, and 50 percent and 42 percent were using them for church management activities (Troxel 1986, 54). His survey did not ask for specific information about how ministers actually used their computers, instead asking only for categories of work and their opinion of whether or not they thought a computer would be of benefit in that work.

Information Needs within Specific Roles

Hall postulates that different user groups evaluate information differently to meet their individual requirements. He also suggests that the same user may at different times change his or her usual patterns in the use of information. Differing circumstances determine the variations in how an individual retrieves, compiles, and analyses information before taking action (Hall 1981, 103-109). Although Hall's interest is with scientific/ technical information, the above observations can apply to ministers as they work in different roles.

Preaching. Sermon preparation can require more information than the work done in other roles. Craddock's discussion of sermon preparation calls for several specific types of information sources: a lectionary to select a sermon text; various Bible translations, including the text in the original language, to establish the text; commentaries and Bible dictionaries to help one determine the historical and literary context of the text; theological

resources to develop the theological significance of the text; and sources for sermon illustrations (Craddock 1985, 103-17, 204-208). Craddock eschews books of sermon illustrations, preferring instead that the preacher rely on her or his general reading, carefully selected events from one's pastoral work, stories created to illustrate the point, and judicious disclosure of personal experiences (Craddock 1985, 206-208).

Decision making. Decision-making requires information. In the oft repeated pattern of defining the problem, collecting ideas, testing ideas and developing alternatives, and deciding, the first two stages of the process require information that may be gathered from a variety of sources (Leas 1978, 45-6, citing Lippit 1969, 153).

Studies of the Minister as an Information User

A few reports of research related to how ministers use information have been published. Christianity Today reported the results of their simple survey conducted in 1961. Of one hundred clergymen surveyed (forty-three responses), twenty-three reported reading more than ten books per year; six used the public library regularly while twenty-one used one only occasionally. Twenty thought that their public library had adequate material to meet their

needs or interests as ministers, ten thought not, and thirteen were unsure ("How Much do Ministers Read" 1961)[13]

A survey in the late 1960s of 117 pastors (Lutheran except for six) sought to understand how these ministers selected materials for their personal libraries and how they used these libraries. These pastors, who were attending summer continuing education events, spent an average of twenty-three hours each week using books and periodicals for sermon preparation, other pastoral work, and recreational reading.[14] When selecting books for their personal libraries, book reviews, author's reputation, friends recommendations, and the title were the most likely influences. Periodicals were selected because they reflected the pastor's special interest or personal theological perspective. The pastors read more books then they purchased. Sources for other books included gifts and libraries, which were used in reasonable numbers, although Huseman did not attempt to measure frequency of use. Those who had a book allowance to supplement their salary spent more on their personal library than did those who did not have a book allowance. Those who used academic libraries

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[13]All but two thought that their public library should subscribe to Christianity Today.

[14]Huseman reports an average of twenty-three hours of reading per week. However the hours he reports for sermon preparation (8.8), other pastoral work (5.6), and recreational reading (3.5) total only 17.7 hours (Huseman 1970, 7).

also spent more for their personal library materials; he surmised, but did not quantify, that some who were enrolled in academic programs may be purchasing books to support their course work rather than their professional work. Huseman also found that the more one spends on books, the more books one will read (Huseman 1970, 4-17).

An unpublished study conducted about 1971 by the Presbyterian Church, USA, concluded that most respondents read primarily for sermon preparation (Erdel 1978, 28; citing Porcella 1973, 38).

Porcella (1973) conducted the most thorough study to date of the ways in which ministers use information. Seeking to understand what influence one's theological perspective has on the choice of information sources, Porcella surveyed 113 and interviewed 110 ministers in Cedar Rapids, Iowa. For independent variables he used doctrinal viewpoint, education, age, years of experience, size of congregation measured by adult membership, and average attendance at Sunday morning worship service. He used 299 dependent variables grouped into thirteen categories, including use of libraries, size and content of personal library, reading patterns, use of radio and television, movie attendance, sources of information about social issues, sources used for sermon preparation, preferred information sources, and the minister's approach to his preaching ministry (Porcella 1973, 117-18). He found that

years of education influenced most of the dependent
variables: use of libraries, size and content of personal
library, and reading patterns (especially book reading).
The second most influential factor was attitude toward
social issues, which influenced the size and content of the
minister's personal library and reading patterns (especially
newspaper reading). The minister's doctrinal position
influenced his use of libraries and book reading patterns.
Ministers of larger congregations frequently read
newspapers. Those whose churches had larger worship
attendance frequently read books.[15] As measured by multiple
regression, all the variables studied accounted for less
than half the variations in information use (Porcella 1973,
116).

Brockway reports the results of a survey of 256
Connecticut pastors to determine their reading habits and
library use patterns. The three most important reasons for
reading were for sermon preparation (first), current
awareness or personal development (tied for second), and
formal course work or long-term study. Types of reading
included skimming, devotional reading, and in-depth
research. Cassette tapes were an important source of
information for sixty percent of the respondents. Only 5.5

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[15]Presumably those ministers who served larger
congregations and who also had larger worship attendence
frequently read both newspapers and books.

percent used libraries more than once a month. Other
sources for reading material were, in order of use,
denominational or seminary bookstores; subscriptions,
memberships, and book clubs; personal libraries or material
borrowed from friends; other bookstores; public libraries;
academic libraries; and denominational mailings. Time and
convenience emerged as the significant factors in
determining how much one read (Brockway 1974, 125-27).

Erdel studied nineteen Evangelical Mennonite
ministers to describe their patterns of library usage,
reading habits, and study patterns to explore the
correlation between these variables and the quality of their
work as ministers as measured by peer opinion. While his
population was too small to draw definite conclusions, his
findings do suggest variables for continued study. Among
his more interesting findings were 1) ministers did not make
regular use of institutional libraries, other than their
church library; 2) they did rely on their personal libraries
(the size of which related to the minister's reading habits
and previous education); 3) current reading materials
included the daily newspaper, two or three religious books
closely aligned with his or her theological position, a
weekly news magazine, Reader's Digest, and four general
interest religious magazines--but no scholarly journals; 4)
for sermon preparation, the five most important resources
were the English Bible, commentaries, contact with members

of their church, religious magazines, and lexical tools (Erdel 1978, 45-81).

Allen has conducted the most recent research into religion based information needs using as her sample 606 Baptist leaders in Central America. The independent variables that best predicted use of libraries and printed materials for general information were level of leadership responsibility, female gender, higher income and education level, and living in an urban area. For theological information, these lay leaders depended on both informal and formal information channels, most frequently a local pastor, and books (Allen 1987).

<div align="center">Summary</div>

The present study differs from earlier studies of ministers' reading habits or information seeking behavior by focusing on the differences related to sermon preparation and administration. Previous studies of ministers focused only on reading in relation to sermon preparation or current awareness. Porcella looked for differences in reading materials based on theological position. Huseman related information use to a minister's book allowance. This study also takes an early step in examining how ministers are beginning to use personal computers to develop personal information management systems.

Role influence on information seeking behavior has been studied for other professional groups using such variables as preferred type of media when functioning in the role (Al-Saleem). This study focuses on channels in a sense broader than specific formats of information resources as it asks about variations in the type of information channel chosen while the minister functions in two different roles.

CHAPTER III

RESEARCH METHOD

The Population Studied

This study, as introduced in Chapter I, explores the influence of work roles on patterns of information seeking behavior. Protestant clergy comprise one profession that requires its practitioners to function in different roles. The ideal population for this study would be all Protestant clergy who regularly preach and perform administrative duties (the two roles chosen for examination). This would require a national survey. However, there is no one list of Protestant clergy. Professional organizations, such as the Academy of Parish Clergy, are small and do not equally represent all Protestant groups.[1] Mailing lists purchased from clergy pension plans or periodicals marketed for clergy have similar limitations. If the study were restricted to a few denominations, a sample could be drawn from the ministerial or church directories of those denominations at either the national or state levels.

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[1]The Yearbook of American and Canadian Churches (1991) reports 238,298 pastors currently serving 222,741 churches representing 117 different denominations (Jacquet and Jones 1991, 265); the Acadamy of Parish Clergy reported 495 members in 1992 (Encyclopedia of Associations 1992, 1979).

A more convenient population to survey was pastors of churches in Tarrant County listed in the "Southwestern Bell Yellow Pages" (July 1992-92). The decision to use this sample made a number of assumptions about the similarities between samples drawn from a county-wide population compared to samples drawn from a larger geographic area. First, pastors chosen from the Tarrant County population would have ranges of age and formal education similar to those in a larger area. Second, they would have similar access to and support from their denominational agencies. Third, they would have access to some type of library or library service as well as local and national news media (including magazines, wire service reports, and radio or television network news programming). Fourth, these pastors would represent a variety of Protestant denominations.

A sample drawn from a county-wide population does have its limitations. It excludes clergy who are members of denominations that have their predominate strength outside of Texas and the South. Since most churches in Tarrant County serve an urban population, rural churches would be under represented in a county-wide sample. Using the "Southwestern Bell Yellow Pages" further limits the sample to those churches that have paid to advertise in that medium and excludes some churches on the fringes of Tarrant County that would more naturally advertise in the Dallas edition of the "Southwestern Bell Yellow Pages."

The Questionnaire and Its Sample

This study collected data about variations in information seeking behaviors primarily through the use of postal questionnaires and secondarily through the use of structured interviews.

The Questionnaire

The questionnaire (Appendix I) elicited responses to a series of questions designed to gain information about the pastor's information seeking behaviors in both sermon preparation and in making administrative decisions that required him or her to find information. Structured in four parts, Parts I and II asked identical questions about time spent in gathering information, preferred information sources, and methods of information storage. Part III asked for information about the minister's personal library, use of personal computers, use of area institutional libraries, and participation in continuing education events. Part IV asked for information about the respondent, namely age, level of education, gender, years experience, and size of worship attendance.

Parts I and II comprised more than one-half of the questionnaire. Rather than ask what sources they generally used, they were asked to respond in terms of their most recent sermon and most recent administrative decision. To prompt their choice of an administrative decision, the

instructions included the following statement: "Possible examples [of administrative decisions] include, but are not limited to, beginning a new ministry project, developing a new program or short term emphasis, rewriting the church by-laws, planning a new building project, or revising personnel policies." Otherwise no definitions of role were offered.

Thirty possible information sources were suggested, with space to add two more. These can be classified as different classes of persons; collections of printed materials; recently read, viewed, or heard sources; various libraries; and information received from denominational offices. The personal sources were further divided by method of contact, whether by personal visit, by mail, or by phone. The questions were repeated within each part, first asking for Likert scale responses on each source's relative importance with 4 most important and 1 least important. The second time the respondent was asked to chose and rank in order the five most important sources.

The questions included in the survey were derived from similar studies and suggested lists of information sources published in books on sermon preparation. The draft of the questionnaire was reviewed by a seminary professor and former pastor. Changes were made to simplify the responses and clarify some of the questions. No further pretesting was done. The questionnaire was printed in a

booklet form following the format of the "Total Design Method" (Dillman 1978).

Distribution of the Questionnaire

The postal questionnaire included a cover letter explaining the purpose of the research and assuring confidentiality (Appendix A).[2] Two follow-up letters were sent. The first was a post card to all subjects thanking those who participated and asking those who had not responded to please do so. The second follow-up letter included a second copy of the questionnaire. To track those individuals who had responded to the initial mailing, the return envelope was coded in pencil in the upper left corner with a identifying number. About half of those who received a second copy of the questionnaire also had coded envelopes. The others were not coded with the hope that some might return the second copy to the survey if there was no means to identify them individually.

To learn something about the non-respondents, a third follow-up was sent to that group. This second questionnaire sought demographic information about the ministers and reasons why they did not respond to the first questionnaire. The shorter questionnaire also gave them

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[2]The questionnaire did not ask for personal names. Those who wanted a summary of the results of the study were asked to write their name and address on the return envelope. This dissertation does not give data which can be linked to one individual by deductive methods.

opportunity to complete a short list of questions about their information seeking behaviors.[3] These questions represented the sources most frequently marked by those who responded to the longer questionnaire. This allowed for some comparison of the characteristics of those who did not respond with those who did.

Criteria for Selection

Approximately nine hundred churches advertised in the Greater Fort Worth Texas "Southwestern Bell Yellow Pages (July 1991-92)." Subjects were chosen according to the following criteria:

    1. Subjects were pastors of churches affiliated or identified with Protestant denominations in Tarrant County as listed in <u>Churches and Church Membership in United States 1980</u> (Quinn and others 1982)[4]

    2. Subjects were pastors of churches with a street names

    3. Subjects were pastors of congregations with English language names.

The first two criteria helped to ensure that the sample would include pastors of established churches with a defined geographic location and that these pastors would

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[3]For a description and analysis on those who did not respond to the first questionnaire, see Appendix B.

[4]This decennial census of church membership listed 111 church bodies nation-wide in 1980, with forty-two denominations listed in Tarrant County (the 1992 edition appeared too late to be used in this study). Protestant denominations are those which have their roots in the European Reformation during the sixteenth and seventeenth centuries of the Common Era.

have access to information services from their denomination.
The first criteria also limited the sample to pastors who
are more likely to share a common training and tradition of
ministry. The third criteria excluded some pastors for whom
English is a second language and who might not have
understood parts of the questionnaire.

The 1980 <u>Churches and Church Membership</u> lists
thirty-seven denominations representing six hundred
Protestant churches in Tarrant County. The "Southwestern
Bell Yellow Pages" included thirty-three of those
denominations. Because of mergers[5], the sample of one
hundred fifty was drawn from a list of thirty denominations
representing 534 churches, based the above criteria.

Time Frame

The first copy of the questionnaire was mailed May
14, 1992. The second copy of the questionnaire was mailed
May 29. Data were collected during the months of May and
June, 1992. Since May is a relatively light month on most
church calendars, this seemed advantageous. However, June
begins a busy season of summer programming, denominational
meetings, and vacations. For these reasons, data collection

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[5]In 1983, the Presbyterian Church in the United States
merged with the United Presbyterian Church in the U.S.A. to
form the Presbyterian Church (U.S.A.), abbreviated PCUSA.
In 1988, the American Lutheran Church and the Lutheran
Church in America merged with the Association of Evangelical
Lutherans to form the Evangelical Lutheran Church in
America, abbreviated ELCA (Reid and others 1990).

extended into July, 1992 to give adequate time for response. The last questionnaire was received July 6, 1992. The last interview was conducted June 15, 1992. The follow-up questionnaire was mailed July 27.

Analysis of the Samples

This study makes no assumptions about the denominational or geographical distributions of the sample. However such analyses provide interesting data about those selected to participate in the study.

Distribution of the Sample by Denominational Affiliation

The denominations with the largest number of churches excluded from the sample were Independent Baptists (147), Missionary Baptists (38), Bible Churches (18), Roman Catholic (28), Church of God in Christ (24), Charismatic Churches (11), Church of Jesus Christ of Latter-Day Saints (14), Churches-Interdenominational (25), Jehovah's Witnesses (8), Chuches-Non-Denominatinal (41), and Churches-Pentecostal (12). Table 1 summarizes the distribution of the denominations, churches, number of questionnaires sent to each denominational group.

Ten denominations listed in Churches and Church Membership were not included in the sample: American Baptist Assoication, Baptist Missionary Association, Church of the Brethren, Church of God (Anderson, Indiania),

Foursquare Gospel, Society of Friends, Christian Methodist Episcopal, Evangelical Methodist, Cumberland Presbyterian and Unitarian. The Baptist Missionary Association (BMA) churches represent a special problem. The Southwestern Bell Yellow Pages groups BMA churches with other churches that include "missionary" in their name. No effort was made to separate the BMA churches from the non-BMA churches with the word "missionary" in their name.

Also the sample did not include any of the six Cumberland Presbyterian churches even though eight other denominations with fewer than six churches listed in the Southwestern Bell Yellow Pages were included in the sample. This is best explained as an eccentricity of the random selection process. Otherwise this list of denominations not represented includes groups with only one or two churches in Tarrant County, which would again be explained by the random selection process.

Table 1.--Distribution of the sample by denomination

	Listed	Sent	Rtrnd
Baptist--Southern Baptist	134	38	22
Methodist--United	66	29	9
Assembly of God	51	18	5
Churches of Christ	68	16	3
Presbyterian (PCUSA)	26	9	2
Episcopal	28	9	6
Seventh Day Adventist	14	6	2
Christian--Disciples of Christ	25	6	4
Lutheran--Missouri Synod	15	4	1
Church of the Nazarene	15	4	3
Pentecostal Holiness	3	2	0
Lutheran--Wisconsin Synod	3	2	1
Lutheran--ELCA	17	2	0
United Church of Christ	2	1	0
Presbyterian--PCA	1	1	1
Church of God (Cleveland, Tenn.)	4	1	1
Christian Missionary Alliance	3	1	1
Methodist--African Methodist Episcopal	2	1	1
Advent Christian Church	4	1	1
Unitarian	2	0	0
Presbyterian--Cumberland	6	0	0
Methodist--Evangelical	2	0	0
Methodist--Christian Methodist Episcopal	2	0	0
Friends--Quaker	1	0	0
Foursquare Gospel	2	0	0
Church of God (Anderson, Ind.)	1	0	0
Brethren	1	0	0
Baptist--Missionary[*]	38	0	0
Baptist--American Baptist Association	1	0	0
Not Known	--	--	1
Total	537	150	64

[*]The Southwestern Bell Yellow Pages categories combine Baptist Missionary Association (BMA) and independent Baptist churches which use the term "Missionary" in their name. No effort was made to separate BMA churches from other missionary Baptist churches.

