

# CHAPTER 6

## *Methods for Congregational Studies*

The primary purpose of research is to solve a problem or answer an important question. This is the purpose of *any* research and not just congregational studies. The questions posed and the problems which can be solved are numerous, and there are almost as many possible research procedures as there are subjects of study. In this book, we limit our subject matter somewhat to the congregation, and also assume that the questions we ask and the problems we hope to solve are of a practical nature. In other words, we hope actually to *use* the results of our research to help further the goals of the church.

Research is another name for inquiry. As mentioned in a previous chapter, "In the broadest sense, everyone does research. That is, everyone gathers information, tests it against experience, and acts in a way which seems appropriate." We all seek to understand our surroundings and to do so we constantly gather, process and analyze information, eventually drawing conclusions. This process, which occurs consciously and unconsciously may result in accurate "findings," but it can also lead to faulty conclusions because of its typically *casual* nature. Casual inquiry is prone to many mistakes, which is the reason we have stressed social scientific techniques of research in this book. This is not to say that social scientific techniques remove the possibility for error. They do not. Yet they do guard against many sources of error through the use of logic, systematic inquiry, objectivity, sampling techniques, the replication of results, by being open to new (even negative) input, and through the use of hypothesis testing.

Pastors, denominational leaders, laypersons and others with little research background may suspect that social scientific research is always heavily statistical and as such is beyond their ability. There also may be the preconception that the results of such "numbers oriented" research will have little to say to them. After all, their problems involve *people*, not numbers, and are too complex to be reduced to some statistical formula. Perhaps some of the stereotypes of social research have

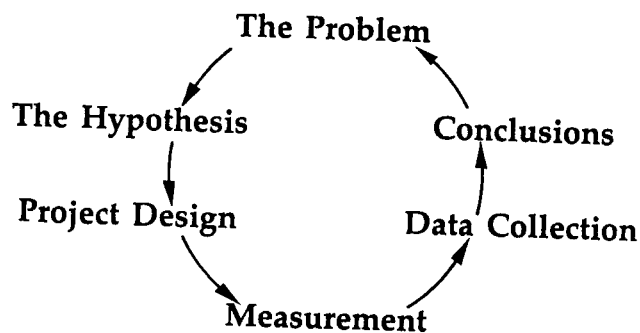
been dispelled in the previous chapters and observing how varied research can be. Throughout the book we have seen emphasis on participant observation, interviews, oral histories, and other "soft" or subjective research techniques as well as the "hard" or numerically oriented procedures involving questionnaires, census data, church statistics and the like. It also should be clear that a complete investigation of any question or problem will normally require a *variety* of complementary research techniques.

This methodological chapter is designed to be a brief overview of methods and procedures anyone can use in conducting research on the congregation. It is an overview in that thorough coverage of this subject would require at least two books, one on research methods and another on statistics. Obviously, we cannot include full treatment of every topic. Our purpose here is to provide simple usable tools. We should add that our emphasis is on *social scientific research methods*, particularly sociological methods. If further help is needed the reader can refer to the previous chapters, which offer practical suggestions in techniques appropriate for investigating context, identity, program and process. The identity chapter, for instance, includes considerable methodological detail on anthropological/ethnographic research which we have chosen not to repeat here. More technical assistance is available in many statistics and methods texts published by social scientists.<sup>1</sup>

### 6.1 The Cyclical Research Process

Research is not simply a matter of collecting and analyzing data. It is a process that should proceed through a series of well defined steps, which usually end in a set of recommendations for action and often in the need for further research. The tendency of research to create new questions has led us to diagram the process in a circular fashion, as seen in chart 1.

Chart 1



### 6.1.1 The Problem

The starting point for any research project is the statement of the problem or the research question. No one does research for the sake of doing research; there is always something that the researcher wants to discover. Usually the problem can be posed as a question which begins with why, what or how. Why is our church not growing? Why did the church council turn down the proposal for an elderly housing project? How can our church reach blacks in the community? What kind of worship format should this Episcopal church use?

Often the need for research surfaces in awareness of a problem or a "mess," a term used in an earlier chapter. The need to do or change something must be translated into a question to be answered before meaningful research can begin. Without a clearly stated question to be answered, research may deteriorate into aimless data-gathering. This is an essential first step. For example, Hope United Church of Christ, which has a history of brief pastorates, might pose the difficult research question, "What factors led to the resignations of our last three pastors?" Unfortunately, such a direct question might be too explosive in Hope Church, which blames the former pastors for its problems. So the study committee might want to ask the question, "How can our programs be more effective?" and then incorporate the role of pastoral leadership and conflict over programs into the project design.

### 6.1.2 The Hypothesis

What do you expect to find through your research? An hypothesis is essentially an informed hunch or expectation which helps to focus research on an issue or a series of issues which are central to the research question. In some cases a research project will include a very structured test of a hypothesis. For instance, the hypothesis might be that an evangelistic outreach campaign would lead to a significant increase in Sunday school enrollment. In many other cases, however, the

hypothesis and the research itself will not be so structured. It may be hypothesized that a negative vote on a particular program proposal was due to the conflict between a church's identity and the new program. No real test can be performed to totally confirm or deny this informed hunch, yet stating it beforehand can help focus the direction of the research.

In many cases a study committee or an outside consultant may not be able to develop any expectations prior to beginning the research project. Their knowledge may be so limited or the problem may be so difficult that preliminary research is necessary to develop a plausible theory which might answer the research question. Close observation and interviews should be employed in that case, out of which hypotheses would probably emerge.

### 6.1.3 Project Design

Many different kinds of research projects can be designed to answer a particular research question. Essentially, the committee must look at its methodological "workbench" and select the proper tools. The selections made will be based on the type of research question being addressed, the type and number of subjects, the resources available (both time and money), the skill of the researchers and the kind of answer needed to the question. There are several basic *research designs*: needs analysis, case study, experiment and correlational (these will be discussed in depth at a later point). Within these overall designs various *research procedures* are available. A case study (or ethnography)<sup>2</sup> of a congregation may include participant observation along with unstructured interviews. A correlational design, on the other hand, might include a questionnaire or a schedule-structured interview. In some instances two or more research designs, such as the case study and the experiment, may be combined in a research project along with appropriate research procedures which accompany each. The study committee must choose which designs and procedures are to be employed.

### 6.1.4 Measurement

The study team may decide in the project design phase to use a questionnaire, an interview form or another type of data collection instrument. These instruments are constructed in the measurement stage. Questions are formulated, scales are developed, and experimental procedures are designed. Social scientists call much of this "operationalization." For instance, the team may want to measure the level of religious commitment among church members. To do so

through a survey, one must first define the concept and then design questions which actually measure religious commitment as you have defined it. If you want to interview older members rather than having them fill out a questionnaire, an interview guide must be drawn up, complete with probing, open-ended questions.

### 6.1.5 Data Collection

Once a problem has been identified, the hypotheses stated, a research project designed and data collection instruments produced, it is time to collect the data. Data is simply another word for information or facts, of course, so the data can be in the form of numbers, or at the other extreme, it can be in the form of elaborate answers to interview questions. In either case, the data must be collected, not haphazardly, but in accordance with systematic procedures decided by the study team and outlined in the project design.

### 6.1.6 Data Analysis

The data collected must be analyzed in order to answer the research question. This by itself is a good reason not to collect too much data. Only so much data can be meaningfully analyzed, digested and understood by a pastor or a study team. Statistics may be used in this stage, depending on the type of data collected.

### 6.1.7 Conclusions

The final stage is to draw conclusions from the research. What has been discovered? Can the original research question be answered? Have the hypotheses been supported or shown to be false? Usually the conclusions are more complex than originally expected and the hypotheses are partially confirmed and partially disconfirmed. But if the research has been well designed some conclusions can be made which can assist the pastor, committee, board, denominational worker, or layperson in dealing with the original problem. At the same time the results of the study may call for additional research to answer new questions which emerged along the way.

## 6.2 Key Concepts

In the main body of this chapter we will describe various research designs, procedures and techniques in detail. To do so, however, requires the use of certain terms, some of which may not be familiar. We define these terms and concepts below so there will be no confusion.

### 6.2.1 The Variable

1. *Attribute*. An attribute is a character or quality that can be used to describe something. "Small" is an attribute that some churches have. "Conflicted" might be another attribute, as would "evangelistic."

2. *Variable*. A variable is a logical set of attributes. Thus, church size can be seen as a variable which is composed of the attributes, large, medium, small, tiny, etc. Church harmony would be another variable (composed of a set of attributes ranging from idyllic harmony to murderous conflict). Denomination would be another variable, as would the type of "myth" under which a congregation operates.

3. *Independent Variable*. This is a variable which is presumed to cause or influence a change in another variable. For instance, if we hypothesize that the demographic variable of population change is related to church membership change, such that we expect a growing population to foster church membership growth, then the independent variable in this case is population change. We presume that it "causes" or at least influences churches to either grow or decline.

4. *Dependent Variable*. The dependent variable is the variable which has been caused or influenced. In the above case, the dependent variable was church membership change. Normally, the dependent variable is the key variable in a research design. You are generally seeking to identify those factors (independent variables) which influence a particular dependent variable.

5. *Control Variable*. A control variable is used to see if a relationship between two other variables remains the same under different conditions or among several different groups. Thus, we might ask if the relationship between population growth and church growth holds among both regional and neighborhood-oriented congregations. Membership dispersion would be our control variable in this case. Similarly, it might be expected that a relationship between two variables is stronger among Baptist churches than among Episcopal churches. The control variable here is denomination. In many instances a relationship will be stronger among certain groups than among others.

### 6.2.2 Association

1. *Relationship Between Variables*. An association or relationship between variables exists when one variable changes in value and there tends to be a corresponding change in another variable. We might hypothesize, for instance, a relationship between congregational liberalism on theological issues and support for social issues. As congregational liberalism increases (independent variable) we expect support for social issues to

also increase (dependent variable). If this were true, we could say that an association or a relationship existed between the two variables.

2. *Causation*. Causation implies that one variable actually causes, determines, or produces the change in another variable. It is impossible to actually prove causation using statistical procedures. You can only infer causation, because something else, which is unknown to you, may actually be producing the change. Rule of thumb: do not use the word "cause" in your research reports, use relationship or association.

3. *Strength of Association*. Relationships between variables can range from weak to strong, and measures exist which indicate the strength of an association. For instance, if all churches in areas growing in population are growing in membership, and all churches in declining areas are declining, the relationship would be very strong (in this case a perfect association). If most churches in growing areas are growing, the relationship is strong, but not perfect; and if there is only a slight tendency for areas which are growing in population to have growing churches, then the association is weak.

4. *Statistical Significance*. This refers to a measurement of the likelihood that a relationship occurred by chance. It does not necessarily mean that the finding is substantively important, only that it is trustworthy in terms of probability. Any time one draws a sample (see the description of sampling below), even using the best procedures, there is a chance that the sample does not truly represent the population. To say a finding is "statistically significant" means that there is an acceptably low probability that the relationship was produced by an odd sample rather than by a true relationship between variables. Typical levels of significance are 5 chances in 100 (or the .05 level of significance) or 1 chance in 100 (the .01 level of significance) that the finding resulted from chance alone. In general, stronger relationships and larger samples are more likely to produce "significant" findings.

