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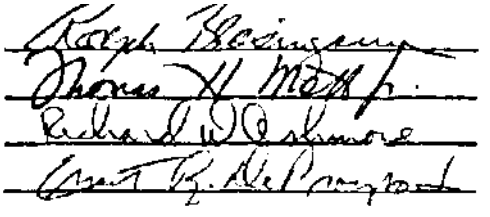
Rutgers University The State University of New Jersey, Ph.D., 1973
Library Science

MEASURING THE ATTITUDES OF LIBRARY SCHOOL STUDENTS TOWARD INTELLECTUAL FREEDOM, INNOVATION AND CHANGE, SERVICE, RESEARCH AND ADMINISTRATION AND MANAGEMENT

By LEE WALTON FINKS

A thesis submitted to
The Graduate School
of
Rutgers University
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

Written under the direction of
Professor Ralph Blasingame
of the Graduate School of Library Service
and approved by



New Brunswick, New Jersey
May, 1973

ABSTRACT OF THE THESIS

Measuring the Attitudes of Library School Students toward Intellectual Freedom, Innovation and Change, Service, Research and Administration and Management

by LEE WALTON FINKS, Ph.D.

Thesis director: Professor Ralph Blasingame

As attempts are increasingly made to measure the various aspects of American library science, the need for psychological measures, such as attitude scales, becomes more evident. This research has attempted to develop an instrument which can serve as a valid and reliable measure of librarians' and library students' attitudes toward five issues on which American libraries are criticized: intellectual freedom, innovation and change, service, research, and administration and management.

The instrument is a set of five Likert-type attitude scales, one for each of the attitude objects. The scales are made up of twenty (for three scales) or twenty-five (for two scales) statements of opinion with which the subject is asked to agree or disagree on a seven-step scale. These statements of opinion (items) were randomly arranged and combined with thirteen irrelevant items to form a 123-item instrument, plus a covereheet

containing directions and a brief demographic questionnaire.

The reliability and validity of the scales were established to the investigator's satisfaction. For reliability, three standard techniques, coefficient alpha, split-half, and test-retest, were used, and with all three, each scale demonstrated reliabilities at or above the criterion level of .8. For validity, each of the five scales was subjected to at least four tests of construct validity, and each scale "passed" at least three of these tests. In addition none of the scales correlated with a measure of verbal ability, and only one (by the slimmest of margins) correlated with a measure of social desirability response sets.

In addition to the construction of the instrument, a limited number of assumptions about library education were examined through testing of hypotheses. These hypotheses, which relate essentially to the change of students' attitudes during enrollment in a graduate library school program, were: (1) that the scores of students in their first semester of library school will have more variance than the scores of students in their second or later semester; (2) that the mean of the second (later) group will be significantly higher than that of the first group; and (3) that the mean of the later semester students' scores will have moved in the direction of the faculty members' scores.

These hypotheses, designed to test the assumption

that the faculty and curriculum of a library education program significantly affect the attitudes uf participating students, were not, in general, tenable. To simplify the very complex results, we might say that jrtudents' attitudes did change, but not very much; that they were not made "firmer" by more exposure to library education; and that to the extent that they did change, they changed in the direction of the faculty who had beex teaching them.

The results also showed that for this sample of students, attitudes toward the five issues studied were not strongly favorable.

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CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

I. INTRODUCTION

This investigation has centered around the construction of an instrument made up of five Likert-type attitude scales that can aid research into the attitudes of library school students toward five concerns in the field of librarianship. These concerns, which will be referred to as the attitude objects, are: (1) research; (2) innovation and change in librarianship; (3) intellectual freedom; (4) administration and management of libraries; and (5) public service.

The major concern has been with the construction of the scales, and with establishing their reliability and validity. The secondary concern of the project has been to use the scales in a limited examination of some untested assumptions in library education. These were put into the form of hypotheses that were then tested using data generated by the administration of the scales to students and faculty at three library schools.