Geographic Distribution of the Sample

All or part of sixty-four ZIP code areas lie in
Tarrant County. The survey went to churches in fifty of
these areas. Of the fourteen not represented in the sample,
four have population centers in other counties (75050,
75051, 75052--Grand Prairie; and 75028--Flower Mound).
Three represent airports (75261--Dallas-Fort Worth
International Airport; 76127--Meachem Field; and 76177--
Alliance Airport). One represents a municipality that has a
population of less than 5,000 (76052--Haslett) and another
represents a sparsely populated industrial area along the
Trinity River flood plain in east Fort Worth (76155). Two
of the remaining five are in newly developed residential
areas that may not yet have enough established churches to
be included in the sample (76018--far southwest Arlington
and 76132--the Hulen Mall, City View area of Southwest Fort
Worth). Bedford, population 43,762, has two ZIP codes--
76021 and 76022; one was included in the sample (76021--the
part of Bedford north of Texas State Highway 183) while the
other was not. Azle (76020), population 17,406, in western
Tarrant County, was not represented in the sample even
though it has several churches. Also one established

residential area in southwest Fort Worth (76109) was not represented in the sample.[6]

Ten of the ZIP code areas contributed only one church to the sample. Fifteen contributed two. Ten contributed three. Nine contributed four. Two contributed five and six each. One contributed ten. Another contributed twelve.

Combining the ZIP code areas by their town or city name shows that Fort Worth had the most with sixty-four, followed by Arlington with eighteen, Hurst with eleven, Haltom City with six, and the rest with four or less. Table 2 compares the sample with the population of the cities and towns represented.

The Structured Interview

While a questionnaire gathers standardized responses to questions from a large number of respondents in a form conducive to statistical analysis (Heather and Stone [1984], 2-3), the semi-structured interview collects a combination of standardized information and responses to open-ended questions (Stone and Harris 1984, 12). Results of semi-structured interviews can supplement information gleaned from questionnaires.

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[6]This analysis was aided by the ZIP code boundry maps in MAPSCO Fort Wort 1992 (Mapsco 1992, x-xii). The population data is from the 1990 U.S. census (World Almanac 1992, 104-106).

Table 2.--Distribution of sample by geographic area

City	Population	Sample	Returned
Fort Worth	447,619	64	16
Arlington	261,721	18	9
North Richland Hills	45,895	4	2
Bedford	43,762	2	0
Euless	38,149	4	4
Hurst	33,574	11	5
Haltom City	32,856	6	4
Grapevine	29,202	3	3
Watauga	20,009	2	0
Benbrook	19,564	3	3
Burleson	16,113	4	3
Mansfield	15,607	5	1
White Settlement	15,472	2	1
Keller	13,683	2	0
Colleyville	12,724	2	1
Saginaw	8,551	2	0
Southlake	7,065	2	1
Crowley	6,974	2	0
Everman	5,672	2	1
Lake Worth	4,591	3	2
Kennedale	4,096	2	0
Blue Mound	2,133	2	1
Roanoke	1,616	1	1
Not known		0	6
Tarrant County	1,170,103	148	64

Source: "Population of Cities and Towns [1990 Census]," in Texas State Almanac 1991, 139-62.

The interview consisted of fourteen questions (Appendix I). Like the postal survey, these questions asked comparative information about information resources used in preaching and in making administrative decisions, plus questions about inter-personal networks, methods for storing information, the minister's personal library, and if and how

he or she uses a computer to support their work. Unlike the questionnaire, the interview also asked about how one goes about finding information that is not readily or easily available using usual resources.

The Sample Chosen for Interviews

Twenty-two churches were selected at random from the "Southwestern Bell Yellow Pages" using the same criteria used to select those who were to receive a questionnaire. Those who had been chosen to receive a questionnaire were not chosen for an interview. This reduced the sampled population from 534 to 384. Those selected for an interview received written information describing the nature of the project and how the information gathered during the interview would be used. They, too, were assured of confidentiality. After the letter was mailed, they were called to schedule appointments. Interviews were conducted through June 15, 1992.

Of the twenty-two churches selected, twenty-one were contacted. One phone number for a church had been re-assigned to an individual since the phone book had been published; contact with the church was not possible. Of those contacted, one pastor declined to participate and two were unable to schedule interviews. Two agreed to phone interviews. Sixteen pastors were interviewed, fourteen in person during sessions lasting from thirty minutes to an

Table 3.--Denominational distribution of those interviewed

	Sample	Selected	Interviewed
Baptist--Southern Baptist	96	5	5
Assembly of God	33	2	1
Churches of Christ	52	2	1
Episcopal	19	2	1
Methodist--United	37	2	1
Christian--Disciples of Christ	19	1	1
Church of God (Anderson, Ind.)	1	1	1
Foursquare Gospel	2	1	1
Lutheran--ELCA	17	1	0
Lutheran--Missouri Synod	11	1	1
Methodist--Evangelical	2	1	1
Pentecostal Holiness	1	1	0
Presbyterian (PCUSA)	17	1	1
Seventh Day Adventist	8	1	1
Advent Christian Church	3	0	-
African Methodist Episcopal Church	1	0	-
Baptist--American Baptist Assoc.	1	0	-
Baptist--Missionary	38	0	-
Brethren	1	0	-
Christian Missionary Alliance	2	0	-
Church of God (Cleveland, Tenn.)	3	0	-
Church of the Nazarene	11	0	-
Friends--Quaker	1	0	-
Lutheran--Wisconsin	1	0	-
Methodist--Christian Episcopal	2	0	-
Presbyterian--Cumberland	6	0	-
Unitarian	2	0	-
United Church of Christ	1	0	-
Presbyterian--PCA	0	-	-
Totals	417	22	16

hour. The phone interviews lasted for fifteen to twenty minutes. Table 3 breaks down the sample of those selected for interviews by both denomination and response.

Analysis of the Sample Selected for Interviews and of Those Interviewed

Those interviewed represented fourteen of the twenty-nine denominations in the targeted population. Again, Southern Baptists, the denomination with the largest number of churches in the sample, had the largest number selected for interviews with five. No other denomination had more than two representatives. The Churches of Christ, with fifty-two in the population, had only one in the sample. United Methodist churches, with thirty-seven; Disciples of Christ with nineteen; Presbyterian Church (USA) and the Evangelical Lutheran Church in America, both with seventeen in the sample, all had only one each selected for interviews. The Church of the Nazarene, with eleven churches in the population, had no pastors selected for interviews.

Two new denominations joined the group of those either receiving questionnaires or being interviewed. Pastors affiliated with the Church of God (Anderson, Ind.) and the International Foursquare Gospel Church were selected for interviews.

Conclusion

Overall, 172 pastors from twenty-one denominations were given opportunity to participate in the study either by questionnaire or in an interview. The following chapters analyse their responses. Chapter IV profiles the

participants. Chapter V analyzes their responses in terms of the research hypotheses presented in Chapter I.

CHAPTER IV

PROFILE OF THOSE WHO PARTICIPATED IN THE STUDY

Of the one hundred fifty questionnaires mailed, two were returned because of an insufficient address, three replied that they did not have time to participate, one was returned with a note that the church did not currently have a pastor. Sixty-four were completed (or partially completed) and returned for a 43.24 percent response rate. Their responses to questions about denominational affiliation, age, years of experience, educational level, computer use, characteristics of their personal libraries, uses made of institutional libraries, time spent gathering information for sermon preparation and administrative decision making about a single issue, and gender provide a group profile of the respondents.

Denominational Affiliation

Sixty-one of the sixty-four respondents indicated their denominational affiliation. Table 1 above (page 50) compares the number of questionnaires sent to pastors of churches in each denomination and with the number of churches listed in each denomination. Table 4 (page 59)

lists by denomination the number returned, and the number received as a percentage of the total number received.

Southern Baptist pastors account for almost one third of those who responded. Three groups--Southern Baptists, United Methodists, and Episcopalians--account for more than half the responses with 57.81 percent of the total number of responses. Adding pastors from Assembly of God and Disciples of Christ churches shows that 71.86 percent of the responses came from pastors of five denominations.

Table 4.--Distribution of responses by denomination

	Returned	% of all Returned
Baptist--Southern Baptist	22	34.38
Methodist--United	9	14.06
Episcopal	6	9.38
Assembly of God	5	7.81
Christian--Disciples of Christ	4	6.25
Church of the Nazarene	3	4.69
Churches of Christ	3	4.69
Presbyterian (PCUSA)	2	3.13
Seventh Day Adventist	2	3.13
Advent Christian Church	1	1.56
African Meth. Episcopal Church	1	1.56
Christian Missionary Alliance	1	1.56
Church of God (Cleveland, Tenn.)	1	1.56
Lutheran--Missouri Synod	1	1.56
Lutheran--Wisconsin Synod	1	1.56
Presbyterian--PCA	1	1.56
Not given	1	1.56
Total	64	99.98

Age of the Respondents

Respondents were asked to indicate their age using one of six ten year age brackets. Sixty responded. Table 5

Table 5.--Age distribution of the respondents

	Freq.	Cumulative Freq.	Percent	Cumulative Percent
16-25	0	0	0.00	0.00
26-35	9	9	15.00	15.00
36-45	21	30	35.00	50.00
46-55	17	47	28.33	78.33
56-65	11	58	18.33	96.67
66-75	2	60	3.33	100.00
76-85	0	60	0.00	100.00

shows that 35 percent of the respondents were in the thirty-six to forty-five age range. Fifty percent were forty-five or younger. None were younger than twenty-six and only two were older than sixty-five.

Educational Background of the Respondents

The questionnaire asked for level of formal education. Respondents were asked to mark any of ten different levels that applied to them. Only the "highest" level was recorded for statistical analysis. Table 6 shows by category the responses given by fifty-nine of the sixty-two.

Overall, the respondents were well educated. Thirteen had a bachelor's degree or a master's degree but no formal theological or seminary based education. The Master

Table 6.--Distribution of highest degree of formal
education

	Freq.	Cum. Freq.	%	Cum. %
No Formal Education	0	0	0.00	0.00
General Education Diploma	0	0	0.00	0.00
Junior College	0	0	0.00	0.00
Bachelor's Degree (but not B.D.)	2	2	3.39	3.39
Master's Degree (but not M.Div.)	9	11	15.25	18.64
Ph.D. or Ed.D., not in religion	0	11	0.00	18.64
M.Div., B.D., or M.R.E.	31	42	52.54	71.18
D.Min.	10	52	16.95	88.14
Ph.D., Th.D or Ed.D in religion	5	57	8.47	96.91
Other	2	59	3.39	99.99

of Divinity degree (M.Div.) and its predecessor, the

Bachelor of Divinity degree (B.D.), are the basic

professional degrees offered by accredited seminaries for

those preparing for the preaching ministry. The Master of

Religious Education (M.R.E.) is the basic degree offered to

those preparing for teaching ministry, although some who

earn the M.R.E. do find positions as pastors of local

churches. Thirty reported earning the M.Div. or B.D.

degrees as their highest degrees; one reported earning the

M.R.E. This group accounts for 52.54 percent of the

respondents.

The Doctor of Ministry degree (D.Min.) is a

professional doctoral degree building on the M.Div. and at

least three years' experience in a church related vocation after having earned the M.Div. Ten reported having earned that degree. Five had earned either a Doctor of Philosophy (Ph.D.), Doctor of Theology (Th.D.), or Doctor of Education (Ed.D.) in a religion related field. The Th.D. and the Ed.D. in a religion related field are usually earned at a theological seminary. The Ph.D. in religion can be earned at either a theological seminary or a university. Doctoral programs at theological seminaries generally require the M.Div. or M.R.E. as a prerequisite.

Two indicated other forms of education. One, who had earned a bachelor's degree (but not a B.D.), wrote that he had also graduated from a denominational study course. The other had earned a Doctor of Laws degree (J.D.) besides his basic professional degree for ministry.

Years of Experience in a Church Related Vocation

The questionnaire asked "How many years' experience have you had in a church related vocation?" and asked that the pastor mark one of twelve five year ranges. The broadly worded phrase "church related vocation" recognizes that a minister may have had other types of church employment in addition to his or her work as the pastor of a local church. For example, of those interviewed, one reported that he had worked for seventeen years as a full-time evangelist before coming to his current position as pastor. Another younger

man was in his first pastorate after having served four

years as a full-time minister to youth at a local church.

Sixty of the pastors answered the question. Table 7 shows

the frequencies of their responses.

Table 7.--Years' experience in a church related vocation

Range of Years	Frequency	Cumulative Frequency	Percent	Cumulative Percent
0- 5	3	3	5.00	5.00
6-10	9	11	13.33	18.33
11-15	7	18	11.67	30.00
16-20	14	32	23.33	53.33
21-25	9	41	15.00	68.33
26-30	5	46	8.33	76.67
31-35	6	52	10.00	86.67
36-40	5	57	8.33	95.00
41-45	3	60	5.00	100.00
46-50	0	60	0.00	100.00
51-55	0	60	0.00	100.00
56-60	0	60	0.00	100.00
61-	0	60	0.00	100.00

Mean   16-20 (19.38; mean of the sum of middle values of
              each range)
Median 16-20   Mode: 16-20

Fourteen or 23.33 percent of the respondents have

had sixteen to twenty years of experience. This range of

years is also the median and modal values for all the

respondents. Thirty percent have fewer than fifteen years

experience while 70 percent have more than fifteen years

experience. Three had fewer than five years experience;

another three had more than forty years of experience.

Church's Attendance on Previous Sunday or Saturday

To measure the size of the congregation the minister served, the questionnaire asked "What was your church's attendance last Sunday?" This measurement was preferred over other measures such as church membership or Sunday School membership since church membership has different meanings for different denominations. Also not all

Table 8.--Church's attendance previous Sunday (or Saturday)

Range	Freq.	Cum. Freq.		Range	Freq.	Cum. Freq.
1 -100	17	17		501-600	1	56
101-200	19	36		601-700	2	58
201-300	9	45		701-800	0	58
301-400	4	50		801-900	1	59
401-500	5	55		1000+	3	62

n=62		High	2,000	Low	27	

Mean	289.41	S.d.	337.86	
Median	162.5	Mode	250.00	

denominations have regular Sunday School programs for adults. However, attendance the previous Sunday (or Saturday as one Seventh Day Adventist minister observed) does provide a relatively consistent measure among the different denominations. Some ministers used approximate numbers. Two pastors each reported one-hundred-fifty, one-hundred-seventy-five, and two hundred attending. Three others each reported two-hundred-fifty and five hundred in attendance. Almost all the other fifty-five ministers

reported non-duplicated numbers. Table 8 shows a
descriptive analysis of the responses.

The average attendance was 289.41. Fifty percent of
the pastors reported attendance of one-hundred-fifty or
less. The difference between the average attendance and the
median attendance reflects the inclusion of three pastors
reporting more than one thousand in attendance.

Characteristics of Those Interviewed

Chapter III describes the process used to choose
those to be interviewed (above, page 52). As a group, those
interviewed were older, more experienced, and pastored
larger congregations than those surveyed. They had a smaller
ratio of earned doctorates but otherwise were as well
educated as those surveyed. Table 9 summarizes their
demographic characteristics.[1]

The Respondents as Computer Users

The questionnaire asked for a series of responses
that would guage use ministers made of personal computers.

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[1]The interviews were used to gather information which
could amplify the responses to questionnaires. Therefore
those interviewed and their answers were not subjected to
rigorous statistical analysis.

Table 9.--Characteristics of those interviewed

Name	Age	Educ. Level	Years Exper.	Church Attend.	Denomination
Dr. A.	61	D.Min.	40	350	Southern Baptist
Rev. B.	46	M.Div.	22	109	Presbyterian (PCUSA)
Father C.	53	M.Div.	16	180	Episcopal
Rev. D.	29	B.S.	5	225-250	Southern Baptist
Dr. E.	48	D.Min.	17	200	Disciples of Christ
Rev. F.	63	--	42	220-225	Assembly of God
Pastor G.	62	B.Th.	32	90	Church of God
Rev. H.	47	M.Div.	25	100	Evangelical Methodist
Dr. I.	38	D.Min.	11	250-300	Southern Baptist
Rev. J.	62	--	30	250-300	Seventh Day Adventist
Rev. K.	36	M.Div.	9	220-230	Lutheran (Mo.Synod)
Bro. L.	33	B.A.	3	120	Southern Baptist
Bro. M.	38	M.Div.	16	1200	Southern Baptist
Rev. N.	36	B.A.	6	80-90	Four Square Gospel
Rev. P.	39	M.A.	17	650	Church of Christ

Recipients were asked to mark yes or no to the following set of statements derived from different books about the use of the computer in ministry (Bidell 1984; Johnson 1985; Dilday 1985).

    I do not use a personal computer.
    I use one for word processing.
    I use one for personal financial management.
    I use one to maintain information about church members
        and prospective members.
    I use one to communicate interactively with other
        computers or computer users.
    I use one to assist with my Bible study.
    I use one to assist with my administrative
        responsibilities.

Of the sixty-two who responded to the question, forty-three (67.18%) replied yes and nineteen replied no. Of those who replied yes, Table 10 shows how many used each type of computer program.

Table 10.--Different uses of computers by respondents

	Number
Word Processing	43
Information on Church Members and Prospects	31
Administration	30
Bible Study	25
Calendaring/Personal Records	23
Personal Finances	14
Interact with Other Computers	6

n=62

Those interviewed were at differing levels as computer users. Four rank at the top as "heavy users." Two make interesting case studies. The first, a young minister (age thirty-three) with seven years experience serving a church that averages about 122 each Sunday commented that for him it would be "silly not to use a computer." He can type faster than he can write; ideas therefore flow faster. In his sermon preparation, he will select a text, paraphrase it, and write down random thoughts--all while using a computer. He also will write out the full text of his sermon or prepare a detailed outline. He saves his sermon files on floppy disks, naming the files by book of the Bible, the chapter, and verse, if there is enough room in the file name. Each file will include his paraphrase of the scripture passage, the thesis of his sermon, the questions he expects the sermon to answer, and also the full text or detailed outline.