In practical terms the researcher will do a test of significance to see if the finding can be trusted. If it can, the researcher must then turn to the strength of the relationship or the degree of difference between groups in order to draw conclusions about how important or meaningful are the findings.

5. *Direction of Association*. Relationships can be either "positive" or "negative." A positive relationship occurs when an increase in the independent variable tends to produce a corresponding increase in the dependent variable (or when one decreases, the other tends to decrease). A negative or inverse relationship occurs when an *increase* in the independent variable tends to

produce a *decrease* in the dependent variable (or vice versa).

### 6.2.3 Sampling

1. *Population*. This refers to a complete set of individuals, groups, objects, etc. All of the components (elements) which make up the set have something in common which allow them to be identified as part of the population. All churches in the United States would be a population. All United Church of Christ congregations would be another, smaller population. The members of one church would be yet another population.

2. *Sample*. A sample is a subset or a part of a population. One samples a pot of stew with the assumption that a spoonful will be representative of the entire pot. Similarly, one draws a sample of church members for study with the assumption that results obtained within the sample will hold for the large congregation.

3. *Element*. An element is a single unit of a population. If the population is all UCC churches, each congregation would be an element.

4. *Random Sample*. A sample is random when it has been chosen in such a manner that all elements in a population had an equal chance of being selected. A computer, a calculator (only certain models) or a table of random numbers is normally used to draw such a sample.

5. *Systematic Sample*. A systematic sample is drawn by selecting every "nth" person from the population. In other words, to choose a sample of forty persons from a membership list of four hundred names one could select every tenth person on the list. A systematic sample approximates a random sample if the first element on the list is selected randomly. This can be done by using a calculator which can generate random numbers or by using a table of random numbers which the researcher can find in the back of most statistical texts. Such tables are simply lists of numbers randomly generated by a computer.

6. *Accidental Sample*. This is the worst type of sample because it is drawn haphazardly rather than randomly or systematically. One cannot be sure that such a sample actually represents the population. Handing questionnaires to fifteen people after a worship service who happen to stay late talking would be an accidental sample of the worshippers. The fact that these persons stayed late while others left may mean that they rely on the church more heavily for social interaction or that they are all of a particular clique within the church. In any event, there exists the possibility that the person

chosen in an accidental sample differ systematically from those who were not chosen.

7. *Stratified Sample*. In a stratified sample elements of the population are divided into subgroups (or strata) and then elements to be included in the sample are selected randomly from each of the strata rather than from the entire population. This insures that certain groups within the population are adequately represented in the sample. For instance, in a study dealing with age and satisfaction with worship, to ensure that enough elderly persons are included in a sample researchers might divide the congregation into five age strata and then sample the appropriate number of members from each strata. This would ensure that the proportion of elderly persons included in the sample is the same proportion that is in the total congregation.

8. *Statistic*. A statistic is a number which describes some characteristic of a sample. Samples have various characteristics: range, dispersion, medians, average values, etc. Measures of these characteristics are called statistics.

#### 6.2.4 Measures of Central Tendency

1. *Mean*. The average score or value. To calculate, add all scores and divide by the total number of scores. The mean is affected by extreme scores, and as such is of limited utility when dealing with income, housing values and other demographic measures which may have extreme values. For instance, if among five people, two earn \$8,000 per year, one earns \$9,000, one earns \$10,000 and one earns \$500,000, the mean income of this group is \$107,000. This is the average income, but it is ten times the income of all except one person.

2. *Median*. The middle score or value. Half fall above the median, half fall below it. The median is not affected by extreme scores. Census data normally reports income and housing values in terms of the median. In the illustration given above, the median income is \$9,000. Two people earn more and two people earn less.

3. *Mode*. The score or value which occurs most frequently. Again referring to our illustration, the mode among the five persons would be \$8,000. If all five persons earned the same amount, the mean, median and mode would all be the same.

### 6.3 Designing a Research Project

#### 6.3.1 Developing a Research Question

The translation of a problem into a researchable question is often not easy. Still, one should resist the temptation to begin research on a problem without a

clear statement of the research question. When the question is relatively clear, such as how can an Anglo church begin to reach Hispanics, formulating the research question is a matter of translating the raw question into one that is specific and measurable, and that will not be too expensive to investigate. For instance, a research question might deal with barriers which keep Hispanics out of the church or it might be concerned with the relative usefulness of several programs designed to help the church reach this population. We might phrase a research question in this manner: "Will a Spanish language department increase Hispanic attendance at Little Hope Baptist Church?" Alternatively, one could ask, "Why do Hispanics who attend the services of Little Hope Baptist Church rarely return?" These questions may seem overly specific, but at the local church level a problem should be translated into a very specific question.

In many other cases, when the problem is more of a mess, the development of a research question is not easy. Such is the situation in several of the case studies presented in chapter one. In fact, in each case a number of questions could be addressed. The key in such situations is to first develop an *objective*. How would you like to see the situation resolved? In the case of Heritage United Methodist, the objective might be to gain a better understanding of the congregation so a similar aborted ministry could be avoided. On the other hand, the minister may want to know the types of ministries the church would accept, or how can she move the church toward acceptance of the elderly housing project. Because the objective is different in each case, the research question will also be different. Begin with the problem, state how you would like to see it resolved, and formulate a question or series of questions, that when answered will help move the church toward the objective.

#### 6.3.2 Choosing an Appropriate Research Design

There are many research techniques or procedures, but only a few major types of research design. We will deal with four here. The reader will note that certain "types" of research are not dealt with as unique research designs. Evaluation research and action research are two which may be familiar. They are not considered separately because they are distinct from other research procedures only in their goals. Similarly, the ethnographic interview and participant observation are considered research procedures rather than research designs.<sup>3</sup>

1. *Needs Analysis*. In a previous chapter needs assessment assumes a major emphasis. A research design for needs assessment involves the use of good

research procedures to look at the needs in a church or in a community. There is no stated problem, nor a true research question, other than, "What are our needs?" Questionnaires, interviews, panels, and other sound research procedures may be employed, but only to point to needs, not to answer any particular question. The most frequent use of this type of research design is in strategy planning. A church or denominational judicatory (association, synod, conference, etc.) may study its constituency, context, programs, processes, structure, and identity in order to determine needs. It then formulates a series of broad objectives designed to address the needs, sets specific goals so success or failure can be measured, and outlines action plans through which the goals can be accomplished.

2. *Case Study*. The case study is a legitimate research design and is one that may involve a variety of research procedures. A case study is an intensive study of a single subject or a group and includes no control. It is used most often to illustrate a classic example of some form of behavior or some type of group. Other uses are to provide a detailed description of a particularly unusual phenomenon or to provide evidence that a widely held belief is not true. An ethnographic study would fall under this type of research design. It may or may not include research procedures which differ from other types of case studies.

3. *The Experiment*. An experiment tests a specific hypothesis through the manipulation of an independent variable. The researcher is trying to change the attitudes or behavior of his or her subjects through some kind of treatment or experimental stimulus. This can be anything from a series of sermons, a film, a training event, even a series of electric shocks under the seats of a sample of members. The research question is whether or not the stimulus will produce the desired change among the subjects. Measurements determine the extent of the change and indicate whether the hypothesis has been supported or shown to be false.

4. *Correlational Designs*. The aim of a correlational design is to discover and measure the relationship between two or more variables. No attempt is made actually to manipulate one of the variables, as is done in an experiment; rather the purpose is to identify relationships which already exist in the social world. Efforts to discover factors related to church growth are often correlational, especially those which look at the impact of demographic influences. Are longer pastorates associated with church growth? Are regional churches less affected by their demographic environments? Is the proportion of elderly members in a church related to the likelihood of starting new ministries? Is the social class of laity associated with hymn prefer-

ence? These and many other questions can be answered through correlational designs.

### 6.3.3 Customizing the Research Design

The research question chosen will not totally determine which research design is selected, but it will influence the decision. Certain questions are more easily researched using correlational designs, while others are best addressed using experimental procedures. Still others will practically defy the development of an appropriate design. In all cases considerable effort must be made to customize a given project design. Each problem is unique and calls for a unique solution.

Often in congregational studies it is necessary to combine two different research designs in order really to understand the problem. For instance, correlational designs can be combined with case studies when a close look is needed at exceptions to the rule or at prototypical examples. Case study data is particularly useful to have when writing a report of findings for an audience not familiar with research. Case examples provide life and understanding to a statistical report and can make the difference in whether it is believed or doubted.

In all cases, the focus of a research project should be on producing useful findings. As long as the techniques are used appropriately, the study team should feel free to customize as much as possible. Above all, a question should not be chosen on the basis of how easy it will be to investigate. This often happens in Doctor of Ministry projects, and it is unfortunate. Also, it should not be assumed that only one type of research design is legitimate. This is a flaw of some Doctor of Ministry programs which require all students to use experimental designs.

### 6.4 Needs Analysis: The Simplest Design

The aim of needs analysis is to assess needs so that priorities can be established and a program developed to address the needs. In congregational studies, this research results in a ministry or in an improvement in an area of ministry rather than in an evaluation of a present ministry. Although it calls for research at a very basic level, needs analysis can perform a critical role for the church, both by surfacing hidden needs and by creating a sense of ownership of the program suggestions which may emerge from the process.

For instance, it is possible to imagine that had Heritage United Methodist Church conducted strategy planning and an in depth analysis of church and community needs, the need for an elderly housing

project could have emerged from the laity of the church as a priority. If such were the case, there may have been little difficulty in gaining approval. Such an exercise may also have been especially informative to the new pastor in showing her what the members saw as their most pressing needs. Their perceived needs may have been far different from what she may have expected.

### *Techniques of Data Collection*

1. *One-Shot Social Survey (Questionnaire)*. A survey is often conducted in a church in order to gather information about felt needs and to collect data for a church profile. "One-shot" means that the survey is only done once, unlike the experiment where it may be administered two or more times (in order to detect change). The questionnaire is normally distributed at a worship service or mailed to members. It will be composed of a series of questions, most of which can be answered by checking a box. A few questions will be "open-ended," requiring the respondent to write out a response in his or her own words.

When collecting information about needs or when building a church profile there is no reason for complex data analysis. In fact, all that is required is the creation of a *frequency distribution*. An example of this is seen in chart 2.

Obviously, an actual survey would have many more questions than the one in chart 2. Still, the method of tabulation would be the same. Background questions could be used to develop a profile of members and their social characteristics compared to those of community residents. Need oriented questions show which needs in the church and in the community are deemed more important by church members. Analysis is simple. A list of the most critical needs can be made by simply circling the questions to which the largest numbers of people selected as having, "High Priority/Needs Immediate Attention."