II. STATEMENT OF THE PROBLEM

It is commonly recognized in the behavioral sciences that attitudes, "the way individuals and groups feel about the various aspects of their world,"[1] are

a very important influence on behavior. When they are identified, they can be of great value in understanding and even influencing the feelings and actions of persons and groups. The influence that institutions, such as library schools, have on attitudes is also recognized in the behavioral sciences. The fact that they are in a position to pass on to new generations the conventions of the old, and possess a degree of control over what future conventions will evolve, gives them the potential to be, to some degree, the shapers and controllers of the attitudes of the profession.[2]

A number of library educators have recognized this potential role as an important one for library schools. Speaking of his hopes for the future of library education and librarianship, Paul Wasserman stated:

> If education for the library profession continues to indoctrinate the new entrant with an elaborate set of fixed beliefs, his obsolescence is insured almost before he begins his career. For he will have the dogma and he will be fully armored to spend his occupational life striking out defensively against those who would challenge or question it. The alternative, now far too infrequently sought in library education, is to develop attitudes, habits of mind, skills, and the kind of knowledge and understanding which will be an instrument of continuous change and growth on the part of each new entrant.[3]

Some library schools, through their bulletins, speak of the inculcation of attitudes as one of the goals of their programs. For one example, the University of Southern California's School of Library Science states in its bulletin:

> The aim, however, is not alone to train competent librarians with the necessary skill and knowledge to serve efficiently in various kinds of libraries. An effort is also made to help students acquire attitudes, techniques, and an understanding of the actual and potential place of libraries in society so that they can contribute intelligently to the development of librarianship.[4]

Paul Dunkin made one of the broadest and most unequivocal statements on this matter in a paper delivered at a meeting of the American Association of Library Schools. In summarizing a discussion of the teaching of cataloging, he said: "The curriculum of the graduate library school should try primarily to develop attitudes rather than to instruct or drill in techniques."[5]

The attitudes that can be developed, and thus the attitude objects that could be investigated, are almost limitless in number. This research has dealt with five that seem relevant in light of current criticism of American library practice. It is a fact that our libraries are often criticized as being indifferent or even hostile toward research efforts, resistant to innovation and change, poorly managed, more oriented toward the institution than toward service to its users, and somewhat timid about controversy, especially in regard to intellectual freedom. There are numerous pieces in library literature making these points, but among the more valuable ones are an article by Wasserman[6] which deals with the necessity for organizational change and effective administration and the need for refined methods of

evaluation and research; Goldhor's short article on research;[7] Wheeler's discussion of administering a reference department which emphasizes the need for a commitment to individualized service to all;[8] and White's address on service to users.[9] In the area of intellectual freedom, two can be noted: Berninghausen's article on the need to impart to future librarians a commitment to intellectual freedom[10] and Fiske's Book Selection and Censorship,[11] which is one of the few research efforts dealing with intellectual freedom in libraries and which gave evidence that some librarians, rather than defending intellectual freedom, were in fact involved in keeping controversial materials out of libraries.

If psychologists are correct that attitudes change and can be affected directly by argumentation, propaganda and other forms of communication,[12] then there are obvious implications for library education. The conclusion can be drawn that where attitudes about librarianship do not exist, they will be created, and where they do exist, they can be changed. Research into the formation and change of the attitudes of library school students would give library educators some insight into the effectiveness of programs in shaping the attitudes of the profession.

Shaw and Wright state: "To study attitudes requires that they be measured,"[13] and this is the rationale

behind this project. A valid and reliable battery of scales that would measure attitudes would allow research in library education to explore the formation and change of those attitudes in relation to any number of variables. The principal concern of the research has been with the construction and validation of such scales.

III. RELATED LITERATURE

There has been very little research done in the area of the attitudes of librarians and library school students. As well, the related area of the personality of the librarian has been the subject of only a dozen or so extensive studies.[14] Among these, probably the best known and most often cited in library literature are the studies by Bryan[15] and Douglass.[16] Clayton's more recent study[17] should also prove to be of value to those interested in the personality of the librarian and the library school student.

Bryan's study made use of the Guilford-Martin Inventory of Factors GAMIN and was based on a sample of over seventeen hundred public librarians who worked in sixty libraries. From her findings, Bryan constructed the following personality profile of the "typical" librarian:

> As compared with the average male university student, the typical male librarian is rather submissive in social situations and less likely to show qualities of leadership. He is within the normal range of masculinity in his attitudes and interests, but he tends to lack confidence in himself and to feel somewhat inferior. His

> feelings of inferiority, however, seem not to worry him excessively, for he experiences less than average nervous tension and irritability. He shows no great drive for overt activity, but is normally sedentary for his age. On the whole, he seems to have made a reasonably good adjustment to life, and one might guess that stomach ulcers would not be his occupational disease.
>
> The typical female librarian has a personality profile that is remarkably similar to that of her male colleague. As compared with the average woman university student, she is submissive in social situations, lacks self-confidence, feels inferior, has an average amount of drive for overt activity, and feels a normal degree of nervous tension and irritability. She is normally feminine in her attitudes and interests. Like the typical male librarian, she seems reasonably well adjusted.[18]