The second case study is an older pastor (age sixty-two) with thirty-two years experience, pastoring a church that averages about ninety present each Sunday. He uses several computer programs to aid his study and other work. For sermon illustrations, he uses a database of illustrations indexed using the headings and numbering system of a popular study Bible. The program allows him to add his own headings and illustrations. He also indexes the sermons he has preached using a computer program. He keeps the full text of his sermons on both diskettes and as a print-out. To keep information about his church members, he has developed customized files using a database management program. He also creates his forms using a form generating program. He has used a computer for the last four years. His wife, a legal secretary, first suggested to him that a computer would aid him with his work. A layperson in his church, knowledgeable about computers, helped him select a system. All that he does he has learned to do on his own.

A second group of pastors interviewed have either just purchased a computer and still are learning how to integrate it into their work routines, or believe that a personal computer would be valuable to their work and have plans to purchase one in the future. Lack of time to learn to use a computer or lack of money to purchase a computer have delayed two pastors in becoming computer literate. Some serve churches where others use computers to assist the

pastor. One pastor who did not have his own computer did occasionally use a Bible concordance program loaded on the Church Records' Office computer.

What of those who did not use computers? Four confessed to this. One pastor, in his early fifties with sixteen years experience, admitted that he was "terrified" at the prospect of using a personal computer, but realized that he must learn some day. The oldest pastor interviewed, age sixty-three with forty-two years experience, had no plans to introduce a computer into his ministry. In his words, "I had my own system before computers came along." Although his associate does use a computer, the pastor has decided that it would take more time to learn the system than he could give. Another pastor simply stated that because of limited finances, neither he nor his church owns a computer. The third non-user actually does use a computer to keep a journal. Also he is training others to use a computer to prepare church publications, plan projects, prepare correspondence, and maintain a church finance and membership database. However, about four months before the interview he had made a conscious decision to quit using "the electronic approach" for Bible study. He had decided that approach stifled his Bible study, and he missed the "digging" that using books requires. This person pastored a church where about 120 adults attend each Sunday, who is in his early thirties with three years experience, suggests

that there may be a minority of pastors and other
professionals who, though skilled computer users, have
decided not to use a computer to aid them with one of their
most time consuming professional tasks.

The Ministers' Personal Libraries

For many ministers, his or her personal library
provides a major information source. The questionnaire
asked the ministers to

> use the following categories to describe, as best you
> can, your personal library.
> How many books do you have in your library?
> How many paid magazine subscriptions do you receive?
> How much did you spend to add materials to your
>   personal library in 1991?
> How many books did you add to your personal library
>   in the last twelve months?
> What percentage (estimated) of your book collection
>   supports your sermon preparation?
> What percentage (estimated) of your book collection
>   supports your administrative responsibilities?

Not everyone who returned a questionnaire answered all these
questions. Table 11 describes the responses.

As expected the values reported show evidence of
estimation and rounding. Only six persons reported odd
values. One simply reported "five hundred plus." Most
reported numbers in the hundreds or fifties. Nine reported
five hundred; eight reported one thousand; six reported two
thousand. Therefore these numbers are approximations.

Table 11.--Characteristics of personal libraries

	Min.	Max.	Mean	Median	S.d.
Books owned (n = 59)	93	5000	1003.59	900.00	849.00
Paid subscriptions (n = 60)	0	14	4.77	4.00	3.02
Free subscriptions (n = 64)	0	10	2.29	2.00	2.16
Items added last twelve months (n = 55)	0	100	23.71	21.00	18.44
Cost of new materials ($) (n = 54)	0	1500	354.79	300.00	280.80
Books supporting sermons (%) (n = 56)	1	100	50.44	50.00	28.25
Books supporting administration (%) (n = 57)	1	95	22.47	15.00	20.50

The Size of Personal Libraries

Twenty-nine (49.14 percent) reported personal

libraries with 850 books or less. Only nine (15.25 percen

reported two thousand or more books. The personal

interviews give clues to the variation in size of the

collections. Two interviewees had small personal libraries.

A younger pastor (age range 26-35) who has not yet completed

a seminary degree, identified himself as a theological

conservative. Because of his conservative background, he

does not feel a need to maintain a large library of

secondary or supportive material, choosing to rely on the

Bible as his primary source of information. While he did

have a few technical Bible study aids, such as a concordance

and Greek New Testament, most of his books were textbooks purchased during his undergraduate years as an English major. For illustrative materials he will frequently go to his public library and use the Readers' Guide to find recent materials.

Another young minister (age range 26-35) who has had only informal training beyond his bachelor's level work also had a small working library, confessing that many of his books were and had been in storage for some time. He reads to "shore up the foundation for revelation." Each week he reads three to four Christian authors and one or two secular authors. He does have a few Bible study tools that he uses regularly. He feels that this approach has enabled him to "give a better response to God's revelation." As his few book shelves become full, he will store, discard, or give away older books. For illustrations, he relies primarily on his personal experience or knowledge.

Both men prepare their sermons through intense Bible study and remaining aware of their experiences and current events. They view other books as mediated sources that can come between themselves and divine revelation. As a corollary to this belief, they do not express a need to maintain a large personal library.

A third pastor, not much older (age thirty-nine) who pastors a church that averages six hundred fifty attending on Sunday, had a large personal library. During the

interview he offered two reasons for the size of his
library. First, he does not want to spend time looking for
information. He believes that if he can get the book he
needs off his library shelf, he will have saved the hour or
so it would take to borrow a book from another library. To
him, the price of the book is well worth the time he may
later save searching for information. Second, he
understands preaching as a process that is never finished.
He seldom can find a correlation between what he does today
and the sermon he will preach later. For him reading is a
faith/trust issue; he has to believe that everything he does
will make a difference down the line, even reading novels.

The above anecdotes are, of course, episodic and do
not explain all patterns of behaviors in developing a
personal library. More mundane reasons could include lack
of time or money to read or purchase materials. Some have
developed a small core library that can meet many of their
needs. One pastor interviewed reported that he had lost
most of his personal library in a church fire at a previous
pastorate and could not replace his book collection.

Growth and Maintenance of Personal Libraries

The questionnaire asked only for the last years
information about the growth of the collection. Again the
responses showed a broad range from zero to one hundred
books in the last twelve months. The average number of

books added to the collection was 23.71 or about two per month.

The questionnaire asked how much was spent "to add materials . . . in 1991." While this phraseology was chosen to evoke a response based on 1991 federal tax returns, without specifically asking for that information, the ministers still gave approximate answers. Six each reported one hundred, two hundred, three hundred, or four hundred books. Some would report a range of numbers or the minimum number of books, such as "300+" or "900+."[2]

Because the question about the number of books added asked "how many books did you add . . . in the last twelve months," instead of "materials . . . in 1991," one cannot draw firm conclusions about the average price paid per book. Some, if not all, of the ministers may have combined the amount paid for books with the amounts paid for other materials, such as periodical subscriptions.

Because the amount of money spent can both measure current information seeking behaviors and indicate the value one places on information, examining the extreme dollar

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[2]When the response was a range, the middle value of the range was used for statistical computations. When the response was a minimum value, the number was entered as one more than the minimum; for example, "300+" became 301.

amounts with other individual characteristics suggests some
of the variations in building personal libraries.

Table 12.--Profile of ministers who spent the most or the
least on library materials

Obsv.	Amount Spent	Books Added	Total Books	Paid Subs.	Computer User	Age	Years' Exper.	Church Attend.
15	0	0	550	5	No	36-45	11-15	77
58	35	3	350	2	No	46-55	16-20	30
31	65	7	93	8	Yes	26-35	0-5	61
. . . .								
24	1,000	25	1,350	6	Yes	46-55	26-30	210
7	1,000	50	1,000	12	No	26-35	0-5	51
16	1,500	30	1,000	3	Yes	36-45	16-20	387
Mean'	355	100	1004	5	--	36-45	16-20	289

'Rounded to the nearest whole number, when appropriate.

Table 12 shows that of the three who spent the
least, all had relatively small libraries and pastored small
churches. Two did not use a computer. The third person was
younger than the other two with five or less years
experience. While he had the smallest number of books, he
also subscribed to more than an average number of
periodicals and used a personal computer.

The three who spent $1,000.00 or more in 1991 added
twenty-five, thirty, and fifty books in the last twelve
months. One received twelve magazine subscriptions; the
other two received three and six subscriptions. Two of the
three were older than thirty-five and had at least sixteen
years' experience and pastored churches with near average

attendence the previous Sunday. The third, however, had less than five years' experience and pastored a church with fifty-one in attendence the previous Sunday and did not use a personal computer.

Church attendence does appear to be one factor contributing to the amount of money spent for library materials. Generally, churches with small attendence pay less than those with larger attendence. This limits the amount of discretionary income the minister of a small church has to spend on library materials. At least one denomination recommends that churches provide their ministers a book allowance because reading is an important activity for their ministry (Martin 1988, 8). The expense of owning a computer also may restrict how much one can spend on his or her personal library.

Of course, if one does not feel a need for a large personal library, no one should expect the minister to invest heavily in a personal library. The minister who reported spending thirty-five dollars in 1991, commented that he

> [relied] on a few good expository commentaries to help me interact with the text. Also I use my illustration file religiously. I have hundreds of sermon illustrations on file and work all the time at collecting these.

He added that he was serving as an interim pastor and that he was not as much involved in finding and using information as would be a full time minister.

Contents of the Ministers' Personal Libraries

Answers to two questions help describe the contents

of the ministers' personal libraries.

What percentage (estimated of your book collection
supports your sermon preparation?
What percentage (estimated) supports your administrative
responsibilities?

The interviews also provide insight into the content of

their libraries.

Table 13 shows the average percentage of materials

in ministers' libraries between materials used to support

the preaching role and materials used to support the

administrative role.

Table 13.-- Percentage of library materials supporting each
role

	Mean	Median	Min.	Max.
Preaching n = 56	50.4%	50.0%	1	100
Administration n = 57	22.5%	15.0%	10	95
Other[*]	27.1%	35.0%	--	--

[*]Difference between 100% and the sums of preaching and
administration.

Overall the respondents reported that almost fifty

percent of their collection supported their preaching while

twenty-two percent supported their administration. This

would leave an average of 27.1 percent used for other

purposes or not currently used. Two persons reported

significantly higher percentages of books supporting
administrative responsibilities. Otherwise the mean value
would have been closer to the median value of fifteen
percent. Both ministers reported a high degree of overlap:
one, reported 80 percent for preaching and 90 percent for
administration while the other reported 95 percent for both
roles. They give no clues to why they reported as they did.

Two persons reported two of the five lowest
percentages for both preaching and administration. One
reported one percent of 789 books for both roles. In his
comments, he explained that he received nine journals or
magazines, of which four directly support preaching: Pulpit
Digest, Homiletics, Dynamic Preaching, and Preaching. He
further comments that "I read the morning and evening
newspapers and watch the news on TV as well as human
interest stories." He also reported having forty years of
sermons and adding forty new sermons a year. He specified
two commentary sets he uses frequently. The second person,
with a library of 150 books, estimated that only one percent
of them supports his preaching while four percent support
his administrative role. Concerning his preaching, he
commented

> I use the bible [sic] extensively. I pray for God to
> fill my heart with the message for the people. I have
> preached from here to Africa. My studies are mostly
> Bible and just a few reference books.

Additional comments by these two pastors do not give insight into why they have so few books related to administration, but they do offer insight into why they have so few books for preaching. The first minister, a Methodist with between forty-one and forty-five experience, has come to rely on two trusted commentaries to help him understand the biblical text. He then uses periodicals, newspapers, and television to find illustrative materials. The second minister, an Assembly of God pastor with sixteen to twenty years experience, relies primarily on his study of the Bible, prayer, and a few reference books to prepare his sermons. Neither approach to sermon preparation requires many books. Presumably the other 98 percent of the first minister's book collection and the 95 percent of the second minister's book collection support their other responsibilities or are seldom used.

The study produced one other indication of the variety of materials ministers collect for their libraries. During the structured interview, each person was asked "How do you find specific information in your personal library?" In six interviews, this led to a listing of topical arrangement of their libraries. A younger minister (age thirty-three with seven years experience and a Master of Divinity degree) gave the most detailed breakdown: Bible tools, commentaries on the Old and New Testaments, history of Christianity, spirituality, administration and church

growth, counseling issues, preaching, worship resources,
ethics, theology, and denominational issues. Each included
Bible tools (e.g., Greek and Hebrew language helps,
different translations of the Bible, and Bible dictionaries)
and commentaries. Topics mentioned two or more times were
devotional materials (including prayer and ascetic
theology), ethics (or "moral theology"), and theology
(doctrine or dogmatic theology). Other topics mentioned
only once were missions, evangelism, and biography.
Although these topics represent a narrow band within the
whole range of intellectual activity, they broadly cover the
major topics of Protestant faith and practice. They also
reflect the theological curriculum; the core of their
library may have come from their seminary studies (all had
at least the Master of Divinity degree).

Ministers' Uses of Institutional Libraries

The questionnaire asked a series of questions that
allow some quantitative description of the respondents' uses
of four types of institutional libraries: church libraries,
public libraries in Tarrant County, college or university
libraries in Tarrant County, and seminary or divinity school
libraries in Tarrant County.[3] For each type of library, the

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[3]The American Library Directory, 1991-92 (1991) lists
twenty-nine public libraries, six academic libraries, and
two seminary or divinity school libraries in the twenty-
three cities and towns to which surveys were sent. The
Directory did not list public or academic libaries for ten
of the communities.

survey asked if they used that type of library to find
materials to support their ministry, to find materials to
support their hobbies or relaxation, to find materials for
other family members, or to find materials for other uses.
Each option was to be ranked "1," "2," or "3" for
"regularly," "sometimes" or "very seldom or never,"
respectively. The following statement preceded the options.
"You have several libraries available to you. Also you may
use libraries for different purposes. For each type of
library, circle how frequently and for what reasons you use
them."

Nine reported that they used none of the four types
of libraries more than "very seldom or never." One pastor,
who noted that he was an "interim" or temporary pastor for
the church, marked that he used the libraries in Tarrant
County "very seldom or never," but that he did make regular
use of the "local one in town I [sic] live." Sixteen
reported that their church did not have a church library.
Table 14 shows the distribution of library use by type of
library.

The sixty-four respondents marked a total of 199
instances of "regular" or "sometime" library use for all of
the four activities. The highest incidence of library use
was work related, or for ministry related activities
(44.72%) followed by family related activities (26.68%) and
hobbies or recreational use (21.61%). The respondents

Table 14.--Library use by activity and type of library

	Church		Public		College		Seminary		Total	
	n	%	n	%	n	%	n	%	n	%
Mnstry	22	11.06	25	12.56	14	7.04	28	14.07	89	44.72
Regular	7	3.52	2	1.00	4	2.01	15	7.54	28	14.07
Sometms	15	7.54	23	11.55	10	5.03	13	6.53	61	30.65
Hobbies	3	1.51	31	15.58	4	2.01	5	2.51	43	21.61
Regular	1	0.50	8	4.02	1	0.50	1	0.50	11	5.53
Sometms	2	1.00	23	11.56	3	1.51	4	2.01	32	16.08
Family	12	6.03	29	14.57	5	2.51	7	3.52	53	26.63
Regular	3	1.51	14	7.04	2	1.00	1	0.50	20	10.05
Sometms	9	4.52	15	7.54	3	1.51	6	3.02	33	16.58
Other	3	1.51	7	3.52	1	0.50	3	1.51	14	7.03
Regular	2	1.00	5	2.51	0	0.00	3	1.51	10	5.03
Sometms	1	0.51	2	1.00	1	0.50	0	0.00	4	2.01
Total	40	20.10	92	46.23	24	12.06	43	21.61	199	99.99

reported using the library for other purposes least (7.03%).
Overall, the ministers surveyed used libraries "sometimes"
more than they did "regularly" in each type of use.

Public libraries were used the most, overall. Of
their uses of libraries, public libraries were marked 56.23
percent as "regularly" or "sometimes." The two most common
uses were for hobbies (15.58%) and for families (14.57%),
which accounted for about sixty-one percent of the total
uses of public libraries. Use of seminary libraries were
marked 21.61 percent of the times, with ministry being the
primary use (14.04%) or almost 65 percent of the total uses
of seminary libraries. Church libraries were used primarily
for ministry related activities (11.06%) and for family uses

(6.03%), which accounted for 85 percent of church library
use. College libraries received the least overall use
(12.06%), with ministry related activities (7.04%)
accounting for 58 percent of the regular or sometimes use of
college libraries.

Although the survey showed that libraries were not
key information resources for either preaching or
administrative decision making, this portion of the survey
does show that when ministers do use libraries, one key use
is for ministry related (or work related) activities. Table
15 shows a pattern of library use in support of the pastor's
ministry.

Table 15.--Use of all libraries to support ministry

	Regularly		Sometimes		Total	
	n	%	*n*	%	*n*	%
Seminary	15	16.83	13	14.60	28	31.46
Church	7	7.87	15	16.85	22	24.72
College	4	4.49	10	11.24	14	15.73
Public	2	2.25	23	25.84	25	28.09
Totals	28	31.46	41	68.54	89	100.00

Seminary and church libraries, with their somewhat
specialized collections, account for almost 56 percent of
the patterns of library use related to ministry. The use of
seminary libraries was almost equally divided between
"regular" use and "sometimes" use (16.83% and 14.60%).
However use of church libraries was more likely to be

"sometimes" use to "regular" use by a margin of more than two to one (16.85% and 7.87%). College libraries were more frequently a "sometimes" resource for ministry (11.24% and 4.49%). Public libraries were used as a resource for ministry in 28.09% of the responses, of which only 2.25% were regular uses. The presence of a seminary library in a community may impact the use of other types of libraries by area ministers. Those ministers most inclined to use libraries would use the libraries with the best resources to support their ministry and study.