Another, more specific, example of needs analysis is the case of a pastor who wanted to better address the needs of church members during sermons.<sup>4</sup> Over several weeks the pastor developed a questionnaire that was designed to identify needs that members had that might be dealt with in preaching. The results of this survey, which was taken over several consecutive Sundays, revealed the congregation's major felt needs, the specific needs which could be addressed in sermons and whether or not the pastor had dealt with any of the needs during that Sunday's message. In this case, the needs that surfaced primarily dealt with preaching, rather than the many needs which might surface in a complete self-study. Many other areas of ministry can

also be considered by using a very specific survey and conducting the simple analysis employed in chart 2.

2. *Analysis of Census Data*. As shown in the chapter on context, and in other chapters as well, data from the United States Census can be of great value to a church. Such data is used in a variety of ways, but its most frequent use by the congregation is in some form of needs analysis. By obtaining census maps from a large public library, a college library, a state data center or from the Superintendent of Documents in Washington, D.C., it is possible to locate a church within its census tract, minor civil division, or some other unit of census geography (see the earlier chapter on context). Armed with this location, very detailed data can be obtained on that geographical area from Census Bureau documents, private data suppliers, or from a denominational research office (in most cases).

Raw data from the census may not mean much at first glance. Does, for instance, the fact that 50 percent of the housing near a church is renter occupied mean anything? Is this level high or low and does it call for any special type of ministry or outreach on the part of the church? A consultant can be of great help here, but the pastor, a staff member, or layperson can begin to draw inferences when data for the tracts surrounding their church is compared to other tracts around the city or county. If they know the area well, it should be relatively easy to develop some real insights from the data. From such insights, needs in the community should also begin to emerge. What are the blind spots of the church? Who in the community is not being reached or ministered to? These questions can be answered with an adequate knowledge of the church and the community.

3. *Interviews*. Interviews also have an important place in needs analysis research. Often the true needs of a church are only revealed through much probing. A questionnaire may be sufficient to collect "hard facts" when the issues are clear and salient to the respondents. However, if deep-seated problems in the church need to be surfaced, if long answers are required, and if trust must be developed in order to receive a meaningful response, then an interview is appropriate.

One way to conduct an interview is with an interview guide (or schedule, as they are often termed). This guide is half outline and half questionnaire. Questions, many purposefully general, are included to get the subject(s) talking. The guide keeps the interview on track and also prevents the interviewer from forgetting the questions he or she needed to ask. If done well, rapport can be developed and the respondent encouraged to "open up." Some people resist candor, but

experience shows that most people are eager to have someone really listen to their opinions. They may only give brief answers on a questionnaire, but in an interview they may be willing to talk for hours.

## 6.5 The Case Study: Magnifying an Example

The purpose of the case study is to draw inferences from the intensive study of a single group, chosen either because it is a prototypical example of some phenomena, because it is rare, unusual or unfamiliar, or because it represents a disconfirmation of conventional wisdom in an area. In some projects more than one case study is used and comparisons are made, but in each situation the cases are studied individually. An effort is made to describe the group, organization or subculture in great detail with the aim of gaining an intuitive understanding which can be communicated to others.

Examples are the best method of teaching. Case studies provide very detailed examples so that a phenomenon can be understood not only in abstract, but as it really operates. A good case study should allow readers mentally to put themselves "into" the group or organization being studied and to feel they know "what makes it tick." This is especially critical when studying complex organizations like churches which do not function primarily through the operation of rational bureaucratic procedures. There is such subtlety and rampant use of informal rules, that the reading of minutes, studying of bylaws and hearing of sermons cannot hope to give a complete picture of a church and its true operation.

In some situations case studies are used simply to represent many other similar examples. Even though there are differences, to completely understand one gives more knowledge than a superficial understanding of many. In other instances the case study is used to describe something that is rarely seen (or simply has not been described before). It may be a disconfirmation in the sense that it can show that an example that exists obviously disconfirms a theory which states that the phenomenon *cannot* exist. More frequently, however, a case study is needed to describe the rare or unusual. It may be well known that such examples exist, but because they are so unfamiliar, complete understanding of them is often lacking.

The case study should be conducted with a clear purpose in mind. This should go beyond a mere desire to understand an interesting case. What questions can the case answer? There should be a clear research question which is to be addressed. If a goal is to

determine the congregation's "myth," can this knowledge help the church change?

### 6.5.1 Techniques of Data Collection

1. *Personal interview.* In the personal interview the researcher asks respondents a series of questions designed to obtain answers pertinent to the research problem. In most cases only one person will be interviewed at a time, but occasionally group interviews can be a useful variation on this method. This is especially true when the interviewer is as interested in group dynamics as in the answers to questions being posed. One major way interviews vary is in the degree of structure.

*Schedule-Structured Interview.* In the most structured form of an interview the respondent is asked a series of standard questions and must answer by selecting from a set of fixed response categories. The questions, their wording and their sequence is fixed and identical for each respondent. In a real sense this form of interview is virtually identical to the questionnaire, with the only difference being that the interviewer checks responses on the form rather than the respondent. This type of interview is easy to quantify and analyze with statistical techniques, and since the interviewer is in control of the situation, all of the questions will be answered and the meaning of unclear questions can be explained. The schedule-structured interview is normally used when mail questionnaires, phone interviews, or other procedures for administering questionnaires are not likely to produce a high enough return rate or if there is some doubt that respondents will answer all of the questions. It is expensive and time-consuming, but worthwhile in many situations. Virtually all of the high quality national public opinion polls use this method.

Despite its good points, the schedule-structured interview is not often used in the case study. The reason for this is in the closed-ended nature of responses. Rather than gaining detailed insights about a congregation, this procedure only gives yes-no, high-medium-low, agree-disagree type responses.

*Structured Open-Ended Interview.* This type of interview is often used in case study designs. Questions are designed to be answered in more than one word and explanations for particular responses by subjects are welcome. An interview which deals with conflict in the church might ask, "What are the issues which cause the most serious arguments during deacon meetings?" A project concerned with redeveloping the image of a church might ask members, "When was the greatest ministry era of this church?" Each question would be asked in the same order and the interviewer would write down responses on the schedule. If possible,



## Chart 2

## Summary of Responses to Membership Survey

I. <u>Social Background Characteristics</u>		<u>Number</u>	<u>%</u>
1. Sex	Male	56	41.5
	Female	79	58.5
		<u>135</u>	<u>100.0</u>
2. Age	10-15	19	14.1
	16-21	12	8.9
	22-35	13	9.6
	36-55	40	29.6
	56-65	32	23.7
	66 & up	19	14.1
	<u>135</u>	<u>100.0</u>	
II. <u>Mission Opportunity Responses</u>		<u>Number</u>	<u>%</u>
1. Need to set a goal for membership growth?			
	Not needed in community	17	12.6
	Not appropriate for our church	31	23.0
	Low priority at this time	12	8.9
	Only moderate priority at this time	28	20.7
	High priority/Needs immediate attention	47	34.8
		<u>135</u>	<u>100.0</u>
2. Consider new ministries with persons living in institutions such as prisons and mental hospitals?			
	Not needed in community	27	20.0
	Not appropriate for our church	21	15.5
	Low priority at this time	46	34.1
	Only moderate priority at this time	32	23.7
	High priority/Needs immediate attention	9	6.7
		<u>135</u>	<u>100.0</u>
3. Explore the possibility of a vacation Bible school for neighborhood children.			
	Not needed in community	7	5.2
	Not appropriate for our church	2	1.5
	Low priority at this time	27	20.0
	Only moderate priority at this time	43	31.8
	High priority/Needs immediate attention	56	41.5
		<u>135</u>	<u>100.0</u>

interviews should also be tape recorded. Key information can easily be lost if the researcher cannot write fast enough or has a poor memory. Some will not want to be recorded, of course, but if the interviewer says, "I want to record this so I won't miss anything" and then turns on a tape recorder, very few people will ask that it be turned off. Experience also shows that people forget about the recorder very quickly and make comments that an interviewer would not want to lose.

In many cases a researcher will combine this type of interview with the schedule-structured interview. It is useful to obtain factual information, such as the background characteristics of respondents, the number of pastors over the last ten years and other data which calls for fixed rather than open response categories.

This type of interview is difficult to translate into numbers. With much work, long responses can be categorized and subjected to statistical analysis, but this may not always be worth the effort. The key purpose of this method is to obtain detailed, subjective information about a complex phenomenon. It is up to the researcher to draw his or her insights from the data and the quality of the analysis which results is greatly dependent on that ability.

*The Unstructured Interview.* In this form of interview no prespecified set of questions is used, nor are questions asked in any specific order. Respondents are simply encouraged to tell about their experiences, to describe events which they deem important to the issue being considered, and to reveal their attitudes and opinions as they see fit. The interviewer probes from time to time and brings the respondent back to the subject when he or she begins to stray too far. If the issue being considered is the decision-making process in the church, a respondent might be asked to describe "how things get done in this church." Such a question may cause some people to launch into a two-hour long discourse about decision making, formal and informal leaders, norms, processes and examples of how the system operates. Another person may simply say, "the pastor, board, and church committees do everything here" and assume he had told all. With such a person, considerable probing is necessary in order to get a complete picture of the situation.

Unstructured interviews may also be used to obtain oral histories of a church if such are needed in a case study. Older members are normally used for this purpose, but in order to get a balanced perspective of later years, some newer members are also needed. Like the previous form of interview, the unstructured interview yields data that is hard to analyze. Often a researcher is confronted with a pile of notes and a box of tapes and must then try to turn these into a coherent

report. To do so requires considerable skill and much effort.

*The Ethnographic Interview.* Interviews differ not only in their structure, but in their goals. The ethnographic interview is directed at developing an ethnography—a descriptive study of a society, subculture, or institution. It is combined with observation (often participant observation) so that key informants and others in the group are continually being informally interviewed about recent events, the meaning of frequently used terms, goals, motives and so forth. An interview schedule is not usually constructed; the researcher simply adopts the role of interviewer when he or she needs information or explanation. The primary goal of ethnography is more descriptive than analytical. For this reason, an ethnographic report does not generally answer a research question, but it gives an understanding of a culture, a people and the way they view their social world.<sup>5</sup> Such diffuse goals are rarely sufficient for a church study committee, however. Rather than producing an ethnography of their church the team may use the tools of ethnographic research in order to help answer their research question.

2. *Participant Observation.* In participant observation the researcher becomes a part of the group being studied. Proponents of this method hold that the only way to understand a social group, particularly one which is unfamiliar, is to immerse oneself in it so that the perspective of the members becomes the observer's own for a time.

Good participant observation is not easy and requires considerable skill on the part of the researcher. We all have our blind spots as well as our areas of strength, and these tend to show up in what we observe (and in what we miss). American women tend to notice color and variations in dress better than men<sup>6</sup>; people from the city miss a great deal when asked to observe rural life. Some people are simply better observers than others. Researchers using this technique had best know their observational strengths and weaknesses before beginning participant observation and take great pains to adjust for these weaknesses.

If done poorly, participant observation is not really scientific research; it is just looking around. In fact, a better term might be participant *investigation* rather than observation, because the researcher is not a passive observer. While actively participating in a congregation or other object of study, the participant observer is constantly asking questions, probing and finding "experts" who are willing to teach informal lessons. Theories are developed along the way and are tested whenever possible. In order to test a theory about conflict management in the church, members might be asked, "What would happen in a business meeting if

you proposed that the church ordain women deacons?" Alternatively, the researcher might consciously violate minor behavioral norms in order to discover how members discourage such behavior.