Douglass used a series of measurements in his study of 545 library school students in 17 schools, but the two that he referred to as the major ones were the Minnesota Multiphasic Personality Inventory and the Allport-Vernon Study of Values. Included in his findings were these traits that could be called characteristic of his "modal" librarian: orderliness, meticulousness and neatness; conscientiousness; conservatism and conformity; and apathy and passivity.[19]

Clayton's investigation of 150 library school students at the University of Oklahoma utilized the California Psychological Inventory and this data led him to the conclusion that "these 150 library students, as a group, presented few outstanding personality characteristics."[20]

However, one of Clayton's findings was that the students had consistently high scores on the femininity

scale. He remarked on this as follows:

> High scores on femininity among library students have a number of rather interesting ramifications. . . . Keeping in mind that femininity has other meanings when used in a context of the CPI than it does when applied to everyday speech, data which the 35 men of this study accumulated on this scale nevertheless suggests that they are not strongly inclined toward innovation or experimentation. At one end of the femininity continuum is found a type who seeks action, change, and the means for getting things done. At the other extreme, femininity delineates a trait which is concerned with nurturing the status quo, keeping things on an even keel, and not being overly aggressive.[21]

Studies on the attitudes of librarians and library school students are more rare. An early one was Thornton's study of the attitudes of 113 practicing librarians in Georgia toward librarianship. Her principal finding, which she did not comment on, was that academic librarians have a significantly less favorable attitude toward their profession than do public, school and special librarians.[22]

A recent study was Busha's attempt to show a relationship between the so-called "authoritarian" personality and favorable attitudes toward censorship among 96 library school students. He developed a 36 item Likert-type scale on censorship and intellectual freedom which he combined with 18 items from the California F-Scale, also known as the "fascism scale" or the "authoritarian personality scale," developed in 1950 by Adorno and others. His results showed a strong correlation between the two scales and, also, that

only a small percentage (6.2 per cent) of the sample had what Busha characterized as a "high" authoritarianism score.[23]

In summary, the research done heretofore on the personality of the librarian and the library school student paints generally a rather unflattering picture of an introverted, conformist, conservative, apathetic, and passive person with low self-esteem and little zest for controversy or challenge. His attitudes toward specific concerns of the field have not been measured in any helpful way, and the limited amount and nature of the psychological research done in the field makes any investigator hesitant about predicting behavior or the results of psychological measurement with any confidence.

IV. DEFINITIONS

In Section I of this chapter the psychologist H.H. Remmers was quoted for a simple, non-technical definition of attitude, i.e., "the way individuals and groups feel about the various aspects of their world." Most definitions of the concept are more extended and more technical. Shaw and Wright discuss the problems of definition[24] and supply one that they feel is both theoretically sound and closely and appropriately related to the ways attitudes are measured:

> ". . . attitude is best viewed as a set of affective reactions toward the attitude object, derived from the concepts or beliefs that the individual

> has concerning the object, and predisposing the individual to behave in a certain manner toward the attitude object.[25]

Placing this definition in the context of the present investigation may be helped by some interpretation: A library school student, from his education and in some cases from his experience working in libraries, as well as from the patterns of his own personality, will tend to have certain feelings about issues and aspects of librarianship (the attitude objects) that would cause him to react emotionally to them, either positively or negatively or, sometimes, ambivalently, and in varying degrees of intensity. Theoretically, a given student's attitude toward a given attitude object will fall somewhere on a continuum from highly positive to highly negative and it is possible to describe statistically the position of a group of library school students in regard to a given issue.

This investigation has been concerned with where students tend to stand in regard to the following issues:

1. Are they in favor of the public's free access to information and reading matter of all sorts, or would they tend to favor the control of such?
2. Do they feel that a library should give a high priority to personal service to its users or do they seem to shy away from this role?
3. Are they concerned with the promotion of

efficient and effective service by means of modern administration and management methods, or do they tend to question the importance or value of such concerns?

4. Do they believe that research into library problems has the potential for providing valuable and useful scientific knowledge about these problems or do they tend to believe that experience or common sense or other guides to action are more reliable?

5. Are they willing and eager to try new approaches or do they tend to accept traditional methods of doing things?

The positions implicit in these questions illustrate the attitudes this investigation is interested in examining and reflect, as well, the concept of attitude developed by Shaw and Wright and quoted above as a definition of the concept as it will be used in this research.