What other uses did ministers make of local libraries? Of church libraries, two indicated that regularly they used the church library as a referral resource for "parishioners and inquirers." A third person would "sometimes" use the church library's audio-visual materials as part of a program presentation. Other uses for public libraries were as a quiet place to study (two regularly, two sometimes), as a source for motivational video and sound recordings (one regularly), and a source of financial information (one regularly). Another pastor found a college library an occasional source for family movies. The only "other uses" for a seminary library were as a quiet place to study (one regularly) and as a resource for his degree work at an out of town university.

Time Spent Gathering Information

The ministers were asked two similar questions about the amount of time they spent related to their roles as preachers and administrators. After being asked "What was the subject of your recent sermon?" they were asked "When did you begin your preparation for your most recent sermon?" and "How many hours did you spend gathering information for your most recent sermon?

Part II began with the statement

> Please answer the following questions as they relate to a recent administrative situation or decision in your ministry (other than preaching or teaching) for which you need information. Possible examples include, but are not limited to, beginning a new project, developing a new program or short term emphasis, rewriting the church by-laws, planning a new building project, or revising personnel policies).

Following this introduction, they were asked "When did you begin to gather information about this situation?" and "How many hours did you spend gathering information about this situation?" Unfortunately the responses to the first question in each pair cannot be properly compared.

When asked about the beginning time for gathering information for a "most recent sermon," one may fairly assume an ending time within seven days of the response, since ministers preach each Sunday. Asked, however, when one began to gather information about a recent administrative decision, the answer can refer to the length of time from the beginning to the time the decision was

made, or from the beginning to the time of the response on
the questionnaire. Therefore one should not draw quantified
conclusions about the differences in the beginning points
for time spent gathering information related to preaching
versus the beginning point for time spent gathering
information to make an administrative decision. Table 16
compares the range of responses to both sets of questions.

Table 16.--Hours spent gathering information, by role

	n	Mean	Median	Mode	Min.	Max.	S.d.
Preaching	59	6.76	6	2	0	25	5.26
Admin.	53	51.90	20	200	1	350	74.55

Obviously gathering information to prepare a
specific sermon does not require as much time as gathering
information to make a specific administrative decision. On
an average those who responded to the questionnaire spent
almost seven times as many hours gathering information for a
sermon than for making an administrative decision. The
respondents also reported spending more time to gather
information to make administrative decisions, although the
eleven who reported spending one hundred or more hours on a
specific issue did skew the average. Forty-two respondents
reported spending eighty hours or less gathering information
to prepare to make an administrative decision.

The five minimum values for time spent gathering
information show no discernable pattern. Types of
administrative issues were "the purchase of divider walls
for classrooms" (one hour), "clergy accountability in
counselling" (one hour), "reworking the procedure of
publishing the church newsletter" (1.5 hours), "developing a
new stewardship emphasis to help our church catch up on
budget needs" (two hours), and "job descriptions-comparable
salaries" (process begun "years ago," but only requiring two
hours to gather information). At the other extreme, the
five maximum values do show a discernable pattern. Three of
the five were property/building related issues, one was
program related, and one was preparing a church history.
These were "remodel of sanctuary" ("100s, ?300-?400"),[4] "our
church history" ("several hundred"), "new building"
(hundreds), "building project" ("cumulative? 200?"),
"support groups" ("hundreds").[5]

Comparing the length of time spent gathering
information for a sermon with the sermon topic yields little
since it would be difficult to categorize the topics.
However, examining those responses reporting the five
maximum values does suggest that the longer one takes to

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[4]For statistical analysis, this was coded as three
hundred fifty hours. Those who responded "hundreds" or
"several hundreds" were coded as two hundred.

[5]For a verbatim list of responses to this series of
questions, see Appendix C.

prepare a sermon, the more time one spends gathering information. Three, who had begun preparing the sermon more than one month before, spent between fifteen and thirty hours gathering information. One sermon was part of a series; information gathered for that one sermon may have also been used with other sermons in that series. Another response may reflect a minister's constantly gathering information for future sermons. For the sermon titled "Christian Life Involvement," a Baptist minister with twenty-one to twenty-five years experiences, reported that although he had spent two weeks preparing the sermon, he spent "years" gathering information on the subject.

Gender

Of those who responded to the survey, three identified themselves as female. Although these three do not comprise a sub-group of the sample large enough to warrant separate statistical analyses, identifying their characteristics and discussing their use of libraries, computers, and time spent gathering information may give small insights into the work of women pastors.

Each woman represented a different denomination: Church of Christ, Disciples of Christ, and Presbyterian Church (U.S.A.). Also each was from a different age range: thirty-six to forty-five, forty-six to fifty-five, and twenty-six to thirty-five. All three had earned the Master

of Divinity degree; one had also earned a second master's degree. Their churches' attendance the previous Sunday varied from about 725 to eighty to 250. When compared to all participants in the study, these women clergy match the general pattern except that none are Southern Baptists or United Methodists.

They showed variety in their use of computers. One did not use a personal computer. One used one only for word processing. The third pastor, the youngest of the three, used a personal computer for word processing, personal calendaring and/or record keeping, to assist with her administrative responsibilities. Each one represents the three patterns found in the larger group: the non-users, those who use one only for word processing, and those who use a personal computer for multiple purposes.

The women pastors reported data similar to that reported by the whole group of participants. Table 17 shows that their libraries were near the median value of all who responded for each category studied.

The women ministers' patterns of use of institutional libraries also showed no distinguishing characteristics. The youngest of the three seldom or never used any type of library for any purpose. The second did regularly use her public library to find materials for her family and sometimes for hobbies and relaxation. Also she sometimes used her church's library to find materials for

Table 17.--Characteristics of personal libraries of woman ministers

	Median of all	Pastor 1	Pastor 2	Pastor 3
Books owned	900	900	501+	900
Paid subscriptions	4	6	10	5
Free subscriptions				
Items added last twelve months	21	nr	20+	75
Cost of new materials ($)	300.00	300.00	300.00+	500.00
Books supporting sermons (%)	50	70	50	35
Books supporting administration (%)	15	5	20	35

her family.

The third pastor, who served the smallest of the three churches, did sometimes use all four types of libraries. She regularly used her church's library to find materials to support her ministry and, as other use, to refer materials to others. Sometimes she would use the church library to find materials for her hobbies or for relaxation. Very seldom or never did she use the church library to find materials for her family. She also used public libraries, college or university libraries, and seminary or divinity school libraries, though not as much. She would sometimes use public and college/university libraries to find materials for hobbies or relaxation or to find materials for her family. She very seldom or never used these type libraries to support her ministry. Her use of a seminary or divinity school library showed just the

opposite pattern of use. Sometimes she would use one to
find materials to support her ministry, but very seldom or
never to find materials for hobbies, relaxation, or for her
family.

The times these women ministers spent gathering
information for preaching and administrative decision making
were near the median values for all of the respondents. All
three reported beginning preparation on their sermon early
in the week prior to the Sunday the sermon was preached--one
on Monday and two on Tuesday. They would spend eight, two,
or four hours gathering information to help them prepare the
sermon. For their administrative episodes, they had spent
one or two months in preparation. One minister spent forty
to fifty hours to gather information in the month before
beginning a community benevolence program. Another spent
more than ten hours gathering information during the two
months she began to address the issue of "helping the
minister's cabinet plan for 'down times' in summer &
reorganizing for the fall." The third spent three hours
during a two month period of planning an evangelism program
of "reaching inactive members." These hours spent gathering
information while performing different work roles compare
similarly with the hours reported by all the participants,
as Table 18 shows.

A review of the forced rankings for each of the
information sources in preaching and in administration

Table 18.--Hours women ministers spent gathering
information, by role

	Mode of all	Pastor 1	Pastor 2	Pastor 3
Preaching	2.00	2	8	4
Administration	20.00	45	10+	3

showed that each ranked their personal book collection first
as a source for preaching. As a resource for an
administrative situation, one ranked her own creativity
first, followed by four impersonal sources. The other two
ranked other persons first and impersonal sources lower.

A review of the forced rankings the three women gave
for each of the information sources in preaching and in
administration showed that each ranked their personal book
collection first as a source for preaching. As a resource
for an administrative situation, one ranked her own
creativity first, followed by four impersonal sources. The
other two ranked other persons first and impersonal sources
lower. These responses and the descriptive variables given
above are consistent with the others received and do not
distort the sample.

Conclusion

This profile of the respondents is not the major
focus of the study although it does provide potentially
useful information to those who might be doing market
research for a local library or a computer software vendor.

The demographic variables of denominational affiliation, age, years of experience, educational level, and gender are later used as analytic variables in correlation tests with other variables. So the profile provides a useful backdrop to those studies. Personal book collections and institutional libraries are themselves two of the variables used to test the primary hypotheses of the study. The profile of the ministers as computer users and the report of the time spent gathering information for responsibilities in different roles also adds to the study.

Chapter V further analyzes the responses to the questionnaire to examine the major research question of the study. Do the different roles a minister performs influence how he or she finds and stores information?

CHAPTER V

TESTS OF THE HYPOTHESES

This study explores the relationship between different professional roles and information seeking behaviors. Protestant clergy represent one professional group that uses information to support different work roles. Three hypotheses guide the study:

H_1: Differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in the choice of a type of information channel;

H_2: Differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in the choice of method for information retrieval;

H_3: Differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in choice of method used for storing information gathered.

The study includes six other variables that might qualify these three hypotheses: the amount of money the minister spends to add materials to his or her personal library, the minister's age, the minister's educational background, the size of the congregation the minister serves, the minister's denominational affiliation, and the years of experience the minister has had in the ministry. This chapter reports the results of a statistical analysis

of selected and derived data gathered from responses to the questionnaire to test the three hypothesis and to gauge the influence of the variables on the outcome of the study.[1]

Work Roles and the Choice of Information Channel

The first hypotheses states that the study will find a difference between choices of information channels and that this difference can be explained by the minister's different work roles. Stated as a null hypothesis, the first issue for examination is:

Ho_1: No differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in the choice of a type of information channel.

Chapter I defined an information channel as the form in which the information was delivered (see page 6). Specifically this study scrutinizes the choice of formal and informal channels. Testing two subsidiary hypotheses, also stated in the null form, adds precision to the study.

$Ho_{1.1}$: No differences exist between choice of formal channels versus informal channels.

$Ho_{1.2}$: No differences exist between the choice of individual information channels.

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[1]This study originally proposed to include gender as one of the analytic variables. However only three women responded. Gender was not included as a variable for hypothesis testing.

The questionnaire listed thirty-one possible information channels. For analysis, the following were considered informal channels.

Colleague on staff
Family member
Other person in congregation
Other minister in area by phone
Other minister in area by mail
Other minister in area in person
Other minister outside area by phone
Other minister outside of area by mail
College/seminary professor by phone
College/seminary professor by mail
College/seminary professor in person
Other known expert on subject by phone
Other known expert on subject by mail
Other known expert on subject in person
Information received by phone from associational,
    district or area denominational office on this topic
Information received in person from association,
    district, or area denominational office on this
    topic
Information received by phone from state or national
    denominational office on this topic or situation
Information received in person from state or national
    denominational office on this topic or situation.

The following potential information channels were considered

formal channels.

Personal book collection
Personal clipping/pamphlet file
Book purchased specifically for sermon or situation
Recently read newspaper or magazine article
Recently seen or heard television or radio program
Church library resources
Local public library by phone
Local public library in person
Local college/university/seminary library by phone
Local college/university/seminary library in person
Attended conference/workshop on sermon subject or
    situation
Information received by mail from associational,
    district, or area denominational office on this
    topic or situation
Information received by mail from state or national
    denominational office on this topic or situation.

The questionnaire instructed each person to respond to the list of information channels twice. First they completed a Likert scale for each channel, with four highest and one lowest. Then they were asked to rank the five most important sources in order of importance, from one to five, with one highest[2]. This gave two sets of ordinal data for analysis. The Likert scale data rated the importance of each variable as a channel in itself. The forced ranks data rated the relative importance the information channel in relationship to the other listed information channels. Some channels should show a general importance in preaching or administration, but still not be important enough to rank as one of the top five sources. Since the data subject to analysis represent two related measures from a single sample as well as being ranked data, the Wilcoxon signed ranks test (W^+) was chosen to analyze the data (Siegel and Castellan 1988, 100-101).

The first tests were run on the groups of channels, whether formal or informal. Table 19 displays the results comparing the use of formal and informal information channels in both sermon preparation and administration. In Table 19 (and in similar tables in this chapter), n gives the number of pairs, that is, the number of timesrespondents marked the same information channel for both preaching and

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[2]For a copy of the questionnaire, see Appendix A.

Table 19.--Differences in choice of formal and informal
information channels

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Formal (Likert)	60	29	24	7	1.086	.2774
Informal (Likert)	61	2	56	3	-6.431	.0000*
Formal (Ranks)	58	37	16	5	3.049	.0023*
Informal (Ranks)	58	9	42	7	-4.463	.0000*

*$p < .05$

administration. "Preach plus" shows the number of pairs in which the channel listed under preaching ranked higher than the same channel listed under administration. "Admin. plus" shows the number of pairs in which the channel listed under administration ranked higher than the same channel listed under preaching. "Ties" gives the number of times the channel in both list were ranked the same. "Wilcoxon z" is the test statistic. The letter "p" is the probability that the observed differences as reflected in the Wilcoxon z score are due to chance. Differences are deemed significant if p is less than .05.

In this instance, the statistical test shows that there are differences in the ministers' use of informal sources for preaching and administration. This holds true for both Likert data and ranked data. The test gives mixed results about the use of formal channels. When applied to Likert data, the probability of differences due to chance

exceeds .05; however when applied to ranked data, the
probability is less than .05.

Table 20.--Comparison of formal channels

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Personal book collection						
	60	40	2	18	5.519	0.0000*
Mailed information from local or area denominational office						
	61	3	19	39	-3.802	0.0001*
Book purchased specifically for the sermon						
	61	25	5	31	3.140	0.0017*
Personal clipping/pamphlet file						
	61	32	12	17	3.142	0.0032*
Mailed information from state or national office						
	61	4	13	44	-2.803	0.0051*
Attended conference/workshop on topic or situation						
	60	4	18	38	-2.487	0.0129*
Recently seen or heard TV or radio program						
	61	12	21	28	-2.198	0.0279*

*$p < .05$

To test the second subsidiary hypothesis, each
information channel's scale or rank for preaching was
compared with the same channel's use in administration. The
Wilcoxon signed ranks test showed that for twenty-one of the
thirty-one channels, the probability that differences in
rankings was due to chance was .05 or less. Of these
twenty-one, seven were formal sources and fourteen were
informal sources. Table 20 (above) gives the results of the
test applied to the formal sources. The three formal
sources.more important to preaching were the personal book
collection, a specific book purchased for the sermon, and

the pamphlet/clipping file. The four information channels more important to administration were information from the local or area denominational office received by mail, information received by mail from the state or national denominational office, a recently attended conference on the subject or situation, and a recently seen or heard television or radio program.

Table 21 (page 101) shows that each of the listed information channels was preferred in the administrative role more than in the preaching role. Since $p < .05$ for several of the information channels, the study rejects both the subsidiary null hypotheses $Ho_{1.1}$ and $Ho_{1.2}$ and also Ho_1.

Work Roles and the Choice of Method for Information Retrieval

The second hypothesis says that the study will find differences between the choice of methods for information retrieval. Choice of method for information retrieval refers to how the subject gained access to the information channel (above, page 7). Stated in the null form, the second hypothesis is:

Ho_2: No differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in the choice of method for information retrieval.

The questionnaire elicited information on five different methods used to retrieve information: telephone, mail, mass media, interpersonal interaction, and individual action

Table 21.--Comparison of informal channels

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Other minister in area by phone						
Likert	61	0	33	28	-5.106	0.0000*
Other person in congregation						
Likert	61	7	41	13	-4.379	0.0000*
Scaled	58	4	27	27	-3.873	0.0001*
Other minister in area in person						
Likert	61	3	28	30	-4.346	0.0000*
Colleague on staff						
Likert	61	4	27	30	-4.341	0.0000*
Ranked	58	5	21	32	-3.234	0.0012*
Information received in person from local denomination office						
Likert	61	2	22	37	-3.932	0.0001*
Other minister outside of area by phone						
Likert	61	2	20	39	-3.885	0.0001*
Other known expert on subject by phone						
Likert	61	4	22	35	-3.809	0.0001*
Other known expert on subject in person						
Likert	61	3	22	36	-3.760	0.0002*
Information received by phone from local denomination office						
Likert	60	1	17	42	-3.491	0.0005*
Information received in person from state/national denom.						
Likert	61	0	15	46	-3.436	0.0006*
Other minister in area by mail						
Likert	61	1	15	45	-3.390	0.0007*
Information received by phone from state/national denom.						
Likert	61	0	13	48	-3.220	0.0013*
Other minister outside of area by mail						
Likert	61	4	15	42	-2.664	0.0077*
Other known expert on subject by mail						
Likert	61	8	18	35	-2.078	0.0377*
Other minister in area						
Ranked	58	8	22	28	-1.977	0.0480*

*$p < 0.05$

(without help of an intermediary). Using the same list of information channels given above and the same Likert and ranked responses, the statements were grouped into five categories and analyzed using the Wilcoxon Signed Ranks

test. The following subsidiary hypotheses, stated in the
null form, reflect these categories.

$Ho_{2.1}$: No difference exists in the use of telephone within each role.

$Ho_{2.2}$ No difference exists in the use of mail within each role.