In some cases the period of participant observation is a prologue to a questionnaire or some other quantitative procedure. This is in order to make the research more objective and less open to criticism.<sup>7</sup> The observation tells the researcher what questions should be asked in such a survey.

It is up to the researcher whether or not to tell the members of the group being studied that he or she is conducting a research project. Most social scientists would hold, however, that not to inform one's subjects is highly unethical; others are not quite so adamant. From a purely practical standpoint, it is generally best to inform the group of your purpose. In this way the researcher has an explanation for why he or she is asking so many questions. Also, group members will often show more interest in the researcher if intentions are known.

Good notes are essential in the process and provide another reason to let the group know what you are doing. A researcher should take detailed, concrete notes that accurately describe the situation. Instead of "A showed hostility toward B," the researcher should note, "A scowled and spoke harshly to B, saying several negative things, including, 'I wish you had never joined this church' and 'If you open your mouth again in that meeting, I'll put my fist in it.' He then spit in B's direction and walked out of the room."<sup>8</sup>

3. *Social Survey—Analysis of a Frequency Distribution.* As in a needs analysis, it is often useful in a case study to conduct a social survey. In most situations the purpose of this exercise is to construct a profile of members, their beliefs and attitudes. Often this is done after participant observation or key informant interviewing. The researcher develops a mental profile of the average member and a set of generalizations concerning the degree of diversity in the group, the range of opinions, and the proportion who may deviate from the norm. A survey allows the researcher to objectively test these "theories" and rethink his or her perception of the congregation accordingly. The reader should refer to the previous section on needs analysis for a more complete discussion of this procedure.

### 6.5.2 Example: A Study of a Racially Integrated Church

A recent study of Southern Baptist churches in racially changing communities discovered only a handful of integrated congregations. Because of their rarity, a case study of one or more of these congregations would be of great value. The primary research

question might be, "How did this church integrate?" or perhaps, "How is this church able to maintain stable proportions of blacks and whites in its membership?" From these questions a series of hypotheses could be developed, such as "integration is fostered by the fact that socioeconomic differences between whites and blacks are negligible" or "this church was able to achieve stable integration by transforming its identity from a dying white congregation to that of a progressive integrated church." Other hypotheses could also be developed.

To conduct a high quality case study of an integrated congregation, a variety of research procedures could be used. Interviews with the pastor, key laypersons, area denominational leaders, local community residents and others would be a first step. Above all, the researcher would want to seek out the first blacks to join the church and some of the whites who were members at the time. Why did the blacks join this church, and why did the whites either stay or leave? Beyond interviews, the researcher might want to use participant observation, especially if one purpose is to discover why the church remains integrated. The researcher could observe how blacks and whites treat one another, the patterns of interaction before and after worship and whether black and white members socialize during the week. Informal conversations with members could explore surface issues such as whether members really believe that the church can remain integrated, and also expose underlying concerns such as attitudes concerning interracial dating. Finally, a survey could be conducted in order to find out if black and white members differ greatly in income and educational levels, attitudes and so forth. Is race the major cleavage between the groups, or do they differ in other areas?

A case study which used the combination of procedures described above would be of great value to the many churches in racially changing communities. By employing a variety of techniques, better data are collected than if only one research method was employed.

## 6.6 Experimental Designs: Tests, Comparisons, and Evaluation

In all experiments the researcher tests the effect of a treatment. The treatment may be something simple and direct like a film series or it may be something quite complex and costly like a denomination-wide mass evangelism campaign. When the goal is to evaluate a program, we often call this *evaluation research*. The treatment or program becomes the independent variable in such research and one is trying to detect whether

or not the presence of the program actually made a measurable difference on the individuals or groups being studied. There is a dependent variable of interest, and a test is made to see if there is a change in this variable as a result of having had the treatment or used the program. For instance, a denominational mass evangelism campaign is designed to increase baptisms in the cities where it occurs. Having the campaign is the treatment. The dependent variable is the number of baptisms recorded among Baptist churches in the city.

Experimental designs are very widely used in Doctor of Ministry projects. A rather tired example of a D.Min. project is the series of lectures designed to increase biblical knowledge. The pastor selects an experimental group and a control group, with the experimental group hearing the lectures and the control group hearing something else. A pretest confirms that the groups are similar in their knowledge before the experiment and a posttest shows that the experimental group increased slightly in biblical knowledge, while the control group had no such increase.

### 6.6.1 The Quasi-Experiment

The simplest types of experiments are called "quasi-experiments." They are often used in congregational studies.

The most basic form of quasi-experiment might be termed a *single group panel* study. Here only one group is studied, often an entire church. A measurement is taken on the dependent variable before the treatment, then a treatment is administered and finally a second measurement is taken. For instance, a pastor may want to test the effectiveness of a class designed to train members in personal evangelism. Only a small number volunteer for the program and the pastor would be foolish to use half of these willing recruits as a control group. An interview determines each person's current involvement in evangelistic witnessing and their effectiveness as a witness. The training program (treatment) then proceeds and at its conclusion a second test is made of the participant's evangelistic efforts and effectiveness.

Single group panels can yield very helpful information to a study group and in some cases they may be the only type of experiment possible. Their results, however, are somewhat suspect and the study group should try to include a control or comparison group if it is feasible. Without a control it is not possible to know if the treatment caused the change in one's members or if the change resulted from some other influence. For instance, in the previous illustration, it may have been the *pastor's example* as a witness which was effective rather than the *content* of what he was teaching. Thus,

this experiment was not an adequate test for judging whether this evangelistic training program should be used by other churches or even by this church after the present pastor leaves.

A more sophisticated example of a quasi-experiment uses pre-existing groups for analysis rather than creating new ones using sampling procedures. Richard E. Davies in his book *Handbook for Doctor of Ministry Projects* reported on a project that used school classes as experimental and control groups.<sup>9</sup> Two classes were selected in two different schools, so the researcher had two experimental groups and two control groups. The experiment was designed to decrease feelings of anxiety about death among the students. The experimental groups received a treatment, in this case a series of lectures, but unfortunately the research showed that their fear of death *increased* rather than decreased after the treatment. It seems that high school students do not normally think much about death, but the treatment made them think about it a great deal—resulting in greater anxiety.

In another example reported by Davies,<sup>10</sup> pre-existing groups were again used, but in this case there was no control group. The experiment was designed to test the effectiveness of two settings for learning—a twelve-week class where students met once a week in a small group setting and a one-day retreat. Posttest results showed that the twelve-week class was more effective as a setting for learning than the one day retreat. In this case there were essentially two treatments, with each group being a "control" for the other. A preferable design would have included a third group as a true control, but the example illustrates a fairly acceptable design which has no control.

The quasi-experiment is not as powerful a research technique as is the true controlled experiment. Yet this drawback should not dissuade the pastor or other church professional from using such procedures. They are generally *more* powerful than correlational designs and may be the only option in some church situations. Care must be taken, however, to make sure pre-existing groups studied in a quasi-experiment are as similar as possible. Do not use a Sunday school class of elderly persons as a treatment group and a class of youth as a control. Use groups which represent the same basic age range, sex ratio, racial composition and so forth. In this way the experiment will approximate the procedures used in a true controlled experiment.

### 6.6.2 The Controlled Experiment

The true controlled experiment is simply a more rigorous form of the experiment than the quasi-experiment. Its rationale and most of the research procedures

are the same. There are several types of controlled experiments, all of which use *control groups* and either *random assignment* into groups or some procedure of *matching*. A control group is one which does not receive the treatment or take part in the program being studied. This group is necessary for comparative purposes—to determine if the change which was detected in the treatment group resulted from the actual treatment or from some outside factor. If, for instance, the control group's score on the dependent variable rose just as much as the experimental group, then it would be difficult to explain the change as resulting from the treatment (since the control group did not receive the treatment).

It is important that the experimental group and control group be as similar as possible. If they are not, there exists the possibility that changes in scores on the dependent variable resulted from these pre-existing differences. The experimental group might be older, for instance, and something could happen in society to change the attitudes of older persons quite apart from the treatment. If this were the case, a researcher might incorrectly conclude that the change was due to the treatment. Similarity between the groups is attained by either matching the characteristics of persons in the control and experimental groups, so that there is a similar average age, sex ratio, and so forth, or by *randomly* assigning persons to the two groups. If random assignment is done correctly, the two groups would not only be similar in age and sex, but on many other background variables as well.

1. *Types of Controlled Experiments*. Chart 3 shows three types of experimental designs, ranging from simple to more complex.

*Static Group Comparison*. This type of experimental design has a control group and an experimental group. The experimental group receives the treatment (X on the chart), while the control group receives no treatment. A post-test is used to determine whether the treatment had any effect on the experimental group. Average scores for the two groups are compared, and if significantly different, it is assumed that the difference was caused by the treatment (independent variable).

The matching or randomization procedures are intended to insure that the groups would score similarly on the dependent variable prior to the treatment, but the flaw of the design is that there is no way of knowing this to be true. In fact, the difference found in the posttest could have existed *before* the treatment. If such were the case, a faulty conclusion would have been made. For this reason, the static group comparison produces dubious results.

*Pretest-Posttest Controlled Experiment*. This design is similar to the static group comparison, but with the

obvious difference that a pretest is conducted among both control and experimental groups. This insures that the groups are initially similar in their scores on the dependent variable, or at least that the magnitude of any pre-existing difference is known. Posttest scores are compared to pretest scores in order to detect how much change occurred over time for both experimental and control groups. Then, posttest scores for both groups are compared. If the treatment has had some influence, the change between the pretest and posttest should be greater for the experimental group than for the control group.

It is expected that the control group will show some change, even though it did not receive a treatment. This is due to testing interaction. Subjects may be influenced by the pretest and change their views even without the treatment. This often happens in the church situation when respondents may "reward" their pastor by artificially changing their attitudes on the posttest.

This form of experimental design is frequently used. It deals effectively with the problems of the static group comparison and is fairly simple.

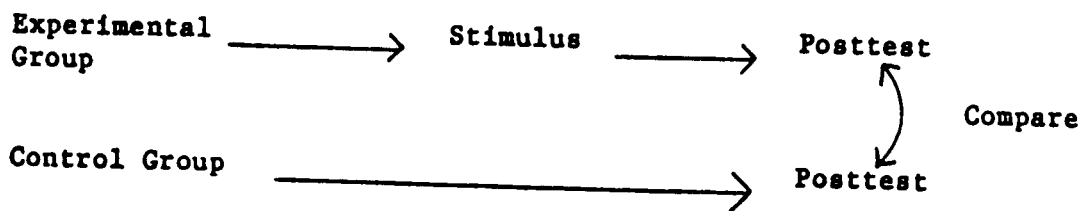
*Four Group Design*. The four-group design essentially combines the static-group comparison and the pretest-posttest design. As such, it is able to deal with the need for a pretest and also gives an estimate of the amount of testing interaction. Its drawback is primarily in its expense and in the necessity of selecting four groups rather than two.