V. ASSUMPTIONS

In any attempt to measure attitudes, certain assumptions have to be made. It must be assumed that attitudes do exist, that they are expressed verbally as opinions, and therefore that opinions can be used to measure attitudes. It is furthermore assumed that attitudes vary along a linear continuum, and therefore can be measured on a scale. It is also assumed that

the subjects of the investigation would not, as a general rule, be inclined to lie about or disguise their attitudes, or that, when such behavior occurs, it will not be systematically biased in any one direction.[26]

VI. HYPOTHESES

For two reasons, the development of hypotheses is not obligatory for this study. First, the objective of the study is the practical one of constructing an instrument, rather than a testing of existing theory. Second, there is such a limited amount of theoretical knowledge about students' attitudes, that there is no solid theoretical ground on which to base hypotheses. Nonetheless, there are certain beliefs or hopes that are shared by some library educators, and it would be interesting to cast these into hypotheses to test their validity.

It is this investigator's impression, based on experience as a library educator, contact with colleagues, and reading in the literature, that library educators share the hope that one of the results of their efforts is the formation or change of certain attitudes in their students towards particular issues in the field. If this subjective impression is correct, then one hoped-for result in library education is a noticeable change in students' attitudes as they come to accept and incorporate into themselves these particular attitudes of the faculty, whatever they may be.

For an example, faculty members might wish to inculcate a strong commitment to intellectual freedom in their students. This would be revealed, theoretically, in a statistically significant difference in the scores on an attitude scale taken by students just beginning their education and by those who had been exposed to a number of courses in the curriculum. It can also be theorized that the new students' responses on this attitude scale would be more scattered than more experienced students whose attitudes are beginning to be more firmly set. Finally, we would expect that as more experienced students' attitudes change, they will change in a direction toward the attitudes of the faculty that are instructing them.

Therefore the three hypotheses that will be tested in the course of this research are: (H1) that the attitude scores of students in their first semester of library school will have more variance than the attitude scores of students in their second or a later semester; (H2) that the means of the two groups differ to a degree that is statistically significant; and (H3) that the mean of the later semester students' scores will have moved in the direction of the mean of the faculty members' scores.

FOOTNOTES

[1]H. H. Remmers, "Social Attitudes," in Douglas H. Fryer and Edwin Rittenry, eds., The Handbook of Applied Psychology (New York: Rinehart & Co., 1950), Vol. I, p. 15.

[2]Marvin Shaw and Jack Wright, Scales for the Measurement of Attitudes (New York: McGraw-Hill Book Company, 1967), p. 501.

[3]Paul Wasserman, "Elements in a Manpower Blueprint--Library Personnel for the 1970's," ALA Bulletin, LVIII (May, 1969), p. 585.

[4]Bulletin of the University of Southern California School of Library Science (Los Angeles: The University, 1970), LXVI, p. 8.

[5]Paul S. Dunkin, "Cataloging and Classification," Journal of Education for Librarianship, IV (Spring, 1964), p. 242.

[6]Wasserman, op cit., pp. 581-99.

[7]Herbert Goldhor, "Plea for a Program of Research in Librarianship," ALA Bulletin, LVI (January, 1962), pp. 44-46.

[8]Joseph Wheeler, "Bettering Reference Service," RQ, VI (Spring, 1967), pp. 99-114.

[9]Herbert White, "Special Librarianship--The Special One is the Customer!" Minnesota Libraries, XXI (December, 1966), pp. 339-46.

[10]David Berninghausen, "Teaching a Commitment to Intellectual Freedom," Library Journal, XCII (October 15, 1967), pp. 3601-3605.

[11]Marjorie Fiske, Book Selection and Censorship: A Study of School and Public Libraries in California (Berkeley: University of California Press, 1959).

[12]H. H. Remmers, op. cit., pp. 11-12.

[13]Shaw and Wright, op. cit., p. 14.

[14]A recent discussion of the literature can be found in Howard Clayton, An Investigation of Personality Characteristics Among Library School Students at One Midwestern University (Washington, D.C.: U.S. Department

of Health, Education, and Welfare, Office of Education, Bureau of Research, 1968), pp. 13-25.

[15]Alice Isabel Bryan, The Public Librarian; A Report of the Public Library Inquiry (New York: Columbia University Press, 1952).

[16]Robert R. Douglass, "Personality of the Librarian," (unpublished Ph.D. dissertation, University of Chicago, 1957).