$Ho_{2.3}$: No difference exists in the use of personal contacts within each role.

$Ho_{2.4}$: No difference exists in the use of impersonal sources within each role.

$Ho_{2.5}$: No difference exists in the use of mass media sources within each role.

Use of the Telephone

To test $Ho_{2.1}$ each participant's response to the
following statements were first averaged to create two new
variables measuring 1) the use of telephone in preaching and
2) the use of the telephone in administration. The ranks
for the following information channels were also averaged
for each respondent: once for their use in preaching and
once for their use in administration.

Other minister in area by phone
Other minister outside of area by phone
College/seminary professor by phone
Other known expert on subject by phone
Local public library by phone
Local college/university/seminary library by phone
Information received by phone from associational, district or area denominational office on this topic
Information received by phone from state or national denominational office on this topic

These two scores were compared using the Wilcoxon signed
ranks test. Table 22 displays the results showing the

telephone was preferred more in the administrative role than in preaching.

Table 22.--Comparison of the use of the telephone by role

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Use of phone						
Likert	59	4	43	12	-5.811	0.0000*
Ranked	58	2	12	44	-1.987	0.0469*

*p < .05

Table 23.--Specific sources of information received by telephone

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Other minister in area by phone'						
Likert	61	0	33	28	-5.106	0.0000*
Other minister outside of area by phone'						
Likert	61	2	20	39	-3.855	0.0000*
Other known expert outside of area by phone						
Likert	61	4	22	35	-3.809	0.0000*
Ranked	58	3	8	47	-1.387	0.1654
Information received by phone from local denom. office'						
Likert	60	1	17	42	-3.491	0.0000*
Information received by phone from state/nat'l denom. office'						
Likert	61	0	13	48	-3.220	0.0000*

'Only Likert data is available.
*p < .05

To determine which uses of the telephone were more important to either role, the results of the tests on the paired data were reviewed. Five of the eight showed significant difference between roles. Tables 22 and 23 show that ministers use a telephone to retrieve information when

in their administrative role more than they do in their
preaching role. Therefore this study rejects Ho$_{2.1}$ that there
is no difference in the use of the telephone because of
role.

Use of the Mail

To test for differences in the use of information
received by mail (Ho$_{2.2}$), responses to the following
information sources were analyzed.

Other minister in area by mail
Other minister outside area by mail
College/seminary professor by mail
Other known expert on subject or situation by mail
Information received by mail from association, district,
    or area denominational office on this topic
Information received by mail from state or national
    denominational office

Table 24.--Comparison of the use of mailed information

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Use of information received by mail						
Likert	61	32	8	21	-4.540	0.0000*
Ranked	57	6	1	50	-1.192	0.2334

*$p < .05$

First, responses to each question from each survey
form were averaged to create a new variable measuring the
use of mailed information in preaching and in
administration. The Wilcoxon signed ranks test was applied
to the means of these groups. Table 24 shows that

significant differences do exist in general importance

(Likert scale) of mailed information although it does not

show a difference in their relative importance (ranked

scale).

Table 25.--Specific sources of information received by mail

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Information received by mail from area denom. office#						
Likert	61	3	19	39	-3.802	0.0000*
Other minister in area by mail#						
Likert	61	1	15	45	-3.390	0.0000*
Information received by mail from state/nat'l denom. office#						
Likert	61	4	13	44	-2.803	0.0000*
Other minister outside area by mail#						
Likert	61	4	15	42	-2.664	0.0000*
Other known expert on subject by mail						
Likert	61	8	18	35	-2.078	0.0000*
Ranked	58	3	5	50	-0.364	0.5261

#No ranked data available
*p < .05

Second, data for each of the six information sources

were compared using the same test. Five of the six showed

significant differences between roles, as reported in Table

25. Therefore the study rejects the subsidiary null

hypothesis that there is no difference in the use of mailed

information because of roles ($Ho_{2.2}$).

Persons as Information Sources

To determine if there are differences in personal
contacts as a method for information retrieval ($Ho_{2.3}$), data
from the following choices were studied.

Colleague on staff
Family member
Other person in congregation
Other minister in area in person
College/seminary professor in person
Other know expert on subject in person
Attended conference/workshop on sermon subject or
    situation
Information received in person from association,
    district, or area denominational office on this
    topic or situation
Information received in person from state or national
    denominational office on this topic or situation

Table 26.--Interpersonal contact as method for seeking
information

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Interpersonal contacts as method						
Likert	61	6	50	5	-5.963	0.0000*
Ranked	58	12	35	11	-3.195	0.0014*

*$p < .05$

The new variable, interpersonal contact as an information
retrieval method, was created for both roles by taking the
average of each subject's responses to the ten choices.
Based on the Wilcoxon signed rank test, Table 26 presents
data showing significant differences in the use of

interpersonal contacts as a methed for information

retrieval.

The scale and ranks of each option marked for

preaching were compared with the rankings of the

Table 27.--Comparison of personal interactions

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Other person in congregation						
Likert	61	7	41	13	-4.379	0.0000*
Ranked	58	4	27	27	-3.873	0.0001*
Colleague on staff						
Likert	61	4	27	30	-4.341	0.0000*
Ranked	58	5	21	32	-3.234	0.0012*
Other known expert on subject in person						
Likert	61	3	22	36	-3.760	0.0000*
Ranked	58	2	11	45	-1.843	0.0653
Information rec'd in person from state/nat'l denom. office[f]						
Likert	61	0	15	46	-3.436	0.0006*
Attended conference/workshop on topic or situation						
Likert	60	4	18	38	-2.487	0.0129*
Ranked	58	5	9	44	-0.221	0.8252

[f]No ranked data was collected
*$p < .05$

corresponding option marked for administration. The

Wilcoxon signed rank test indicated that five of the eleven

produced significant differences in choice of interpersonal

contact as a method for information retrieval. Table 27

shows that for these five types of interpersonal contact,

those surveyed preferred to gather information through

direct personal contact when functioning as an administrator

more than when functioning as a preacher. For the other

four choices, there were no significant differences between

roles. Because the test shows significant differences, the null hypothesis $Ho_{2.3}$ is rejected.

Impersonal Methods for Information Retrieval

Three information channels do not assume interpersonal contact. The individual has direct access to the information. These three are

Personal book collection
Personal clipping/pamphlet file
Book purchased specifically for sermon or situation.

The use of libraries can be either personal or impersonal, depending on whether or not a person asks for assistance finding information in the library. Assuming that using the library to find information is ultimately an individualistic act, the following information channels are included as impersonal methods.

Church library resources
Local public library in person
Local college/university/seminary library in person

Table 28.--Comparison of impersonal means

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Use of impersonal means in administration						
Likert	60	35	17	8	2.793	0.0052*
Ranked	58	37	16	5	3.311	0.0000*

*$p < .05$

To test $Ho_{2.4}$, two new variables based on the arithmetic means of the responses to the list of channels

used in preaching and means of the responses to the list of
channels from the administration list were calculated.
This created an index of impersonal methods used in
preaching and in administration. Comparing the two new
variables using the Wilcoxon signed rank test shows that
there is a significant difference in the choice of
impersonal methods for information retrieval. Table 28
presents the results that show a significant difference in
the use of impersonal means as a method for retrieving
information for preaching and administration.

Table 29.--Specific impersonal means of gathering
information

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Personal Book Collection						
Likert	60	40	2	18	5.519	0.0000*
Ranked	58	37	11	10	2.466	0.0136*
Book purchased specifically for sermon or situation						
Likert	61	25	5	31	3.140	0.0017*
Ranked	58	18	13	27	0.682	0.4953
Personal clipping/pamphlet file						
Likert	61	32	12	17	2.945	0.0032*
Ranked	58	30	8	20	4.058	0.0000*

*p < .05

Analyzing each type of impersonal information choice
shows that three of the options have significant
differences, as reported in Table 29. Ministers prefer to
use their personal book collection, personal
clipping/pamphlet file, or purchase a specific book when

gathering information for preaching. These are less

important when gathering information for administrative

responsibilities. The null hypothesis $Ho_{2.4}$ is rejected.

Choice of Mass Media as an Information Source

Two information channels reflect the use of the mass

media as an information choice: "a recently read newspaper

or magazine article" and "a recently seen or heard

Table 30.--Use of mass media as method for information
retrieval, by role

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Mass media a means for information retreival						
Likert	61	24	14	23	1.473	0.1406
Ranked	58	22	8	28	2.857	0.0053*

$*p < .05$

radio/television program." After grouping and averaging

each of these variables, the new variable, use of media in

preaching, was compared with the second new variable, use of

media in administration. Table 30 shows different results

for the types of data. The differences are significant for

the data based on ranks. They are not significant for

thedata based on a Likert scale. Both measures show a more

frequent use of mass media in administration.

Table 31 shows the results of testing the

differences between the two choices of broadcast media and

Table 31.--Comparison of the choice of mass media as a
source of information choice

	n	Preach Plus	Admin. Plus	Ties	Wilcoxon z	p
Recently seen or heard television or radio program						
Likert	61	18	4	39	2.912	0.0036*
Ranked	58	11	3	44	2.184	0.0290*
Recently read newspaper or magazine article						
Likert	61	20	17	24	0.282	0.7777
Ranked	58	22	7	29	2.700	0.0069*

*$p < .05$

print media. Broadcast media definitely show differences in
their use in the two roles. The tests of print media give
ambiguous results. However since the results of four of the
six tests show a $p < .05$, the null hypothesis $Ho_{2.5}$ is
rejected.

Work Roles and the Choice of Method for Storing Information

The third principal hypothesis states that the study
will show that the methods used for storing information
gathered for different role responsibilities will differ.
The null hypothesis for testing takes the following form:

Ho_3: Differences do not exist between the information
seeking behavior exhibited in the minister's
role as preacher and the role as administrator
in the choice of method used for storing
information gathered.

The questionnaire asked the following questions:
"How will or did you store for future use the information
you found while preparing for this sermon?" and "How will

you or did you store for future use the information you found while preparing to make this recent managerial or administrative decision?" To answer each question, participants were asked to choose one of the following responses:

    File folders without other index
    File folders with paper index
    Computer files
    Paper files with computer indexes
    Other: [with option to specify their method]

The responses were coded into fifteen categories:

    1 Folders, no index
    2 Folders, indexed
    3 Computer files, no index
    4 Paper files, computer index
    5 File folders, indexed; computer files
    6 File folders, no index; folders, indexed;
        computer files
    7 File folders, no index; Computer files
    8 File folders, indexed; computer files;
        paper files, computer index
    9 Other
    10 File folders, no index; other
    11 Computer files, other
    12 Computer files; paper files, computer index
    13 File folders, indexed; other
    14 File folders, no index; file folders, indexed
    15 File folders, indexed; paper files, computer index

Table 32 shows that the use of folders without an index and folders with an index were the two most common ways of storing information retrieved in both roles. Of the combinations of methods, file folders, with or without indexes, and computer files were the most common.

For this nominal data, the binomial test (Siegel and Castellan 1988, 38-44) was used to test the hypothesis that no difference because of work roles exists in methods used

Table 32.--Methods for storing information

	Preach.	Admin.
1 Folders, no index	20	16
2 Folders, indexed	13	17
3 Computer files, no index	5	5
4 Paper files, computer index	1	1
5 File folders, indexed; computer files	4	9
6 File folders, no index; folders, indexed; computer files	0	2
7 File folders, no index; Computer files	5	4
8 File folders, indexed; computer files; paper files, computer index	2	1
9 Other	6	1
10 File folders, no index; other	0	1
11 Computer files, other	1	0
12 Computer files; paper files, computer index	2	0
13 File folders, indexed; other	1	0
14 File folders, no index; file folders, indexed	3	0
15 File folders, indexed; paper files, computer index	0	1
Missing values	1	7
Total	64	64

to store information. The responses were coded as either a matched pair or an unmatched pair. The proportion of observations expected to be matched was set at .5. As shown in Table 33, the test results in z value of -0.265, with a p

Table 33.--Comparision of differences in storage methods

n	57	z	-0.265
Matched pairs	25	p_z	.3953
Unmatched pairs . . .	42		
Missing pairs	7		

of .3954 (Seigel and Castellan 1988, 319). The probability that the difference between matched and unmatched pairs can be explained by chance alone exceeds .05. The null hypotheses Ho_3 that no differences exist is accepted.

The Influence of Other Variables
on Information Seeking Behavior

The study gathered data on seven other variables to ascertain their possible influence on information seeking behavior: age, years of experience in the ministry, educational background, size of congregation served, denominational affiliation, and dollars spent to add materials to personal library. To test whether or not there is an association between these control variables and the variables related to information seeking behavior, the study has speculated that there is a relationship between these seven variables and information seeking behavior.

H_4: An association does exist between the minister's age and some variables related to information seeking behavior.

H_5: An association des exist between the minister's years of experience and some variables related to information seeking behavior.

H_6: An association does exist between the minister's educational background and some variables related to information seeking behavior.

H_7: An association does exist between the size of the congregation the minister serves and some variables related to information seeking behavior.

H_8: An association does exist between the minister's denominational affiliation and some variables related to information seeking behavior.

H_9: An association does exist between the dollars spent to add materials to his or her personal library and some variables related to information seeking behavior.

The Spearman rank-order correlation coefficient was used to measure the association between these control variables and the variables used to study information seeking behavior. These values were then subjected to a two-tailed test of significance to find if $p < .05$.

Minister's Age

To test the relationship between the minister's age and the variables about information seeking, the following hypotheses was constructed:

Ho$_4$:   An association does not exist between the minister's age and variables related to some information seeking behavior.

Table 34.--Age and information seeking behaviors

	r_s	p_r
Use of formal sources in administration (ranked)	0.239	0.0571
Use of impersonal sources in administration (ranked)	0.238	0.0579
Use of seminary library (Likert)	0.203	0.1080
Other known expert, by mail (Likert)	0.191	0.1297
Other known expert, in person (Likert)	0.187	0.1384

Table 34 shows those relationships for which $p_r < .15$; there were no relationships for which $p_r < .05$. The null hypothesis Ho$_4$ is accepted.

Years of Experience

To test the relationship between a minister's years

of experience in the ministry and information seeking

behavior, the following hypothesis was formulated.

Ho$_5$: An association does not exist between the
minister's years of experience and variables
related to information seeking behavior.

Table 35.--Years' experience and information seeking
behavior

	r_s	p_r
Use of seminary library	0.286	0.219*
Personal clipping/pamphlet file (Likert)	-0.284	0.232*
Use of impersonal sources for preaching (Likert)	-0.230	0.0678
Book purchased specfically for sermon (Likert)	-0.226	0.0728

*p < .05

Table 35 shows that two of the correlations had a p_r < .05.

Therefore the null hypothesis Ho$_5$ is rejected.

Educational Background

The following null hypothesis test was used to test

the relationship between a minister's educational background

and information seeking behaviors.

Ho$_6$: An association does exist between the minister's
educational background and variables related to
information seeking behavior.

Table 36.--Educational background and information seeking behaviors

	r_s	p_r
Use of mailed information in preaching (Likert)	0.255	0.0491*
Other person in congregation (ranked)	0.247	0.0491*
Formal information sources used in preaching (ranked)	0.237	0.0597

Table 36 shows that the study did find evidence of the relationship with educational background on two variables. The null hypothesis Ho_6 is rejected.

Size of Congregation

The following null hypothesis guided the test of the relationship between size of congregation served and information seeking behaviors:

Ho_7: An association does not exist between the size of the congregation the minister serves and variables related to information seeking behavior.

According to the information in Table 37, thirteen information channels show a relationship to size of the congregation served. Three show a positive relationship and ten show a negative relationship. The null hypothesis, Ho_7, is rejected.

Table 37.--Size of congregation served and information
seeking behaviors

	r_s	p_r
Recently seen or heard television program in administration (Likert)	-0.339	0.0062*
Personal clipping/pamphlet file in administration (Likert)	-0.337	0.0065*
Other person in congregation for administration (Likert)	0.332	0.0774*
Local public library in person for administration (Likert)	-0.312	0.0122*
Informal information sources in administration (ranked)	0.302	0.0155*
Local public library by phone for administration (Likert)	0.299	0.0162*
Information received in person from area denom. office for admin. (Likert)	-0.295	0.0180*
Information received by mail from area denom. for administration (Likert)	-0.284	0.0231*
Family member for administration (Likert)	-0.278	0.0259*
Information received by phone from area denom. office for admin. (Likert)	-0.261	0.0370*
Local college/univ./seminary library for administration	-0.259	0.0386*
Information received by mail from state state/nat'l demon. for admin. (Likert)	-0.255	0.0424*
College/seminary professor by mail for administration	-0.251	0.0451*

*$p < .05$

Denominational Affiliation

The following null hypothesis was used to test the
relationship between denominational affiliation and
information seeking behaviors.

Ho$_8$:   An association does not exist between the
minister's denominational affiliation and some
variables related to information seeking
behavior.

To test this hypothesis requires a measure of association between nominal data (denominations) and ordinal data (scaled or ranked use of information channels) instead of the interval and ordinal data tested in other hypotheses. This hypothesis suggests the use of the Kruskall-Wallis one-way analysis of variance by ranks (Siegel and Castellan 1988, 206-216, 222). To create the appropriate independent variable, the denominatations were first sorted alphabetically, and then assigned a nominal value from 1 to 17. These values were then transformed into ranks. The Kruskall-Wallis test was then performed on the data using the ranked value as the independent variable and the values for all the possible information channels listed in the survey as dependent variables.[3]

Table 37 reports that twenty-two dependent variables showed a significant probability that variation related to denominational affiliation can also account for differences in choice of information channel. This is especially true of the forced ranked data of the channels used for administration. The null hypothesis Ho_8 is rejected.