2. *Sampling in an Experimental Design*. The key to sampling in the experimental design is to insure that the control and experimental groups are very similar. Random assignment of individuals from the population into the two groups using a table of random numbers is an effective way of doing this. However, it should be noted that randomness is not as essential for experimental designs as it is for correlational designs. It is acceptable to use matching procedures instead, which insure that the two groups are similar with respect to age, sex, race, etc.

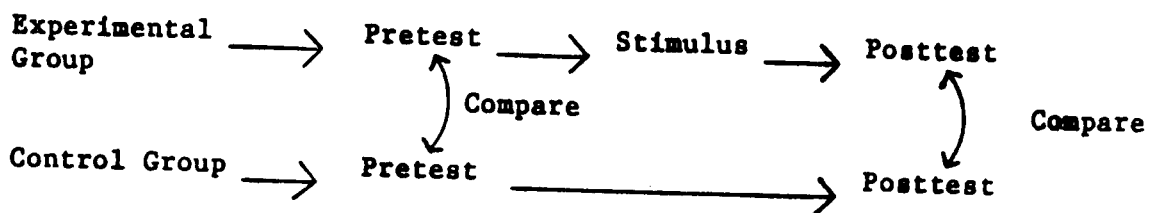
3. *Scale or Index Construction*. In experimental research an index that measures the dependent variable is often constructed. If the variable to be influenced by a program or treatment is racism, for instance, then a series of questions is included in the survey which tap various aspects of racism. In chart 4 we see an example of 5 questions that were part of an anti-Semitism scale.<sup>11</sup> Each of the questions deals with different aspects of prejudice against Jews and they also vary in intensity. A respondent answers each question by circling one of five possible responses in the Likert format (strongly agree to strongly disagree). To compute the respondent's score on this index, the responses are summed. In this index the total score indicating the highest level

Chart 3

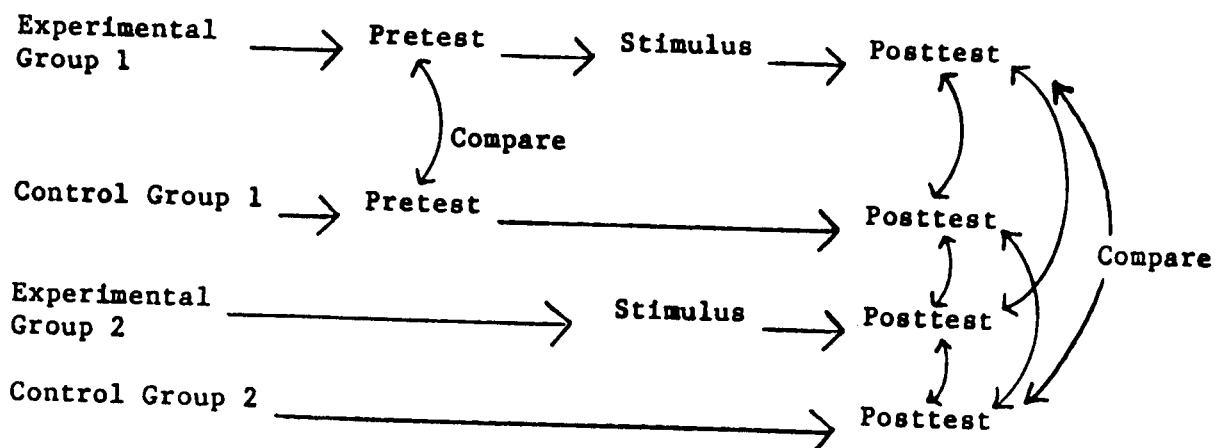
## THREE TYPES OF EXPERIMENTAL DESIGNS

1. Static Group Comparison

Comments: Avoids testing interaction, but no assurance groups were the same before test.

2. Two Group Pretest-Posttest Design

Comments: Assures that groups were similar before treatment, does not avoid testing interaction (having been pretested, the subject figures out what you are doing).

3. Four Group Design

Comments: Avoids all problems, except complexity.

## Chart 4

## INDEX CONSTRUCTION AND SUMMATION \*

(1) International banking is pretty much controlled by Jews.

5 1. Strongly Agree 2. Agree 3. Uncertain 4. Disagree 5. Strongly Disagree

(2) Jews are just as honest as other business men.

2  
4 1. Strongly Agree 2. Agree 3. Uncertain 4. Disagree 5. Strongly Disagree

(3) You can usually tell whether or not a person is Jewish by the way he looks.

2 1. Strongly Agree 2. Agree 3. Uncertain 4. Disagree 5. Strongly Disagree

(4) Jews should stop complaining about what happened to them in Nazi Germany.

5 1. Strongly Agree 2. Agree 3. Uncertain 4. Disagree 5. Strongly Disagree

(5) Jewish employers go out of their way to hire other Jews.

3 1. Strongly Agree 2. Agree 3. Uncertain 4. Disagree 5. Strongly Disagree

Score = 19

Score indicating highest level of anti-semitism = 5

Score indicating lowest level of anti-semitism = 25

Instructions: Compute scores for all respondents in each group, sum their scores and compute an average (mean) score.

---

\*From The Tenacity of Prejudice: Anti-Semitism in Contemporary America, by Gertrude J. Selznick and Stephen Steinberg, pub. by the Anti-Defamation League of B'nai B'rith as volume 4 in its Patterns of American Prejudice Series. The series is based on the University of California five-year study of anti-Semitism in the United States conducted under an ADL grant.

of prejudice is a 5. To receive this score a respondent would answer all questions by circling the most extreme prejudiced responses. Persons who are the least prejudiced would score a 25.

Scales in which the most extreme scores are all the same are the easiest to sum, because all one must do is add the number value of each response. Usually, however, it is best to vary questions so that, for instance, a highly prejudiced response is a "5" on some questions and a "1" on others. In this way you can make sure that people read the questions and do not simply check the same number for each question. To sum such a scale it is necessary to reverse the scores for items that are worded in a manner opposite to the other questions. Looking at chart 4, we can see that the response to question two is reversed, in order to make its scoring consistent with the other items. The response of a "2" has been crossed out and changed from a "2" to a "4" because the "2" response is similar to the "4" responses on other questions. Once scores are reversed on the necessary items the scale is summed. The hypothetical responses to the example in chart 4 have been summed to produce a score of 19 for this respondent. Each person receives a score and for each group the scores are totalled and an average (mean) is computed. If the aim of the experiment in this case were to reduce anti-Semitism, then we would expect the mean scores on the index to increase (indicating lower prejudice) after the treatment.

4. *Analysis of Experimental Designs.* Analyzing the results of a controlled experiment is normally quite simple. If an index has been used and the hypothesis was that scores on this index should change after the treatment, then analysis only involves comparing pretest and posttest scores. Chart 5 shows some hypothetical results to a controlled experiment designed to reduce anti-Semitism.

In the static group comparison the researcher compares scores on the posttest, which takes place after the treatment. It is assumed that scores for the two groups were the same prior to the treatment, so any difference is due to treatment effects.

In the two group pretest-posttest design the analysis procedure is to compare pretest and posttest scores for the two groups and then to compare the amount of change in each. As seen in the example, the experimental group's mean score increased 8.5 points on the index, while the control group only increased 1.9 points. The fact that the change in the average score was far greater for the experimental group indicates that the treatment had a measurable impact on prejudice.

Analysis of the four-group design is similar to the two-group pretest-posttest, with the exception that it is also possible to estimate testing interaction. The posttest scores for the two experimental groups are compared with the difference reflecting the effect of having given a pretest to experimental group 1. Likewise, the posttest scores for the control groups are also compared. In this table the effect of testing interaction is somewhere between 1.9 and 2.3 points. This would indicate a small effect, but one which should be noted in a report of findings.

## 6.7 Correlational Designs

Many independent variables do not lend themselves to manipulation, thus ruling out the use of experimental designs. There is no way to change the age, birth order, sex, race, etc. of one's subjects, nor would it be possible to alter the size or location of churches as part of an experiment. On the other hand, some manipulation may be possible but is not ethical. For instance there are ethical problems involved in creating conflict in a church by spreading rumors or in producing many other changes which might be interesting to study.

Correlational designs are often used by researchers who study the congregation. They deal adequately with the issues outlined above and are relatively low in cost. In such designs researchers do not manipulate their subjects in order to measure the effect of a treatment on a dependent variable. Instead, the purpose is to identify relationships which already exist in the social world, but have simply not been described or fully investigated. Rather than creating conflict or moving white churches to black ghettos, the researcher uses the fact that churches can be found in samples which have experienced conflict and that white churches already exist in the black ghettos of our major cities. The effort is then to see if having conflict or being located in a black community is related to a dependent variable of interest.

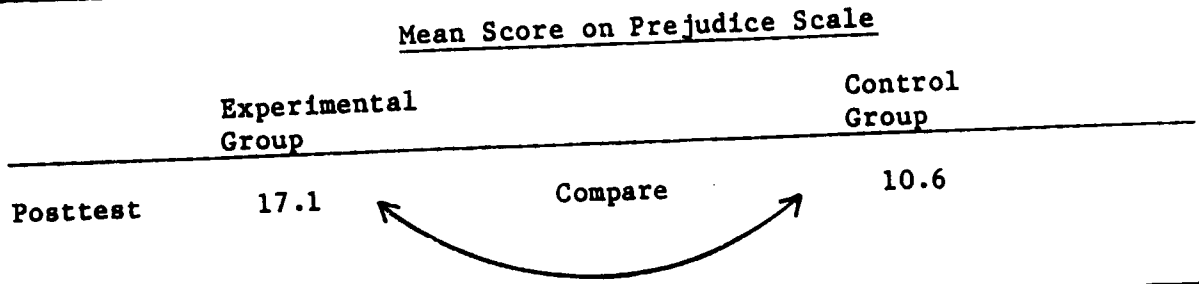
Two variables that might well co-vary (another way of saying that they are related) are church size and having gymnasiums. We would presume that larger churches would be more likely to have gyms than would smaller churches. Large churches and small churches exist in the church world, as do churches with gyms; we do not need to create one or the other. We simply select a sample of churches and within this sample, we determine whether or not larger churches are more likely to have gyms than are smaller churches.