[17]Clayton, op. cit.

[18]Bryan, op. cit., p. 43.

[19]Douglass, op. cit., pp. 122-24.

[20]Clayton, op. cit., p. 95.

[21]Ibid., p. 93.

[22]Luanne Ellen Thornton, "A Scale to Measure Librarians Attitudes Towards Librarianship," (unpublished M.A. thesis, Emory University, 1969).

[23]Charles H. Busha, "Student Attitudes Toward Censorship and Authoritarianism," Journal of Education for Librarianship, XI (Fall, 1970), pp. 118-36.

[24]Shaw and Wright, op. cit., pp. 1-3.

[25]Ibid., p. 13.

[26]L. L. Thurstone and E. J. Chave, The Measurement of Attitudes (Chicago: University of Chicago Press, 1929), pp. 5-11.

CHAPTER TWO

RESEARCH PROCEDURES

I. DESIGN

A. INSTRUMENTATION

The instrument that was developed in this project makes use of the summated rating scale or Likert-type scale, one of the most common methods of measuring attitudes and one that has been in wide-spread use for over thirty years.[1]

The principal reason for the selection of a Likert-type scale was the fact that it allows the subject to check one of a range of reactions to each statement, including responses appropriate for indecision or lack of any opinion at all. This type of scale seems valuable in a research situation where a number of the subjects have only begun to be exposed to the issues involved and may not have developed attitudes toward these issues. A description of the data-gathering device and how it is scored follows. (A sample of the questionnaire is included as Appendix A.) The questionnaire has a cover sheet with directions and some questions to obtain demographic data. The cover sheet is followed by five attitude scales, one for each of the attitude objects defined in Chapter I, pp. 9-10, although items from the scales are randomly arranged to form one

questionnaire. Three of the scales are composed of twenty statements of opinion and two contain twenty-five, each divided roughly equally between positively-keyed statements and negatively-keyed statements. In responding, the subject is asked to mark his agreement or disagreement on a seven-step scale, the steps being "strongly agree," "agree," "unsure but tend to agree," "unsure," "unsure but tend to disagree," "disagree," and "strongly disagree." For example:

	SA	A	A?	??	?D	D	SD
The traditional methods of operating libraries have stood the test of time well.	___	___	___	___	___	___	___
Library schools should stress the value of systematic research more than they do.	___	___	___	___	___	___	___

The first statement above is from the innovation and change scale and is negatively keyed; that is, a person with a negative attitude toward innovation and change would theoretically tend to agree with it, while a person with a positive attitude should disagree with it. The second statement is from the research scale and is positively keyed, and a person with a positive attitude toward research would tend to agree with it. The seven-step scale allows the subject not just to agree or disagree, but to express intensity of agreement or disagreement, or uncertainty. Each individual scoring is assigned an appropriate value from one to seven along the scale, so that, for example, a score

strongly agreeing with a positively-keyed statement would have a value of seven, and strongly disagreeing would have a value of one. These score values would be reversed for negatively-keyed statements, and the total score for each scale would be obtained by summing the scores for the individual items. Thus a high score on a scale would mean a favorable attitude toward that particular attitude object, and a low score an unfavorable attitude.

B. SAMPLE

The target population for this research has been the American library school student, and has involved over 500 students in the different stages of the research. These subjects have been enrolled in nine library schools, all of which are located in the eastern United States, ranging from New England to Georgia. The sample was not a random one. The schools were chosen for their convenience to the investigator and the students were administered the tests in class groups, the classes being selected on the basis of convenience for the host school. In the cases of the selection of class groups, certain guidelines were suggested to the host schools to assure that a balance was maintained in the characteristics of the sample, particularly in regard to semester in school and content of course.

The first sample was made up of 212 students in four schools and was used to establish the final col-

lection of statements for the scales and to test its reliability. The last sample was made up of 204 students from three schools and was used to test the hypotheses. A number of other smaller samples from five of the schools were used in testing reliability and validity and, finally, a sample of 30 faculty members from three schools was used in testing the hypotheses. All of these samples will be described in more detail as the procedures involved are discussed.

C. RELIABILITY AND VALIDITY

In order to establish both the reliability and validity of all five of the scales used, additional testing and statistical analysis was undertaken. Before these procedures are outlined, a brief discussion of these two properties should help the reader.