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[3]The authors of the Crunch software manual suggested this rank transformation procedure, following Conover and Iman (Crunch 1991, 2:455, Conover and Iman 1981, 124-25).

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Table 38.--Denominational Affiliation and Information
seeking behaviors, Kruskall-Wallis X^2 test

	K-W X^2	p
Personal book collection for preaching (Likert)	28.107	0.0209*
Information from area denom office rec'd by phone for preaching (Likert)	26.488	0.0332*
Other minister in area for preaching (ranked)	26.822	0.0302*
College/seminary professor by phone for preaching (ranked)	29.936	0.0121*
College/seminary professor by mail for preaching (ranked)	28.433	0.0339*
Known expert in person for preaching (ranked)	30.905	0.0090*
Recently read newspaper/magazine article for preaching (ranked)	35.883	0.0393*
Local public library by phone for preaching (ranked)	28.968	0.0162*
Local public library in person for preaching (ranked)	28.968	0.0162*
Local college/seminary library by phone for preaching (ranked)	28.968	0.0162*
Info received at conf./workshop for preaching (ranked)	29.647	0.0133*
College/seminary professor by mail for administration (ranked)	30.450	0.0104*
College/seminary professor in person for administration (ranked)	26.432	0.0377*
Local public library by phone for administration (ranked)	28.517	0.0185*
Local college/seminary library by phone for administration (ranked)	30.450	0.0104*

D.f. 15   *p < .05

Dollars Spent to Add New Materials
to Personal Library

The test of the relationship between the dollars spent on the minister's personal library the previous year and information seeking behavior, used the following null hypothesis:

Table 39.--Dollars spent on personal library and information
seeking behavior

	r_s	p_r
Personal book collection (Likert)	0.291	0.0198*
Formal sources, administration (Likert)	0.270	0.0309*
Personal book collection (ranked)	0.253	0.0440*
Formal sources in administration	0.237	0.0589
Book purchased specifically (ranked) for administrative situation (Likert)	0.230	0.0671
Impersonal sources used in administration (Likert)	0.228	0.0699
Mailed sources used in preaching (Likert)	0.214	0.0896
Informal sources used in preaching (ranked)	0.210	0.0964

*$p < .05$

Ho_9: An association does not exist between the dollars spent to add materials to his or her personal library and variables related to some information seeking behavior.

Table 39 lists those relationships for which $p_r < .10$.

Since three variable show $p_r < .05$, the null hypothesis Ho_9 is rejected.

Conclusion

Nine hypotheses were tested. Two of the three main hypotheses were affirmed using the Wilcoxon signed ranks test.

H_1: Differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in the choice of a type of information channel;

H_2: Differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in the choice of method for information retrieval;

The third main hypotheses was rejected using the binomial
test.

H$_3$: Differences exist between the information seeking
behavior exhibited in the minister's role as
preacher and the role as administrator in choice
of method used for storing information gathered.

Of the six subsidiary tests for correlations
between selected demographic variables and variables of
information seeking behavior, four were statistically
supported by testing the significance of the Spearman
coefficient of correlation:

H$_5$: An association does exist between the minister's
years of experience and some variables related to
information seeking behavior.

H$_6$: An association does exist between the minister's
educational background and some variables related
to information seeking behavior.

H$_7$: An association does exist between the size of the
congregation the minister serves and some variables
related to information seeking behavior.

H$_9$: An association does exist between the dollars spent
to add materials to his or her personal library and
some variables related to information seeking
behavior.

One hypothesis was accepted based on the results of
Kruskal-Wallis X^2 test.

H$_8$: An association does exist between the minister's
denominational affiliation and some variables
related to information seeking behavior.

The test of the Spearman coefficient of correlation
could not substantiate the following hypothesis.

H$_4$: An association does exist between the minister's
age and some variables related to information
seeking behavior.

Consequently, this data analysis suggests that role is related to one's choice of information channel and methods of retrieving information. It is not related to one's method of storing information. Other factors that show a relationship to information seeking behaviors are amount of money a minister spends to add materials to his or her personal library, the minister's educational background, the size of the congregation the minister serves, the years of experience the minister has accumulated, and the minister's denominational affiliation. One variable that was not found to be significant in this study was the minister's age. The minister's gender may be related to information seeking behavior, but not enough women participated in the study to support a conclusion about the relationship. Chapter VI discusses the implications of the data analysis presented in this chapter.

CHAPTER VI

DISCUSSION AND CONCLUSION

This study has explored the relationships between work roles and patterns of selected information seeking behaviors, based on a sample of Protestant ministers in Tarrant County, Texas. The sample was chosen from members of the Christian clergy as a representative profession in which the concept of role has been studied and applied. Two roles were chosen for analysis, preaching and administration. The information seeking behaviors included the choice of information channel, methods of retrieving information, and methods of storing information.

Three hypotheses guided the research:

H_1: Differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in the choice of a type of information channel;

H_2: Differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in the choice of method for information retrieval;

H_3: Differences exist between the information seeking behavior exhibited in the minister's role as preacher and the role as administrator in choice of method used for storing information gathered.

The study also tested to find how information seeking behaviors were related to age, years of experience,

educational background, size of congregation served, denominational affiliation, and dollars spent to add materials to the minister's personal library.

To gather data for the research, one hundred fifty questionnaires were mailed to randomly selected senior ministers of Protestant churches in Tarrant County; sixty-four were returned. To gather additional data, fifteen pastors were selected at random for interviews about the ways they found and stored information in each of the two roles. Data from the questionnaires were analyzed using the Wilcoxon signed ranks test, the Spearman coefficient of coordination, and binomial test of differences. Significant differences were found to exist between roles both in the choice of information channel and in the methods used to retrieve information. No significant difference was found in the way ministers stored information that they retrieved. In addition to the preceding results, significant correlations were found between roles and years of experience, educational background, dollars spent on one's personal library, denominational affiliation, and size of congregation served and some information channels and retrieval methods. No significant correlation was found between age and any of the retrieval methods. Because only three women responded to the survey, no tests of hypothesis about gender were conducted, although their responses were discussed in some detail. The study also analyzed the

participants' use of institutional libraries and of computers.

Discussion of the Results

Choice of Information Channel

The results of the hypothesis testing merit some discussion. The first test found that differences do exist between the choice of information channels used for preaching (specifically sermon preparation) and those used to make administrative decisions or implement new programs. Informal channels, that is, those channels not intentionally organized or produced as an information channel, were preferred for information seeking in the administrative role. Formal channels, that is, those organized or produced as an information channel, were generally useful in both roles. However when participants were forced to rank their resources, the formal channels were preferred in preaching and informal channels were preferred for administration.

Certain aspects of the sermon preparation process may be relevant to note in this regard. Preaching is an activity repeated at least weekly. It is also a visible role to the congregation that regularly expects a high level of performance from the preacher. Convenient access to information channels designed to provide specific information presumably should help the pastor reduce the time spent gathering information for the sermon. This gives

her or him more time to package the information into a more
meaningful sermon.

Time spent gathering information for preaching
ranged from zero to twenty-five hours with an average of
about six hours per week, although two hours were more
frequently reported. Personal libraries kept in the
minister's office and arranged by subject and personal
clipping/pamphlet files reflecting the minister's own
interest and experience were more important to preaching
than to administration. The preaching role can include
planning for future sermons. Consequently the minister can
anticipate future needs and gather and store printed
information for future use. Also several of those
interviewed, and some who added comments to their
questionnaire, reported owning a few trusted Bible
commentaries that organize exposition and information about
the Bible according to segments of the Bible, such as verse
by verse.

For administration, ministers preferred a variety of
sources most of which were classified as informal. In all,
ministers preferred nineteen different sources. Fifteen
were informal; four were formal. The variety of
administrative issues the participants chose to report might
account for some of this variety, yet the pattern remains.
In a church, administrative responsibilities also have
implications for several persons, and other persons in the

congregation and colleagues on the church's staff would accordingly be sought out both as interested parties and as information resources. Too, ministers, if trained at all in administration, are trained in concepts and basic principles. When faced with a new administrative issue they must gather information specific to that issue. For this they may turn to lay persons in their congregation who work regularly with similar issues or they may turn to other ministers who have dealt with the issue previously. Often a denominational office will have or know of experts who can provide information on the subject. Also it is more difficult to anticipate future administrative issues that may occur only once in a minister's career. Therefore he or she may have fewer formal resources at hand. What they do have may have become outdated. Resources used for preaching are less likely to go out of date.

Choice of Method for Information Retrieval

Ministers' preference for formal information channels when in their role as preacher logically parallels their preference for impersonal means of gathering information, as the study suggests. The mass media, both print and broadcast, are frequently recommended to ministers as sources of sermon illustrations. This may also help explain why this was a preferred method for gathering information. Listening to the radio news or talk shows

while traveling between appointments can help the minister make use of that otherwise unproductive time. Watching the daily television news and reading widely distributed magazines such as Readers' Digest or Time can give the minister similar points of contact with the community and the world that many in her or his congregation would have. Persons interviewed mentioned both of these methods. The telephone, the mail, and personal contact are ways of accessing informal sources, and were reported as preferred methods in the administrative role. Overall study of the choice of method show a preference for those methods which bring information close to hand.[1]

Methods for Storing Information

The study found no significant differences in the methods of storing information gathered, although they may exist. Any such differences would mean that the participants had set up two different methods for storing information--one for preaching and one for administration. Given the time and expense necessary to establish and maintain a system, it does would seem unlikely that many would do this. Yet differences could exist that this study may not have measured. One simple difference could be the use of separate sets of file folders. The storage methods

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[1]Cf. the study by Summers and others (1983) summarized above, page 20.

might also be technologically different; one pastor interviewed reported keeping his sermons on computer disks and using file folders to store information important to other roles. Another option might be to keep preaching related materials in personal files and to keep administration related materials in church office files and until finally deposited with their denomination's archives.

One interesting finding anticipated by the study was that some pastors reported having no formal system for storing information. Some indicated that not keeping the texts or outlines of previously preached sermons forced them to develop new material regularly.

The interviews yielded reports of other informal systems. One pastor, for example, stacked materials on the floor behind his desk or on his desk. Every few weeks he would go through the materials and keep relevant information to begin a new stack and would throw away the other material. This system has worked well for him for several years. Two ministers also used notebooks to keep information, including previously preached sermons and information related to some specific issue or aspect of the pastor's ministry. Future studies of information storage methods should identify additional options.

Other Variables

In addition to the ministers' roles, the study found that years of experience, size of congregation served, denominational affiliation, and dollars spent to add materials to one's personal library were related to information seeking behaviors, although coefficient correlations were not strong (ranging from -0.339 to 0.332). Dollars spent on materials for a personal library and use of one's personal library and other formal information sources were the notable correlates. This is perhaps to be expected, assuming that the more one values formal sources, the more likely one is to invest in these sources.

The largest number of significant differences were between denominational affiliation and fifteen of the channels. This should receive more careful examination. Six denominations studied had only one minister represented. Any differences one of these pastors reported could result in a significantly different measure of association for that one denomination and that one variable. Even though the statistical test of the hypothesis rejected the null hypothesis that there were no differences based on denominational affiliation, it may not truly reflect actual differences between ministers of different denominations.

The second largest group of significant correlations was between size of congregation served and ten sources used in administration. Only three of these were positive

correlations: the general importance of other persons in the
congregation, the specific use informal information sources
in administration, and the general use of the local public
library by phone in administration (which is one of the
variables combined in the cluster informal information
sources in administration). Those ministers serving larger
congregations might have more persons in their congregation
with administrative expertise upon whom they could call.
With informal sources showing a positive correlation, it is
natural for more formal sources to show a negative
correlation.

Contrary to other studies (Elayyan 1988, 269-72,
citing several others), no significant correlation was found
between age and specific information channels in either
preaching or administration. Although a correlation may
exist, it is possible that the nature of the two roles
creates specific patterns of behavior that are not affected
by age.

This speculation also may relate to the influence of
gender on information seeking behaviors of women clergy.
Because only three women participated in the study, no
statistical tests were conducted using gender as a variable.
Other studies with larger samples might consider this
possibility. The type of information needed to prepare a
sermon or to make an administrative decision would seem the
same for either a female or male minister. Gender may

influence more directly how a person uses the information--
how they craft and present their sermons and how they reach
and implement their decisions.

Ministers' Uses of Personal Computers
and of Institutional Libraries

The survey gathered data about how ministers use
computers and institutional libraries. While the data were
not used to test any of the three research hypotheses, they
do contribute to an understanding how ministers use
information.

Use of Personal Computers

Compared to Troxel's 1986, this survey found a
higher percentage of computer users, 67.18 percent from the
current survey compared to 32.9 percent six years earlier.[2]
Word processing remains the dominant use. Using computers
for Bible study has become more popular. During the
interviews, computers were observed in both the minister's
study and the church's offices. The interviews did find
evidence of resistance to the use of computers for ministry.
One minister did not want to invest the time to learn or
convert their system from a paper format to a computer
format. Some did not want to invest their personal or
church's limited resources into a computer system or
software. One, who had previously used a computer heavily

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[2]For a summary of Troxel's study, see above, page 32.

in his ministry, had begun to train others so that he could
spend less time with the computer and more time with his
printed resources for preaching. Even though there seems to
be an upward trend in computer usage, it is not universal.
Ministers can still be encouraged to move beyond word
processing in their use of personal computers.

Use of Institutional Libraries

Clergy, as a group, are not frequent library users.
For printed information they still rely on their personal
libraries which they have developed to meet their personal
needs. Tarrant County offers two theological libraries at
Southwestern Baptist Theological Seminary and Brite Divinity
School (Texas Christian University). Their specialized
collections made them the most popular institutional library
resources used by clergy to support his or her ministry.

Church libraries, the next most accessible type of
library after the minister's personal library, were used
less. This perhaps can be explained by the nature of this
type library's collection and services. Traditionally they
have served the reading interests of lay people by featuring
devotional materials and popular biblical study materials.
Ministers did report using their church's library for both
ministry related activities and for family uses. Perhaps
they used church libraries to meet their general needs while
relying on their personal library for specific needs.

Contributions of the Study

This study contributes to the understanding that work roles can be related to the choice of information channel and choice of method for retrieving information. It broadens existing studies by considering retrieval means and storage methods as variables. Al-Salem (1989) focused on channels as formats. Vale's study of the choice of retrieval means included task requirements as one variable. This study has examined all three factors.

A small body of literature has developed over the last thirty years focusing on clergy as information users. The earliest studies examined reading habits. Porcella (1973) studied factors influencing choice of information channels used in preaching. Erdel (1978), using a very small sample, linked perceived quality of one's ministry with general information behaviors. Both focused on the minister as preacher. This present study also discusses the minister as an administrator.

Implications of the Study

The study has some implications for librarians and other information specialists. First, those who design information systems for individuals or groups of individuals in a common occupation should ascertain if the individuals function in different roles. If so, they should study the roles to help ensure that an information system designed to

be comprehensive will actually meet the unique information needs associated with those differing roles. As an example using Protestant clergy, a comprehensive system could include Bible study helps, illustration file, sermon index, a way to index the minister's personal library, name/address/phone file, word processing software, and a scanner to facilitate entry of text that would previously have gone into a filing cabinet. Individual programs that do these tasks are available now. The now improving multi-task operating systems designed for high speed personal computers provide opportunities to link these programs together.

Second, professional training at any level should introduce the student to the range of roles expected in a profession and the tasks associated with those roles. Students should then be introduced to the variety of computer software available to simplify these tasks and the way the programs might link together. By emphasizing the generic characteristics of word processing, database management, and spreadsheet programs, students could be encouraged to develop their individual systems.

Similar changes should take place in bibliographic instruction. In addition to teaching skills for use as a student, they should also be taught lifelong skills from which they can benefit when they begin their careers. Students should be made aware of the variety of information

sources they will be required to use in their profession.
This includes not only books, but community resources and
interpersonal networks. They should be taught how to
evaluate information received from a variety of sources.

Because a personal library forms such an important
part of a personal information system, professional
education also should include components that teach the
student both about the better books, journals, and other
information resources in their field and about the ways in
which the professional can evaluate these resources for
future use. They also should learn of the options available
to them for organizing their personal information system.

Suggestions for Future Research

This and other studies strongly suggest that roles
are an important factor in information seeking. Future
studies should continue to include role as a variable, and
some studies should focus on role as a primary variable.
Both descriptive and causal designs should be employed.
Such studies should be pursued in conjunction with related
investigations of the nature of different roles in different
professions, and the function of roles within different kids
of organizations.

This suggested research could search for reasons
behind the relationship between roles and information
behaviors. Might certain information seeking behaviors be

related to specific role characteristics? For example,
might a visible, repeated activity with high role
expectations lead to use of trusted sources close at hand?

Future research should also address in particular
why variations in roles occur and why information behaviors
differ. This might best be done through detailed case
studies and in-depth interviews.

Future research into the information seeking
behaviors of clergy should explore the other roles that
ministers perform, especially the minister as pastor or
counselor. Information behaviors in the preaching role
could provide a baseline for such studies.

Conclusion

Consistent with current trends in the field, this
investigation was designed to focus on the user of
information in a particular profession and not on the
systems available to persons. Building on earlier, related
studies, this investigation found that work roles within a
profession can be related to information seeking behavior
especially in the choice of information channel and how a
person accesses that channel. Work roles may or may be
related to how one stores information.

Since most members of the Protestant clergy within a
specific geographic area were used as subjects for the
research, the findings of the study may have some relevance

to and implications for others interested in the study of
the Christian ministry and theological education as well as
for members of the library and information science
community.