The major problem with correlational designs is that finding a correlation or an association does not necessarily mean that one has answered the research

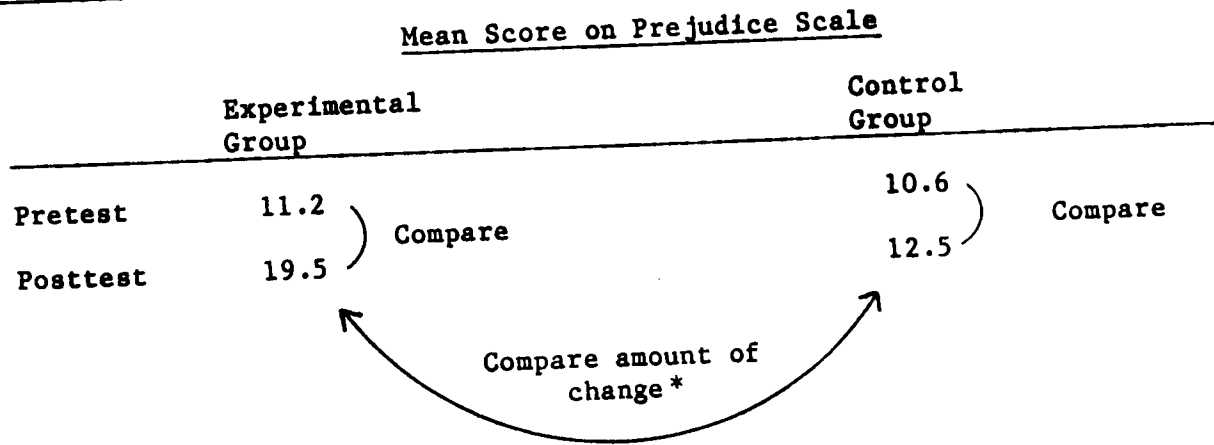


Chart 5  
ANALYSIS OF EXPERIMENTAL DESIGNS

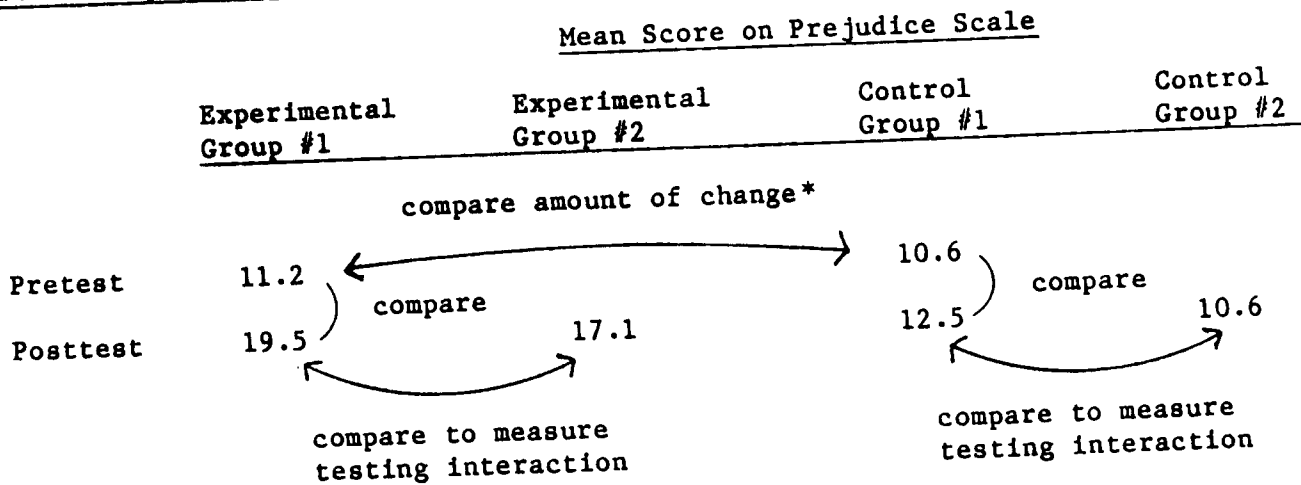
1. Static Group Comparison



2. Two Group Pretest-Posttest Design



3. Four Group Design



\* Compute the amount of change between pretest and posttest scores for both groups. Then compare these results to each other.

question. It is often said that "correlation does not imply causation." Church size does not *cause* a church to build gymnasiums any more than smoking directly causes cancer. The variables in both cases are simply correlated. Large churches are *more likely* to have gyms and smokers are *more likely* to contract lung cancer. To really explain the relationship in causal terms requires more research and involves additional variables which help specify the relationship. Often, of course, it is not necessary (or even possible) to truly establish causation. In the case of smoking, the knowledge that it is strongly correlated with cancer and heart disease is enough to justify sanctions which encourage people not to smoke.

Another problem with correlational designs is in determining the *direction of influence*. Which variable is independent and which is dependent? In most cases the question is fairly easy to answer. Gyms are not generally held to produce large churches and cancer does not compel people to smoke. But what about the relationship between ratings of pastoral performance and church growth? Do highly rated pastors influence churches to grow or does church growth lead to a positive image of one's pastor? In most cases both would be true, a situation which makes it difficult to identify the independent variable.

### 6.7.1 The Social Survey

The most frequently used method of data collection in correlational designs is the social survey. A social survey is a type of a poll, similar to those used to measure public opinion and voting preferences prior to elections. Unlike their use in needs analysis and in case studies, however, they are employed in correlational designs to discover relationships between variables rather than to create a simple frequency distribution. For instance, the Episcopal pastor mentioned in chapter 1 might want to know which age groups are least satisfied with the style of worship in his church. If certain age groups are more likely to be satisfied than others, these two variables (age and satisfaction) can be said to co-vary.

1. *Questionnaire Construction.* The social survey will involve a questionnaire (if filled out by the subjects) or an interview schedule (if filled out by the researcher). Creating such an instrument is an art and before one is finished it is usually best to solicit some help from a research professional.

The questionnaire will be composed of a number of individual questions or items, as they are often termed. Great care should be taken in the wording of each question so they will not be misunderstood or lead to biased results. Above all, the items should include only

one question apiece, not two, and should not be worded as to solicit a particular response. An example of a question which makes both mistakes is as follows:

Don't you agree that we should not allow homosexuals to teach in our public schools and corrupt the morals of our children?

Yes \_\_\_\_\_ No \_\_\_\_\_

Questions as bad as this are not uncommon, especially if the purpose of the survey is to insure results which confirm one's theory. If, however, the purpose is to measure objectively attitudes and relationships, then such items should not be used. Instead, they can be reworded to ask, "Do you believe that avowed homosexuals should be allowed to teach in public schools?"

Often it is not necessary to construct new survey questions, since there are few which have not been previously asked by social scientists. Tested questions can be borrowed from the National Opinion Research Center's *General Social Survey*, *The Gallup Poll*, the University of Michigan's *National Election Study*, and from a host of other sources. The reference library or a survey research institute at a college or university are good places to start looking for questions.

Most of the questions included on a survey to be used in a correlational design should be "closed-ended" rather than "open-ended." Closed-ended questions offer a set of fixed responses, from which the respondent chooses one that most closely represents his or her views. Response categories can be Yes/No, Strongly Agree to Strongly Disagree, a set of discrete responses as in a question dealing with marital status (such as, are you: (1) never married, (2) married, (3) separated, (4) divorced, (5) widowed?), a continuum with end points labeled (conservative—(1)—(2)—(3)—(4)—(5)—liberal) or a variety of other formats. If at all possible the researcher should avoid what can be called "list questions." Here the survey asks the respondent to check one or more responses from a long list of possibilities. For instance, a pastor might ask "which of the following influenced you to join this church" and then list twenty or thirty possibilities. List questions like this generally produce poor results because the respondent thinks about each response for about as long as it took the researcher to write the question. They are also difficult to analyze because such a list is not one question, but many, which means that each response category must be treated as a separate variable in an analysis.

Researchers are normally able to think of many more questions to ask on a survey than can be included. A concerted effort should be made to make the instrument as *brief as possible*. Include a few social background

variables of interest (age, sex, race, income, etc.), the key independent and dependent variables, an index if one is needed and as few other variables as possible. If the questionnaire is more than a few pages long many people will not fill it out, especially if they receive it by mail. Try for one or two pages, and not more than four at the most. If necessary, have the pages reduced, so that more questions fit on each page. The questionnaire may not be short, but it will at least look short. It is also effective to have a questionnaire professionally printed, rather than typed. This gives the instrument a greater sense of importance and allows more questions to a page than does a typed copy.

Mailing questionnaires to church members is more difficult than it would seem and may lead to dubious results. In congregational studies the questionnaires can normally be handed to members and returned while the study group waits. Mailing may reduce the response rate from 100 percent to well under 50 percent, especially if the questionnaire is long and the subjects are not highly motivated. In some situations mailing may be appropriate (as when trying to reach inactive members), but the researcher should remember that a response rate of less than 50 percent is generally seen as problematic. The research group may find it necessary to use a preparatory mailing, a secondary mailing, follow-up cards, phone calls, small amounts of money included with the questionnaire, and other inducements in order to get the response rate up to 50 percent.

Finally, a questionnaire should always be pretested. This can be done first among one's family, friends and coworkers. Make sure everyone understands the meaning of every question. Do not assume that what is obvious to you is obvious to everyone. A second step is to pretest the questionnaire among a small sample of your members. See if they comprehend the questions and review your preliminary results to insure that the right questions are being asked. If your effort is to measure prejudice and Ku Klux Klan members are scoring as moderates on your scale, then some new items may be needed. Similarly, if you are trying to measure degrees of satisfaction with a congregation, and a pretest shows very little variation in levels of satisfaction, then more sensitive measures may be needed. Pretesting is a critical step, yet one which is often skipped because of deadlines or because of unfortunate presumption on the part of the researcher. Do not make this mistake!

2. *Drawing a Sample.* It is rarely possible in survey research to have every member of the population being studied fill out your questionnaire. This is especially true when the population is very large, like the United States population. In such situations, a sample is drawn and the results are then *generalized* to the larger

population. National samples are carefully drawn, usually including 1500 to 2500 persons, and the responses of these persons are taken to represent the entire American public. It may surprise some to know that even the 1980 census made extensive use of sampling. Questions on income, housing, and many other areas were only included on a "long form" which was sent to only twenty percent of U.S. households.

In the church situation the researcher is likely to be dealing with relatively small populations. And the first step in drawing a sample is to identify just what is the appropriate population. Are you interested in generalizing your results to all members of your denomination? If this is the case, then all of these persons would constitute your population. If, however, you are only interested in generalizing your results to the members of your congregation, then the population will be considerably smaller.

In some cases it is not even necessary to draw a sample. The population may include only fifty churches in a city or the members of a single church. In such cases a sample is unnecessary because a researcher can include the entire population in his or her study. Do not draw a sample only because it seems more like "real research." Interview or give a questionnaire to everyone if it is physically possible (and if you have a good probability of receiving a response).

Once a population has been realistically defined (do not, for instance define babies and preliterate children as part of a population which must fill out questionnaires), and you have decided that a sample is necessary, several more questions must be answered. How large will be the sample? Methodology texts may say, "the larger, the better," but be realistic. A typical rule of thumb is to try for at least 100. A sample of less than 100, perhaps as few as 60, is acceptable, but may cause analysis problems if the variables of interest are not well divided or if they contain more than two response categories each. By "not well divided," we mean that if out of two response categories, nearly everyone selects only one of the choices. Thus, investigating the correlates of hard drug use in a church would require a very large sample, because very few persons are likely to be found who actually use hard drugs in most churches. This means that when conducting research in a church with an adult membership of less than 100, it will be necessary to use the entire population, rather than a sample.