APPENDIX A

THE SURVEY

COVER LETTER FOR FIRST QUESTIONNAIRE

SOUTHWESTERN BAPTIST
THEOLOGICAL SEMINARY
P.O. Box 22000/Fort Worth, Texas 76122
(817) 923-1921
Robert Phillips
Assistant Director for Public Services
A. Webb Roberts Library

May 14, 1992

Pastor
Hilltop Church of Christ
Highway 35 W Interstate South
Fort Worth, TX 76134

The "Information Age" places additional burdens on the ministry. Knowing the ways experienced ministers have adjusted to this explosion of information can help librarians and others teach beginning ministers to develop their own information handling skills.

You are one of one hundred fifty Tarrant County ministers selected at random to answer questions about where and how you find information when preparing sermons and making administrative decisions. You are also asked about ways you save information once you have used it. To make reasonable assumptions about how most ministers use information, each survey form must be completed and returned.

Your answers will remain confidential, be pooled with others' responses, and analyzed as a group. No individual's answers will be subject to special scrutiny. The identification number on the return envelope will be used only to identify those who have not responded so that they can be contacted again. You will not otherwise be linked to your responses.

The results of this research will be reported first in a dissertation for the School of Library and Information Science at the University of North Texas. They will later be made available to seminary librarians and other educators who are interested in helping young ministers plan how to find and store information helpful to their ministry. If you would like a summary of the results, please write your name and address on the back of the return envelope (but not on the survey itself).

I will happily answer any questions you may have about the survey. Feel free to call me at 923-1921, extension 2759.

Thank you for your participation.

Sincerely,

Robert Phillips

FIRST QUESTIONNAIRE

HOW MINISTERS FIND AND USE INFORMATION
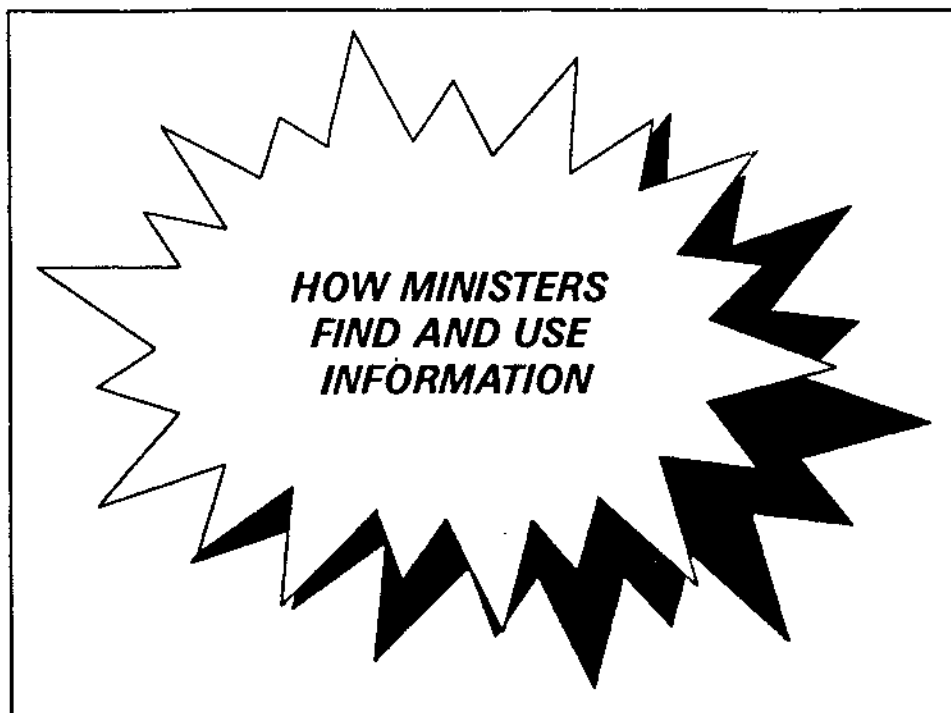
     This survey will help librarians and others better understand how ministers find and use information in the preparation of sermons and for making administrative decisions. Please answer all of the questions. Feel free to use the margins or the back page to amplify your answers.

     Thank you for your cooperation.

Robert Phillips
A. Webb Roberts Library
Southwestern Baptist Theological Seminary
Fort Worth, TX 76122-4490

PART I

What was the subject of your most recent sermon?

When did you begin your preparation for your most recent sermon?

How many hours did you spend gathering information for your most recent sermon?

Which of the following information sources did you use in your preparation? Circle each source's relative importance with 4 most important and 1 least important. If not used, circle N/A. THE LIST CONTINUES ON THE NEXT PAGE!

	MOST → LEAST
Colleague on staff	4 3 2 1 N/A
Family member	4 3 2 1 N/A
Other person in congregation	4 3 2 1 N/A
Other minister in area by phone	4 3 2 1 N/A
Other minister in area by mail	4 3 2 1 N/A
Other minister in area in person	4 3 2 1 N/A
Other minister outside of area by phone	4 3 2 1 N/A
Other minister outside of area by mail	4 3 2 1 N/A
College/seminary professor by phone	4 3 2 1 N/A
College/seminary professor by mail	4 3 2 1 N/A
College/seminary professor in person	4 3 2 1 N/A
Other known expert on subject by phone	4 3 2 1 N/A
Other known expert on subject by mail	4 3 2 1 N/A
Other known expert on subject in person	4 3 2 1 N/A
Personal book collection	4 3 2 1 N/A

Personal clipping/pamphlet file	4	3	2	1	N/A
Book purchased specifically for sermon	4	3	2	1	N/A
Recently read newspaper or magazine article	4	3	2	1	N/A
Recently seen or heard television or radio program	4	3	2	1	N/A
Church library resources	4	3	2	1	N/A
Local public library by phone	4	3	2	1	N/A
Local public library in person	4	3	2	1	N/A
Local college/university/seminary library by phone	4	3	2	1	N/A
Local college/university/seminary library in person	4	3	2	1	N/A
Attended conference/workshop on sermon subject	4	3	2	1	N/A
Information received by phone from associational, district or area denominational office on this topic	4	3	2	1	N/A
Information received by mail from associational, district, or area denominational office on this topic	4	3	2	1	N/A
Information received in person from association, district, or area denominational office on this topic	4	3	2	1	N/A
Information received by phone from state or national denominational office on this topic	4	3	2	1	N/A
Information received by mail from state or national denominational office on this topic	4	3	2	1	N/A
Information received in person from state or national denominational office on this topic	4	3	2	1	N/A
Other source not listed above. Please describe:	4	3	2	1	N/A
Another source not listed above. Please describe:	4	3	2	1	N/A

As best you can remember, rank the order of the five most important of the above sources which you used: "1" for most important, "2" for next most important, "3" for the third most important, "4" for the fourth most important, and "5" for fifth most important. THE LIST CONTINUES ON THE NEXT PAGE!

___ Colleague on staff
___ Family member
___ Other person in congregation
___ Other minister in area
___ Other minister outside of area

    __ College/seminary professor by phone
    __ College/seminary professor by mail
    __ College/seminary professor in person
    __ Known expert on subject (in a category not listed above) by phone
    __ Known expert on subject (in a category not listed above) by mail
    __ Known expert on subject (in a category not listed above) in person
    __ Personal book collection
    __ Personal clipping/pamphlet file
    __ Book purchased specifically for the sermon
    __ Recently read newspaper or magazine article
    __ Recently seen or heard television or radio program
    __ Church library resources
    __ Local public library by phone
    __ Local public library in person
    __ Local college/university/seminary library by phone
    __ Local college/university/seminary library in person
    __ Information received at a conference/workshop about the sermon subject
    __ Information received from associational, district or area denominational office about the sermon topic
    __ Information received from state or national denominational office about the sermon topic
    __ Other resources

How will or did you store for future use the information you found while preparing for this sermon?

    __ File folders without other index
    __ File folders with paper index
    __ Computer files
    __ Paper files with computer indexes
    __ Other:

PART II

Please answer the following questions as they relate to a recent administrative situation or decision in your ministry (other than preaching or teaching) for which you needed information. Possible examples include, but are not limited to, beginning a new ministry project, developing a new program or short term emphasis, rewriting the church by-laws, planning a new building project, or revising personnel policies).

Describe the situation.

When did you begin to gather information about this situation?

How many hours did you spend gathering information about this situation?

Which of the following information sources did you use in your preparation? Circle each source's relative importance with 4 most important and 1 least important. If not used, circle N/A. THE LIST CONTINUES ON THE NEXT PAGE!

	MOST → LEAST
Colleague on staff	4 3 2 1 N/A
Family member	4 3 2 1 N/A
Other person in congregation	4 3 2 1 N/A
Other minister in area by phone	4 3 2 1 N/A
Other minister in area by mail	4 3 2 1 N/A
Other minister in area in person	4 3 2 1 N/A
Other minister outside of area by phone	4 3 2 1 N/A
Other minister outside of area by mail	4 3 2 1 N/A
College/seminary professor by phone	4 3 2 1 N/A
College/seminary professor by mail	4 3 2 1 N/A

College/seminary professor in person	4	3	2	1	N/A
Other known expert on subject by phone	4	3	2	1	N/A
Other known expert on subject by mail	4	3	2	1	N/A
Other known expert on subject in person	4	3	2	1	N/A
Personal book collection	4	3	2	1	N/A
Recently read newspaper or magazine article	4	3	2	1	N/A
Recently seen or heard television or radio program	4	3	2	1	N/A
Personal clipping/pamphlet file	4	3	2	1	N/A
Book purchased specifically for situation	4	3	2	1	N/A
Church library resources	4	3	2	1	N/A
Local public library by phone	4	3	2	1	N/A
Local public library in person	4	3	2	1	N/A
Local college/university/seminary library by phone	4	3	2	1	N/A
Local college/university/seminary library in person	4	3	2	1	N/A
Conference/workshop related to this situation	4	3	2	1	N/A
Information received by phone from associational, district, or area denominational office	4	3	2	1	N/A
Information received by mail from associational, district or area denominational office	4	3	2	1	N/A
Information received in person from association, district, or area denominational office	4	3	2	1	N/A
Information received by phone from state or national denominational office about this situation	4	3	2	1	N/A
Information received by mail from state or national denominational office about this situation	4	3	2	1	N/A
Information received in person from state or national denominational office about this situation	4	3	2	1	N/A
Other source not listed above. Please describe:	4	3	2	1	N/A
Another source not listed above. Please describe:	4	3	2	1	N/A

As best you can remember, rank the order of the five most important of the above sources which you used: "1" for most important, "2" for next most important, "3" for the third most important, "4" for the fourth most important, and "5" for fifth most important.

___ Colleague on staff
___ Family member
___ Other person in congregation
___ Other minister in area
___ Other minister outside of area
___ College/seminary professor by phone
___ College/seminary professor by mail
___ College/seminary professor in person
___ Known expert on subject (in a category not listed above) by phone
___ Known expert on subject (in a category not listed above) by mail
___ Known expert on subject (in a category not listed above) in person
___ Personal book collection
___ Personal clipping/pamphlet file
___ Book purchased specifically for the situation
___ Recently read newspaper or magazine article
___ Recently seen or heard television or radio program
___ Church library resources
___ Local public library by phone
___ Local public library in person
___ Local college/university/seminary library by phone
___ Local college/university/seminary library in person
___ Information received at a conference/workshop on the situation
___ Information received from associational, district, or other denominational office on the situation
___ Information received from state or national denominational office on the situation
___ Other resources:

How will you or did you store for future use the information you found while preparing to make this recent managerial or administrative decision.
___ File folders without other index
___ File folders with paper index
___ Computer files
___ Paper files with computer indexes
___ Other:

PART III

Please use the following categories to describe, as best you can, your personal library.

How many books do you have in your library? _____

How many paid magazine subscriptions do you receive? _____

How many free magazine subscriptions do you receive? _____

How much did you spend to add materials to your
personal library in 1991? _____

How many books did you add to your personal library
in the last twelve months? _____

What percentage (estimated) of your book collection supports
your sermon preparation? _____

What percentage (estimated) of your book collection supports
your administrative responsibilities? _____

Please mark any of the following statements which describe your personal use of a computer.

___ I do not use a personal computer.

___ I use one for word processing.

___ I use one for calendaring and/or personal record keeping.

___ I use one for personal financial management.

___ I use one to maintain information about church members and prospective members.

___ I use one to communicate interactively with other computers or computer users.

___ I use one to assist with my Bible study.

___ I use one to assist with my administrative responsibilities.

___ Other uses (please describe below or on back page of this booklet):

You have several libraries available to you. Also you may use libraries for different purposes. For each type of library, circle how frequently and for what reasons you use them. 1 = Regularly   2 = Sometimes   3 = Very seldom or never

My church's library:

My church does not have a library ___
(go to the next type of library)

To find materials to support my ministry.	1	2	3
To find materials for hobbies or relaxation.	1	2	3
To find materials for my family.	1	2	3
Other uses of the library (please describe):	1	2	3

Public libraries in Tarrant County:

To find materials to support my ministry.	1	2	3
To find materials for hobbies or relaxation.	1	2	3
To find materials for my family.	1	2	3
Other uses of the library (please describe):	1	2	3

College or university libraries in Tarrant County:

To find materials to support my ministry.	1	2	3
To find materials for hobbies or relaxation.	1	2	3
To find materials for my family.	1	2	3
Other uses of the library (please describe):	1	2	3

Seminary or divinity school libraries in Tarrant County:

To find materials to support my ministry.	1	2	3
To find materials for hobbies or relaxation.	1	2	3
To find materials for my family.	1	2	3
Other uses of the library (please describe):	1	2	3

Do you regularly make use of another library or it's services?
___ Yes ___ No If yes, please describe:

Do you regularly meet with other ministers to discuss your preaching or other ministries? ___ Yes ___No

PART IV

Please give the following information about yourself:

Age (please circle the range that applies):

15-25   26-35   36-45   46-55   56-65   66-75   76-85

Gender: ___Male ___Female

Level of formal education (mark all that apply):

  ___ No formal education
  ___ General education diploma
  ___ Junior college
  ___ Bachelor's degree (but not Bachelor of Divinity)
  ___ Master's degree (but not Master of Divinity)
  ___ Ph.D. or Ed.D., not in a religion related field
    (Subject: _____)
  ___ Basic professional degree for ministry (M.Div. or B.D.)
  ___ Doctor of Ministries degree (D.Min.)
  ___ Ph.D., Th.D., or Ed.D. in religion related field
  ___ Other (please identify _____)

Were you enrolled in a university or seminary during the Spring semester, 1992?
        Yes ___ No ___

How many years' experience have you had in a church related vocation?

___0-5	___ 11-15	___ 21-25	___ 31-35	___ 41-45	___ 56-60
___6-10	___ 16-20	___ 26-30	___ 36-40	___ 46-50	___ 61 +

What is your denominational affiliation? _____

What was your church's attendance last Sunday? _____

Please use the space below to make any other comments you wish about the ways in which you find and store information, use libraries, or use your personal computer. We would also welcome any suggestions you have for future studies of how ministers use information.

Thank you for participating in this survey. If you would like a summary of the results, write your name and address on the back of the return envelope — not on this questionnaire — and it will be sent to you in about two months.

Please return the form using the enclosed stamped return envelope.

FOLLOW UP LETTER FOR QUESTIONNAIRE

SOUTHWESTERN BAPTIST
THEOLOGICAL SEMINARY
P.O. Box 22000 · Fort Worth, Texas 76122
(817) 923-1921
Robert Phillips
Assistant Director for Public Services
A. Webb Roberts Library

Church of Christ-Southside
1115 California Lane
Fort Worth, TX 76115

Dear Rev. Smith:

As a minister, you have developed certain skills which help you cope with the constant need to find and use information. As part of my current research, I would like to schedule an interview with you to find out about those skills.

Specifically, I will ask about how you prepare your sermons, how you find information to make administrative decisions, how you store information (such as sermon notes) for future use, and what use, if any, you make of a computer in your ministry. I am also interested in knowing what kinds of problems you experience when trying to find information. I will blend your answers with those of nineteen other Tarrant County ministers to come to some conclusions about how ministers use information. Initially I will report my research in a dissertation submitted to the School of Library and Information Science at the University of North Texas. I will also use what I learn to develop a course in information skills for ministry at Southwestern Baptist Seminary.
I will call your office in a few days to schedule an appointment. I look forward to visiting with you.

Cordially,

Robert Phillips

LETTER OF INTRODUCTION FOR INTERVIEWS

SOUTHWESTERN BAPTIST
THEOLOGICAL SEMINARY
P.O. Box 22000 · Fort Worth, Texas 76122
(817) 923-1921
Robert Phillips
Assistant Director for Public Services
A. Webb Roberts Library

Pastor or Senior Minister
Northside Church of Christ
2001 Lincoln Avenue
Fort Worth, TX 76106

Dear Pastor:

Two weeks ago, you should have received a booklet asking you questions about how you find, use, and store information.

This study is providing data which, when analyzed, will make it easier for librarians and others to teach beginning ministers how to organize their own information resources, including files and their personal library. You were chosen through a scientific sampling process designed to give a wide cross-section of responses. Your participation is important to the meaningful analysis of all questionnaires.

You may have misplaced or not received your questionnaire. If so, I enclose a replacement copy and another postage paid return envelope. It really only takes a few minutes to complete.

If you have questions, feel free to call me at 923-1921, extension 2759.

Thank you for your cooperation.

Cordially,

Robert Phillips

QUESTIONS FOR STRUCTURED INTERVIEWS

1. What is the subject of a sermon you are currently preparing? How long have you been preparing it?

2. What resources do you use in your sermon preparation?

3. So far in preparing this sermon, has there been any information you wanted, but could not find easily? (Possible examples are the interpretation of an obscure Bible verse, how to illustrate a key idea, or background information about the topic).