A table of random numbers is one of the best ways to draw a random sample. Suppose we want to draw a sample of 120 persons from a population of 500 adult church members. To do this we first assign each of our 500 persons a number from 001 to 500. We then turn to a table of random numbers (see table M in the Appendix

to *Fundamentals of Social Statistics* by Kirk Elifson, Richard Runyon and Audrey Haber or most other statistics texts for such a table). The table will have many rows and columns of digits which have been randomly generated by a computer. Start with any row or column to begin sampling from the list of 500 people. If we begin with the first column in the Elifson text and choose the first three digits from each row of this column we obtain the following numbers: 100, 375, 084, 990, 128, 660, 310 and so forth. Any number over 500 (the highest number assigned to any church member) or any repeated number is discarded, and we continue until we have chosen 120 usable numbers. Each of these numbers represents someone from the original list of 500 in the population. Each would be part of our sample and would receive a questionnaire.<sup>12</sup>

There are many ways to draw a sample. In some cases a researcher may, for instance, want to draw a *stratified random sample*. In such cases a population is divided into parts (perhaps into racial or age groups) and random sampling takes place within these parts rather than among the whole population. Random sampling can also be done by computer programs written for this purpose and through the use of some calculators which generate random digits.

3. *Analysis: The Contingency Table*. The contingency table or cross-tabulation table is used to analyze the relationship between two variables. It shows the joint distribution of the variables in tabular form. Chart 6 illustrates a very simple cross-tabulation.

As illustrated in the table, we essentially place "people" into cells of a table. In this case the data are *not* real. The top left cell contains the three persons in the sample who are both blue-eyed and prejudiced, as measured by their responses to a questionnaire. Similarly, the upper right cell contains those who are both brown-eyed and prejudiced. We analyze this table by computing percentages down the columns and comparing them across the rows. Thirty percent of the blue-eyed people are prejudiced and seventy percent are nonprejudiced, for a total of one hundred percent. The column of brown-eyed persons is percentaged in the same manner. To draw conclusions we compare the percentages across rows to see if they differ greatly in magnitude. In this example ninety percent of brown-eyed people are prejudiced as compared to only 30 percent of blue-eyed persons. Thus, we can conclude that brown-eyed people are more likely to be prejudiced. A definite relationship exists, but even if this data were real we could not assume causation.

Obviously, the twenty people depicted in chart 6

represent a very small sample and the findings of survey were somewhat more dramatic than what would really find in an investigation of eye color and prejudice. Nevertheless, the chart illustrates how a table should be set up.

We refer next to chart 7, where some guidelines are introduced for summing tables. Rather than using 500 people, we now see N-25, for instance. "N" refers to the number of persons (or churches) which fall into the top cell, row or column. The first rule in table analysis is to put the independent variable at the top of the table. This naturally means that the dependent variable goes on the side. The order could be reversed, but to avoid confusing oneself and others, it is best to stick to the standard procedure. As mentioned earlier, we compare percentages down the columns and then compare the values of the percentages across rows. The raw numbers are relatively unimportant and can lead to misinterpretation if considered improperly. Avoid mistakes by dealing with the percentages.

In this table we see that the independent variable has three values, instead of the two seen in chart 6. If we interpret it we still compare across rows. Looking at the top row, we see that the percentage value steadily increases as we move from left to right. As in the illustration, we can assume that the independent variable was age and it included the following three values: (1) 18-35; (2) 36-50; and (3) 51 and older. The dependent variable might be satisfaction with worship services (1-satisfied and 2-dissatisfied). If this were the case, we could say that a relationship existed between age and satisfaction with worship. As age increased the percent of persons satisfied with the worship service also increased. In other words, if this were real data (which it is not) we could conclude that older persons are more likely to be satisfied with the worship service than are younger age groups.

As indicated earlier, relationships vary according to their strength. When we compare the row percentages in chart 7 we can note a very large percentage difference between the first column and the third column. This indicates a strong relationship or association. However, if the row percentages had been 27 percent, 30 percent, 35 percent across the top of table 7, such small differences would indicate a weak relationship. Many statistics exist which measure the strength of association. The statistic of "gamma" is one of these. The reader should refer to a statistics or research methodology text for help in computing one of these statistics. There also exist measures of statistical significance which indicate the likelihood that the relationship may have resulted from chance factors alone. Chi-square is often used for this purpose.

Chart 6

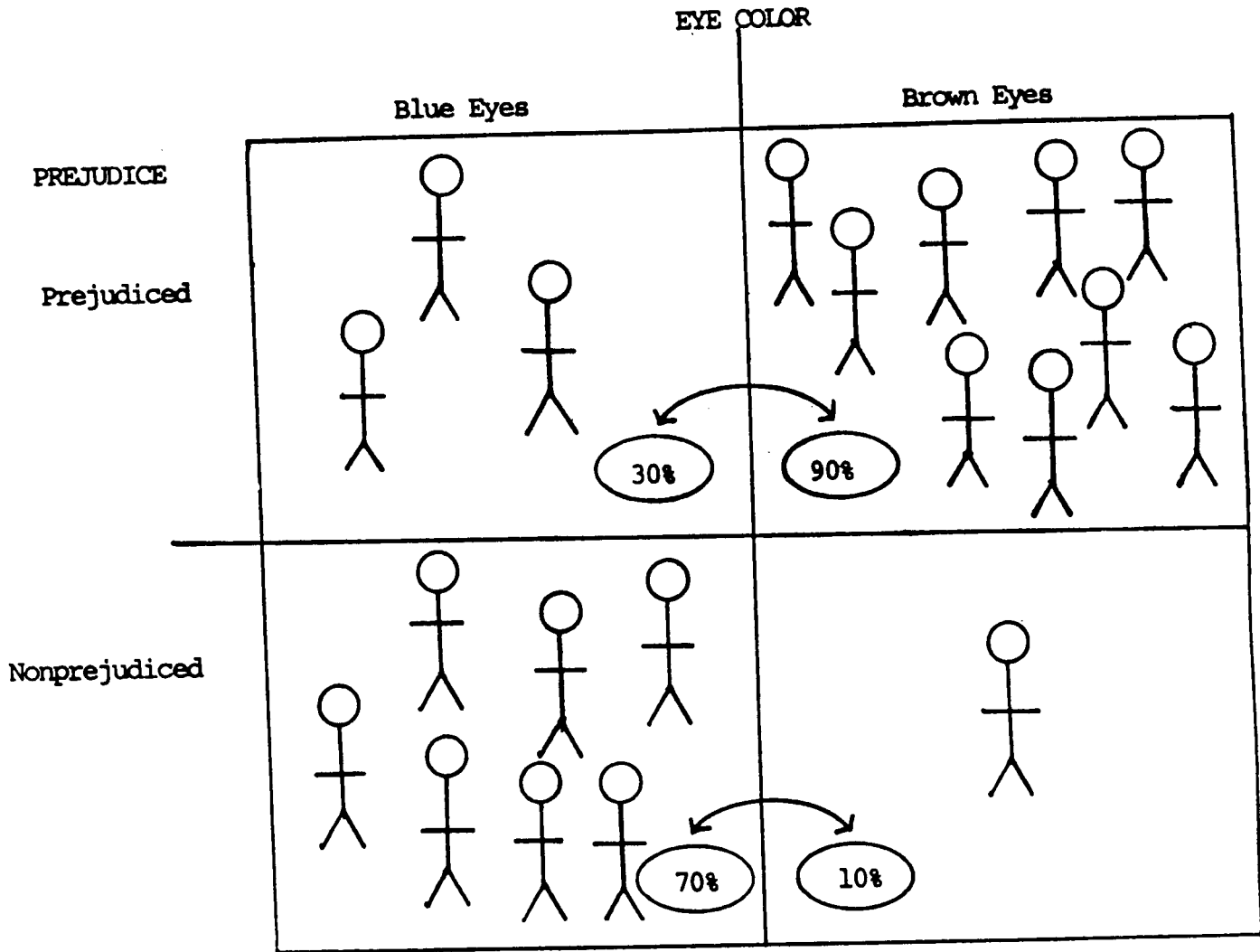


Chart 7  
SUMMING TABLES

		Independent or "Causal" Variable		
		(1)	(2)	(3)
Dependent or "Caused" Variable	(1)	(n=25) 27.8%	(n=55) 57.9%	(n=70) 73.7%
	(2)	(n=65) 72.2%	(n=40) 42.1%	(n=25) 26.3%
		(n=90) 100%	(n=95) 100%	(n=95) 100%

Rules

1. Place independent variable at the top of table
2. Place dependent variable at the side of table
3. Percentage down columns
4. Compare percentages across rows

Chart 8

CHURCH GROWTH BY URBAN LOCATION

	(1) Midtown (N=0)	(2) Inner City (N=2)	(3) Inner- Urban Neigh- borhood (N=15)	(4) Outer- Urban Neigh- borhood (N=24)	(5) City Suburb (N=17)	(6) Metro- politan Suburb (N=19)	(7) Fringe Suburb (N=15)	(8) Fringe Village (N=6)	(9) Fringe Settle- ment (N=6)	(10) Inde- pendent City (N=5)	(11) Rural Village (N=5)	(12) Rural Settle- ment (N=4)
Growing	0.0%	50.0%	0.0%	12.5%	11.8%	42.1%	73.3%	83.3%	50.0%	40.0%	40.0%	25.0%
Plateau	0.0	0.0	13.3	45.8	52.9	21.1	26.7	16.7	16.7	40.0	60.0	75.0
Declining	0.0	50.0	86.7	41.7	35.3	36.8	0.0	0.0	33.3	20.0	0.0	0.0
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Gamma = -.52, p .001. If only types 1-8 are included, Gamma = -.64.

### 6.7.2 Using Contextual Data and Church Records: An Example

Correlational designs use many types of data other than from questionnaires and interviews. In analyzing congregations researchers will often use church records as a source for key variables. If they are interested in measuring the various sources of church growth or in baptisms, church school or many other programs, the dependent variable will be derived from church records. Similarly, when investigating the effects of context on a church it is generally more effective to find objective measures of that context, rather than relying on survey responses.

The variables created from church records, the census and from other sources can be treated as continuous variables (with many possible values) and analyzed using appropriate measures of correlation, such as Pearson's  $r$ , or they can be categorized and analyzed using contingency tables. In most cases the church researcher will use contingency tables and conduct the type of analysis described in the previous section.

An example of how to use church records and contextual data is provided by a fairly recent study of church growth and decline in Memphis, Tennessee.<sup>13</sup> In this study the dependent variable of interest was church membership change over a ten-year period. All Southern Baptist churches were categorized as being either growing, on a plateau, or declining according to the overall trend in their membership records over the period of study. The independent variable was the contextual variable of urban location. The city had been previously divided into regions according to a community typology developed by Douglas Walrath<sup>14</sup> and it was hypothesized that the great differences in contextual characteristics among these regions would necessarily impact the ability of white Protestant churches to grow.

Churches were plotted into the various regions of the city and their membership trends categorized. Next, a contingency table was constructed which revealed a fairly strong relationship between church growth and urban location. This table is shown in chart 8.

The table shows that few Southern Baptist churches are left in or near the center of Memphis. Most have long since moved or died in response to commercialization, population decline, and racial transition. Moving farther out to neighborhood areas and suburban territory, a trend becomes very clear. The percentage of churches growing steadily increases and the percentage of churches declining steadily drops as one moves farther out. The trend is so strong that in inner urban neighborhoods none of the Southern Baptist churches manage to grow, and in the fringe suburbs and the

fringe villages none of the churches are in decline. Once past the growing fringe of the city, a new set of factors impinge upon the church and the trend observed in areas 3 through 8 weakens considerably.

The overall relationship seen in chart 8 is a strong one, and its strength can be measured by a statistic: gamma. A gamma of  $-.52$  indicates the strength of this relation (gammas, like other measures of association range from 0.0 (or no relationship) to  $+1.0$  or  $-1.0$ , which indicates a perfect relationship). Note also that leaving off categories 9-12 increases the size of the gamma, indicating that the relationship is stronger when only the first eight categories are used. This was no surprise because the relationship between the two variables is most visible in this part of the table.

The contingency table can also be presented in graphic form, which makes it much easier to comprehend.

In chart 9 we see data from five denominations in Memphis categorized in a manner similar to that shown in the previous chart.<sup>15</sup> The size of the bars represent the percentage of churches in a given area of the city which are growing, plateaued or declining. The solid black bar, which indicates growth, can be seen to steadily increase in size as we move from downtown to the newer suburbs. Similarly, the striped bar, which indicates decline steadily shrinks from its huge size in the downtown category to the newer suburbs. Presenting data in this format or in another graphic form is a very effective way of communicating. Use contingency tables to conduct your analysis, but consider graphics for your report.

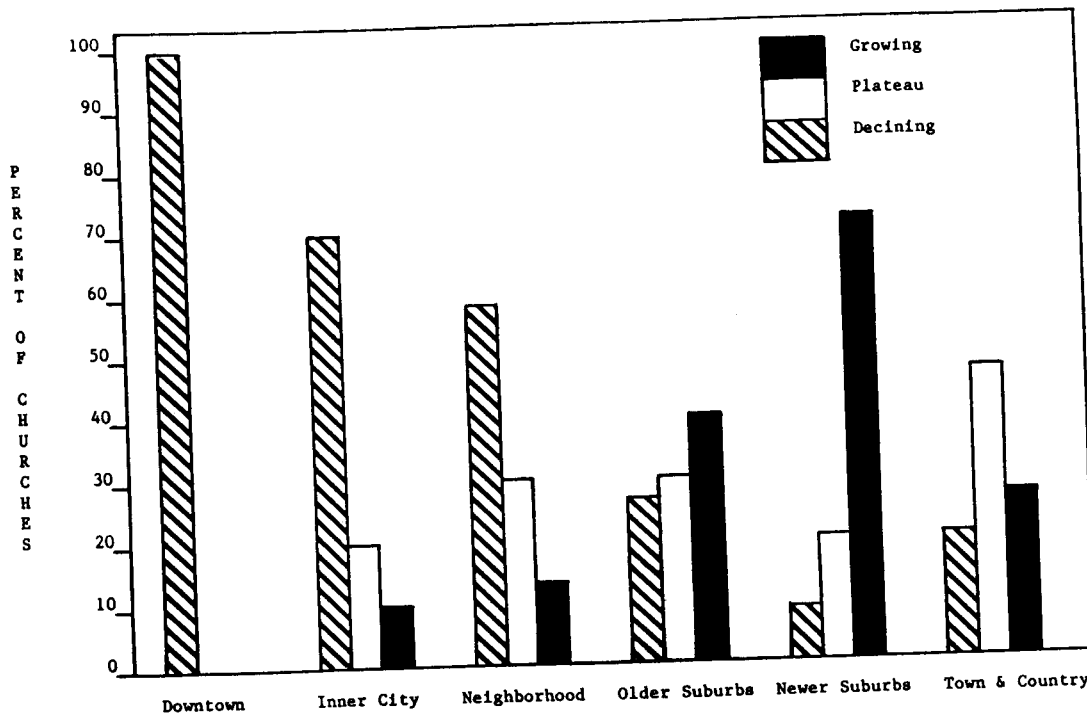
### 6.7.3 When Research Is Complete

When final results are obtained from a correlational design or any other design we have considered in this chapter, this does not mean that research on the congregation should end. Just because one question is answered does not imply that *all* have been answered. Research will almost always uncover additional areas which need investigation and this is especially true in institutions as complex as the local church. Of course, a research project must end at some point with a report and its presentation to those who need the information. But we hope those on the study team, the pastor, church staff members or other church leaders will see the value in research and the need to study their church (or churches), the members and the community or context in which the church exists. Churches and their settings are constantly changing and to know how to act and react we must be students in a never-ending process of social research.



Chart 9

CHURCH GROWTH BY URBAN LOCATION\*



\*1970-1980 membership change among all churches of 5 mainline denominations in Shelby County, Tennessee (Memphis). Denominations included Southern Baptist, United Methodist, Presbyterian Church in the United States, and Lutheran Church—Missouri Synod.

## NOTES

1. See, for instance, *Fundamentals of Social Statistics* by Kirk Elifson, Richard Runyon and Audrey Haber (Reading, Mass.: Addison-Wesley, 1982) and *The Practice of Social Research* by Earl Babbie (Belmont, Cal.: Wadsworth, 1982).
2. An ethnography is essentially a description of a single group (or culture) which uses certain research procedures common to anthropology (although used by other disciplines as well). Even though some would hold that an ethnographic study is a research design in its own right, the fact that it involves the intensive description of a single case leads us to categorize the ethnographic study as a special type of case study.
3. An ethnographic study, which may result from the ethnographic interview and (or) participant observation, is considered here as a subtype of the case study.
4. Richard Davies, *Handbook for Doctor of Ministries Projects* (Lanham, Md.: University Press of America, 1984), pp. 124-28.
5. See James P. Spradley, *The Ethnographic Interview* (New York: Holt, Rinehart and Winston, 1979). Also see *Participant Observation* (New York: Holt, Rinehart and Winston, 1980) by the same author.
6. Pertti Pelto, *Anthropological Research: The Structure of Inquiry* (New York: Harper & Row, 1970), p. 92.
7. There is a debate in anthropology over the need for objective research procedures to either supplement or supplant traditional, more subjective techniques such as participant observation. Some would hold that anthropologists have conducted enough ethnographies and that the science had best move to analysis and theory development if it is to be accepted as a mature discipline by the larger scientific community. For a number of decades this has been the direction in which anthropology has moved, as evidenced by the increasing emphasis on correlational designs and statistics in methodological texts. Other anthropologists, on the other hand, have begun to reemphasize the ethnography and the validity of simply trying to understand "who" a people are.
8. Most anthropologists would take a centrist position, whereby traditional ethnographic techniques are supplemented by questionnaires, formal interviews and inferential statistics. See John A. Brim and David H. Spain, *Research Design in Anthropology* (New York: Holt, Rinehart and Winston, 1974). Also see Pertti J. Pelto and Gretel H. Pelto, *Anthropological Research: The Structure of Inquiry*, second edition (Cambridge: Cambridge University Press, 1978).
9. This illustration was loosely adapted from Pelto, 1970, p. 93.
10. Davies, 1984, pp. 12-13.
11. *Ibid.*, pp. 14-17.
12. The five questions were part of a scale used in a National Opinion Research Center poll. The full text of the interview schedule was reproduced in the appendix to Gertrude Selznick and Stephen Steinberg, *The Tenacity of Prejudice* (New York: Harper & Row, 1969).
13. This description was adapted from Elifson, 1982, p. 273.
14. Kirk Hadaway, "Church Growth (and Decline) in a Southern City," *Review of Religious Research* 23 (1982): 372-86.
15. Douglas Walrath, "Social Change and Local Churches: 1951-1975" in Dean Hoge and David Roozen (eds.), *Understanding Church Growth and Decline* (New York: The Pilgrim Press, 1979), pp. 252-56.
16. This chart is reproduced from "The Church in the Urban Setting" by C. Kirk Hadaway, in Larry Rose and C. Kirk Hadaway (eds.), *The Urban Challenge*. © Copyright 1982 Broadman Press. All rights reserved. Used by permission.

## For Further Reading on Methods for Congregational Studies

- Babbie, Earl R. *The Practice of Social Research*. Belmont, Cal.: Wadsworth, 1982.
- Brim, John A., and David H. Spain. *Research Design in Anthropology*. New York: Holt, Rinehart and Winston, 1974.
- Campbell, Donald T., and Julian N. Stanley. *Experimental and Quasi-experimental Designs for Research*. Chicago: Rand McNally, 1963.
- Davies, Richard. *Handbook for Doctor of Ministries Projects*. Lanham, Md.: University Press of America, 1984.
- Davis, James A. *Elementary Survey Analysis*. Englewood Cliffs, N.J.: Prentice Hall, 1971.
- Dillman, Don A. *Mail and Telephone Surveys*. New York: Wiley-Interscience, 1978.
- Elifson, Kirk, Richard Runyon, and Audry Haber. *Fundamentals of Social Statistics*. Reading, Mass.: Addison-Wesley, 1982.
- Fitz-Gibbon, Carol T., and Lynn L. Morris. *How to Design a Program Evaluation*. Beverly Hills: Sage, 1978.
- . *How to Calculate Statistics*. Beverly Hills: Sage, 1978.
- Fowler, Floyd J. *Survey Research Methods*. Beverly Hills: Sage, 1984.
- Hadaway, C. Kirk. "Learning from Urban Church Research." *Review and Expositor* 80 (Fall, 1983), pp. 543-52.
- Hair, Joseph F., Jr., Rolph E. Anderson, Ronald L. Tatham, and Bernie J. Grablowsky. *Multivariate Data Analysis*. Tulsa: Petroleum Publishing Company, 1979.
- Kirk, Roger E. *Experimental Design: Procedures for the Behavioral Sciences*, second edition. Belmont, Cal.: Brooks/Cole, 1982.
- Morris, Lynn L., and Carol T. Fitz-Gibbon. *Evaluator's Handbook*. Beverly Hills: Sage, 1978.
- . *How to Deal with Goals and Objectives*. Beverly Hills: Sage, 1978.
- Pelto, Pertti J., and Gretel H. Pelto. *Anthropological Research: The Structure of Inquiry*, second edition. Cambridge: Cambridge University Press, 1978.
- Spradley, James P. *The Ethnographic Interview*. New York: Holt, Rinehart and Winston, 1979.
- . *Participant Observation*. New York: Holt, Rinehart and Winston, 1980.
- Stewart, David W. *Secondary Research*. Beverly Hills: Sage, 1984.
- Sudman, Seymour, and Norman M. Bradburn. *Asking Questions: A Practical Guide to Questionnaire Design*. San Francisco: Jossey-Bass, 1982.
- Weiss, Carol H. *Evaluation Research: Methods of Assessing Program Effectiveness*. Englewood Cliffs, N.J.: Prentice-Hall, 1972.
- Yin, Robert K. *Case Study Research*. Beverly Hills: Sage, 1984.