4. What steps do you plan to take to find an answer? What kind of help do you hope to find?

5. How important is this information to you? What will you do if you do not find the answer?

6. Can you recall a current or recent administrative decision that required you to search for information?

7. What information sources did you use to help you make the decision?

8. Did you need information that you could not find easily?

9. What steps did you take to find an answer?

10. How important was this information to you? What would you have done if you had not found the information?

11. Is there any individual or informal group that supplies you with information regularly? Can you describe the person or group generally?

12. What is your system for saving information, e.g., sermon notes?

13. How do you find specific information in you personal library?

14. Do you use a computer with your work? How?

APPENDIX B

DISCUSSION OF NON-RESPONDENTS

COVER LETTER TO NON-RESPONDENTS
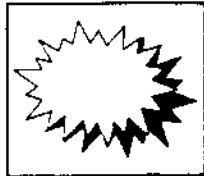
Information Survey
c/o Robert Phillips
P.O. Box 22724
Fort Worth, TX 76122-0724

Phone: 294-7142

July 24, 1992

Dear Pastor,

Last month you should have received a twelve page questionnaire booklet asking for information about how you find and store information to support your preaching and administrative responsibilities as pastor of a local church. Sixty-five out of one hundred fifty were returned.

One aspect of survey research is to gather information about those who did not respond. Since I have no record of your having returned the booklet, I am making this one last appeal for your participation in the survey. Would you please take a moment right now to complete all or part of the enclosed one page survey. As with the fuller survey, your responses will remain confidential and be combined with the responses of others for statistical analysis. If the number on the upper left corner of the return envelope annoys you, simply erase it or return the survey in a different envelope.

This questionnaire is part of a research project which studies the impact of work role on information use. As a librarian in theological education, I believe that the results of the study will eventually impact how we teach beginning ministers to find and use information in their ministry.

Your participation in this project will make a difference. Please return the questionnaire, whether completed or not, by the end of this week.
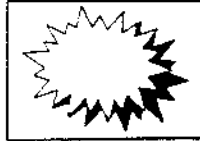
Thank you very much.

Cordially,

Robert Phillips

P.S. If you did complete and return the first questionnaire, please note that on the enclosed questionnaire and return it to me. Thanks.

QUESTIONNAIRE TO NON-RESPONDENTS

INFORMATION SURVEY

Please complete Parts 1 & 2 below. If you have a few more minutes, complete Part 3 also. If you wish, use the back of this page for comments.

1. Please provide the following information about yourself and your church.

   Your age _____   Your gender: Male ____ Female ____
   Years of experience in the ministry _____ Your educational degrees _____
   Denominational affiliation _____
   Church attendance last Sunday (or Saturday) _____

2. Please give the reasons why you did not respond to the original survey booklet.

   I was not the pastor of this church before June 1 of this year. ____
   I do not remember receiving the questionnaire. ____
   I normally do not complete and return questionnaires. ____
   I did not have time to complete the survey booklet. ____
   I found some of the questions confusing or poorly worded. ____
   I found something about the survey or the cover letter offensive. ____
   I doubted that my responses would remain confidential. ____
   I do not remember why I did not return the questionnaire. ____

3. Following are some of the information sources the earlier respondents found useful in either preaching or administrative decision making.

   Please rank on a scale of 1 to 5 (with 1 the highest and 5 the lowest) the five you found most useful. Use the left column to rank sources used in preparing a recent sermon. Use the right column to rank sources used in making a recent administrative decision.

Preaching		Administration
_____	Colleague on staff	
_____	Family member	
_____	Other person in congregation	_____
_____	Other minister in area	_____
_____	Other minister outside of area	_____
_____	Known expert not listed above by phone	_____
_____	Personal book collection	_____
_____	Personal clipping/pamphlet file	_____
_____	Book purchased specifically for the occasion	_____
_____	Recently read newspaper or magazine article	_____
_____	Recently seen or heard television or radio program	_____
_____	Church library resources	_____
_____	Information received at a conference/workshop about the sermon subject or administrative situation	_____
_____	Information received from associational, district or area denominational office about the sermon or the situation	_____
_____	Information received from state or national denominational office about the sermon or the situation	_____

Do you personally use a computer? _____ (yes/no) For word processing only? _____ For word processing and other applications? _____ (y/n) For other applications but not word processing? _____ (y/n)

Which of the following types of libraries do you regularly or sometimes use to find information to support your ministry? If none, go to last question.

      Church library _____   Local public library _____
      University library _____   Seminary library _____

Do you regularly meet with other ministers to discuss you preaching or other ministries? Yes _____ No _____

Thank you for your participation.

CHARACTERISTICS OF THE NON-RESPONDENTS

Sixty-four of one hundred fifty area clergy returned a completed or partially completed questionnaire. What can one know of those who did not respond? To learn something about them and their use of information, those who did not respond received a single page questionnaire asking for similar information plus responses to some of the same questions asked on the original questionnaire. Of the eighty-four who received the second questionnaire, fourteen, or 16.67 percent, responded. These fourteen responses help characterize those who did not respond to the first questionnaire and speculate how a larger response rate might have influenced the study.

Gender and Age of the Non-respondents

Only men responded to the second questionnaire. The second questionnaire asked for the person's specific age rather than a range of years. Table 40 shows that both groups had similar age ranges. A larger response rate might not have not have resulted in a different distribution by age.

Table 40.--Comparisons of the ages of non-participants to
those of participants

| | Second Questionnaire | | First Questionnaire |
	Actual Age	Age Range	Age Range
Mean	41.08	36-45	36-45
Median	40.50	36-45	36-45
Mode	29,45ᵃ	36-45	36-45
S.D.	9.78	-----	
High	61	56-65	66-75
Low	21	16-25	26-35

n=14; ᵃBimodal

Denominational Affiliation

The fourteen respondents represented ten

denominations. Table 41 lists these denominations.

Table 41.--Denominational affiliation of non-participants

	2d Survey	1st Survey
Methodist--United	3	9
Presbyterian (PCUSA)	2	3
Baptist--Southern Baptist	2	22
Lutheran-Missouri Synod	1	1
Lutheran--Wisconsin Evangelical	1	1
Lutheran--ELCA	1	0
Church of Christ	1	3
Church of the Nazarene	1	3
Christian-- Disciples of Christ	1	4
Assembly of God	1	5
Total	14	51

Comparing Table 41 with Table 1 (page 50), shows that

thirteen responses came from denominations represented in

previously represented in the study. A better response rate

might not have changed the distribution of denominational representatives.

Educational Background

Generally, those who responded to the second questionnaire had the same educational background as those who responed to the first questionnaire. Table 42 shows

Table 42.--Educational background of non-participants

| | Non-part. | | Part. | |
	n	%	n	%
No formal education	0	0.00	0	0.00
General education diploma	0	0.00	0	0.00
Junior college	0	0.00	0	0.00
Bachelor's degree, but not B.D.	1	7.14	2	3.39
Master's degree, but not M.Div.	1	7.14	9	15.25
M.Div. or B.D.	9	64.29	31	52.54
D.Min.	2	14.29	10	16.95
Ph.D.	1	7.14	5	8.47
Other	0	0.00	2	3.39
Total	14	100.00	59	99.99

that the major difference is with those who have a master's degree that is not a Master of Divinity. Also a higher percentage of those who responded to the second questionnaire had earned a Master of Divinity degree.

Years of Experience

The second questionnaire asked the ministers to
write their "years of experience in the ministry." Twelve
responded. Table 43 shows their responses as compared to
the those from the first questionnaire. For these twelve,
the arithmetic mean was 15.54 years of experience.

Table 43.--Years' experience of non-participants compared to
participants

	Second Questionnaire Actual	Range	First Questionnaire Range
Mean	15.54	16-20	16-20
Median	14.50	11-15	16-20
Mode	18,21[#]	0-5[#] 11-15	16-20
S.D.	10.41	-----	-----
High	40.00	36-40	41-45
Low	2.0	0-5	0-5

n=14
[#]bimodal

Transferring data to the range of years used in the original
questionnaire, the mean number for years of experience was
the same for both groups: 16-20 years. The median and modal
ranges differed between the two groups. Whereas with the
first group, the median and the mode were the same as the
mean, with the second group, they differed. The median
range was 11-15 years (14.58 actual years) and two ranges
(0-5 and 11-15 years) shared the same value. The modal
values for the actual years' experience were eighteen and

twenty-one. The first group was more experienced. A larger
return rate might have added more ministers with less
experience.

Average Worship Attendence

The second questionnaire asked those surveyed to
give their church's worship attendence the previous Sunday.
Table 44 pairs the worship attendence of those who did not

Table 44.--Comparision of worship attendence

	Second Questionnaire	First Questionnaire
Mean	228.46	289.41
Median	147.5	162.5
Mode	--*	250
S.d.	209.34	338.86
High	767	2000
Low	30	27

$n=13$; *Each respondent reported a different attendence
figure.

respond to the first questionniare with the attendence of
those who did. Those who had not responded pastored
relatively smaller churches, with an average attendance of
228.46 versus an average attendance of 289.41. The
difference in the high attendence can explain some of this
variation, especially since the median of the second group
is within ten percent of the first group. A larger response
rate have included more smaller churches.

Computer Use

The second questionnaire asked "Do you personally use a computer?" Of the twelve who responded, nine wrote "yes" and three wrote "no." Of the nine who replied "yes," four marked that they used their computer for "word processing only." No effort was made to determine other uses in addition to word processing. In response to the first questionnaire, forty-three of sixty-two reported some computer use. Based on the similar proportions of use in both groups, a larger response rate would not have markedly changed the percentage of computer users.

Use of Institutional Libraries

The non-respondents were asked "Which of the following types of libraries do you regularly or sometimes use to find information to support your ministry?" and then gave four options: church library, local public library, university library, and seminary library. Four responded that they did not regularly use any institutional library. Six reported that they used only one type of library; two marked that they used types of libraries; one used each type of library.

The use of each type of library by those receiving the second questionnaire can be compared to the use of each type of library for ministry by those receiving the first questionnaire by extracting data from Table 15 (page 83).

Table 45.--Comparison of respondents' use of libraries for ministry.

	Church Library		Public Library		College/Univ Library		Seminary Library		Total	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
2nd Q.	6	40.00	3	20.00	1	6.67	5	33.33	15	100.00
1st Q	22	24.72	5	28.09	14	15.73	28	31.46	99	100.00

Based on data in Table 45, both groups made more use of church and seminary libraries than they did of college/university libraries. Those in the second group were about as likely to use a public library as were those in the first group. A survey with a larger number of responses might have shown a different pattern in the use of institutional libraries.

The Non-Participants and their Choices of Information Channels

The second questionnaire asked for an indication of the information channels relative importance for both preaching and administrative decision-making with "1" the most important and "5" the least important. The seventeen item list matched those which had received higher average scores in the first survey (mean > .8). Five were formal sources and twelve were informal sources. This new data was analyzed using the Wilcoxon signed ranks test. Table 46 presents data both for those who did not respond to the original questionnaire with the responses for those who did. The table show the Wilcoxon *z* score and its probability for

Table 46.--Comparison of Wilcoxon scores on selected
information channels

AGREE:	2nd Group		1st Group	
	W z	pz	wz	pz
Personal book collection	2.232	.0256*	5.519	.0000*
Clipping/pamphlet file	2.232	.0256*	3.478	.0005*
TV/radio program	2.060	.0394*	2.912	.0036*
Colleague on staff	-2.701	.0069*	-4.341	.0000*
Info rec'd in person from area denom. office	-2.000	.0455*	-3.932	.0001*
Expert by mail	-2.207	.0273*	-2.078	.0377*
Info rec'd by mail from area denom. office	-4.187	.0000*	-3.802	.0000*
Info rec'd from state/nat'l denom. office	-3.226	.0013	-2.803	.0000*
UNIQUE TO 2ND GROUP:				
Newspaper/magazine	2.547	.0256*		
UNIQUE TO 1ST GROUP:				
Other person in congregation	-3.932	.0001*		
Other area minister in person	-4.346	.0000*		
Other area minister by phone	-5.106	.0000*		
Known expert in person	-3.760	.0001*		
Known expert by phone	-3.809	.0001*		

both groups. It shows when the two groups agree and
disagree. A negative value for the z score means that the
source was preferred more often in the administrative role
than in the preaching role.

Comparing the results of the Wilcoxon signed ranks
test which were found significant at $p < .05$, shows that the
two groups agree more than they disagreed. Of the sixteen

available pairs, both groups agreed that there were significant differences in the importance of specific information channels for a specific role. They both agreed on three of the four formal resources for preaching. This suggests that even if more ministers had participated in the survey, they would not have distorted the findings that formal sources are preferred in preaching instead of administration.

The two groups also agreed about the importance of five of information resources used in administration, especially the three available from denominational offices. They also agreed on the importance of colleagues and contact with known experts through the mail.

The first group reported a large number of choices of informal information sources used in administration. A large response to the second questionnaire might have shown a similar pattern.

Comparing the results of the two surveys shows that both groups were similar in age and distribution of denominational affiliation. Those who responded to the second questionnaire served smaller churches and had fewer years of experience. Analyzing their use of information suggests that both groups followed similar patterns for gathering information for preaching and administration, although the large number of respondents to the first questionnaire did show more variety in their choice of

informal channels. A larger response to the second

questionnaire might have shown a similar pattern.

APPENDIX C

LIST OF ADMINISTRATIVE SITUATIONS

LIST OF ADMINISTRATIVE SITUATIONS

The first survey asked the participants to answer three questions about a recent administrative situation or decision "for which you needed information." They were also asked "when did you begin to gather information about this situation?" and "How many hours did you spend gathering information about this situation?" Sixty-one of the sixty-four participants responded in whole or part. The following pages transcribe their responses.

Need for a United We Build Campaign
    Probably intermittently for over a year
      Over a period of time 20-25 hours

Personnel handbook
    One year ago
      20 hours

Church constitution & bylaws
    1 1/2 years ago
      40+

Specific community outreach program
    4 months prior to decision

Re-examining church focus and ministry. Through the church council
    1 year
      have no earthly idea about time would be over
      100 hours spent in conferences, reading articles
      & studying our church situation

Paving a parking lot
    10 months ago
      10 hours

Purchase of divider walls for classrooms
    Several weeks ago
      1

Long range plan
     2-3 years ago
          ?

Formation of a mission development committee
     3 months ago
          2-3 hours

Our church history
     1991
          Several hundred

Starting new Sunday School units
     Month ago
          10+

Set out a church long-range planning project
     Two months before decision
          12

New building
     2 years ago
          Hundreds

New building program--stewardship education
     App 1 year ago
          35-45

New special education Sunday School class
     December 1991
          About 30+ to date

Developing street ministry. Inquiry to other involved
ministry. Prepared hand out as witnessing too
     2 months
          6-8 hours

Minster to language mission
     Immediately
          4

Church financial problem, i.e., retaining note
     10-15-91
          6-8 hours

Community benevolence program
     A month prior to starting
          40-50

Revising tax status regarding employees
    3 months ago
        100 hours

Newsletter column, Texas history of the Chn Church,
study of Revelation & prayer
    A week before - habit
        Not many, several

Child custody laws and regulations
    5-1-92
        6

Unified budget campaign
    16 months prior
        60-100

Developing a new stewardship emphasis to help our church
catch up on budget needs
    4 months before implementation
        2 hours gathering information

Answering voluminous questionnaire
    3 weeks prior
        3 hours

Building project
    5 years ago
        Cumulative? 200?

Debt reduction
    6 months ago
        40

Developing a new approach to reaching men for christ
    Have been accumulating throughout my ministry
        Specifically in relation to this local church
        and men here, about one year

Clergy accountability in counseling
    As soon as the question arose
        Less than 1

Building fund program
    Two years
        40-50

Support groups
    2 years ago
        Hundreds

Job descriptions--comparable salaries
        Years ago
            2

We decided to begin the 2nd phase of our building
program
        6 months ago   ·
            @20

Helping the minister's cabinet plan for "down times" in
summer and regearing for fall
        Two months ago
            10 hours+

Coupling of 2 churches in a parish situation
        Month ago
            3 hours

Analysis of ministerial setting
        Fall 1991
            100+

Can't think of anything in particular
        Most administrative decisions require investigation
        of the canons & consultation with diocesan office
        and bishop. It can take minutes or hours.

Developing a Saturday evening service
        1 year ago
            ?

Rewrite bylaws
        8 months ago
            N/A

Developing ministry to college students
        5 years ago
            Hundreds of hours

The need to establish a long-range plan for the church
        2 years ago
            Very many hours of research on the project. It
            is hard to estimate but probably in excess of
            100 hours

Reworking the procedure for publishing the church
newsletter
        May 19
            1 1/2

Ordaining additional elders and deacons and reaffirming
present elders
    6 months ago
      4 hours

Remodel of sanctuary
    2 years prior
      100's (?300-400?)

Developed a 2 1/3 year blueprint plan for ministry
(strategies plan) with committee of 5
    September
      48 hours

Long rang planning committee process
    6 months prior to its beginning
      Approx 20 hours

Economic condition of our nation
    Approx 3 months
      Approx 36 hours

Establish long range planning committee
    2 months prior
      10

Building project

Evangelism--reaching inactive members
    2 months ago
      3

Counseling situation on administration of baptism
    Two weeks ago
      1-2

Bylaws
    One year prior
      Approx. 30

Trying to locate a temporary church facility for
meetings
    2-3 weeks in advance
      1-2

Rewriting the const. All inf. was supplied by our dist.
office
    June 1
      3 hours

Building/refinancing funds
        April of 92
            25

Renting parish hall to another church for use on Sunday
morning
        About four weeks ago (still in the process of
        putting it together
            Approx 12:15 so far

Building project
        From engineers
            30

We need a free counseling clinic for young married
couples
        1989
            200

One of long range planning. Selling part of the
property in order to build a new auditorium. Ours is a
declining area
            To collect data, I expect probably to spend 8-10
            hours

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