Reliability, or whether the test results can be counted on to be relatively stable, was demonstrated by three methods in this project. The first was the formula based on the internal consistency of the items in the scale, called coefficient alpha; the second was the statistical device called the split-half technique, in which the items are divided in half and scores on the two half-tests are correlated; the third was the test-retest method in which the test is given once to a sample of subjects and then given to the same group again after a period of time has passed.[2]

Before dealing with the complex matter of validity, it should be pointed out that there are different types of validity. One type, predictive validity, or whether the scale results can accurately predict future behavior or performance, is not claimed in this study. Another type, content validity, or whether the content of the scale items is representative of the content domain of the attitude, is normally assumed when the scale has been constructed thoughtfully and rigorously. A third type, construct validity, deals with whether the scale results fit with other indicators of a person's attitudes or other attributes of personality in ways that seem theoretically likely.[3]

Construct validation, which is a strong concern of scientists involved in psychological testing, involves working within what is called a nomological net, i.e., a set of interrelated theoretical constructs that describe how the attitude should vary with time and situational factors.[4]

This type of validation makes use of predictions based on theoretical interpretations of the network surrounding the particular concept under study, and then considers confirmation of the predictions as evidence of validity.

What this step should accomplish is identifying ways to demonstrate that the results of the scales fit

predictions that the investigator is able or willing to make from theoretical inferences about each attitude construct and how it fits with other constructs within the "nomological net." There are many predictions that can be based on theory, but predictions must be used that can be tested. Therefore, the research must make use of whatever measures are available or those that can feasibly be developed for this purpose. For example, it does no good to theorize that students with a negative attitude toward service probably are anti-social, if there are no measures of anti-social attitudes or behavior with which to test this theory.[5]

Since each of the attitude objects in this study of library school students is a "new construct," as far as psychological testing is concerned, the nomological net that is available for making theoretical connections is very limited. One can find these connections in three places: (1) within the analyzed data of this study itself, e.g., a theory that students planning to enter library administration would have a more positive attitude toward administration and management could possibly be confirmed by seeing if those subjects who checked administration as their career choice in the demographic section of the questionnaire had significantly higher scores than those who did not; (2) in measures that are developed for the purpose, e.g., a theory that students with highly positive attitudes toward intellectual

freedom would show more willingness to join dues-paying organizations concerned with intellectual freedom than those with less positive attitudes could possibly be confirmed by contriving such a situation and observing the results; and (3) in other measures that may be available, e.g., a theory that students who have high scores on the social scale of the Allport-Vernon-Lindzey Study of Values would also have highly favorable attitudes toward service in libraries could possibly be confirmed by performing a correlation of the scores of a group of subjects on both scales.

As well, there are two tests that all psychological measures are recommended to undergo as part of construct validation. We would want to be able to demonstrate that none of the scales correlates significantly with a test of intelligence or verbal ability, or with a measure of social desirability, which tries to gauge the extent to which a subject gives the answers he thinks should be given.[6]

How much does it take to demonstrate construct validity? The nomological net for any construct is probably infinite, and the work of making connections and strengthening the theoretical concepts is probably an unending job for any scientist concerned with a particular psychological test. For this research project, the hope has been to gain some feelings of confidence that the scale conforms to our theoretical notions about it,

and it would seem that three confirmed predictions of the sort described above would suffice. Webb and his co-authors have said:

> Once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced. The most persuasive evidenc comes through a triangulation of measurement processes. If a proposition can survive the onslaught of a series of imperfect measures, with all their irrelevant error, confidence should be placed in it.[7]

One final remark about construct validity. Psychologists point out that negative results in attempts at construct validation must be reacted to with caution because of the different possible sources of error. It could be that the theorizing behind the prediction was faulty. It could be the measure or sample used to test the prediction was contaminated or otherwise biased. Or it could be that the experimental design failed to put the prediction to a proper test.[8]

II. PROCEDURE

The techniques for the construction of a Likert-type attitude scale are outlined in a number of places.[9] This investigation has relied principally on three works for technical guidance: Edwards, Nunnally and Oppenheim.[10]

There have been four major steps involved in the research: (1) Formulation of a pool of items; (2) Refinement of items and construction of scales; (3) Establishment of reliability and validity; and (4) Testing of hypotheses.

Formulation of a Pool of Items

The first part of this step was the collection of a large number of statements about each of the attitude objects. The collection was gathered in the following ways: (1) Statements of opinion about each of the five attitude objects were obtained from 144 students taking classes in the Graduate School of Library Service at Rutgers University. (2) Quotations from the literature of librarianship dealing with the five attitude objects were added as they were encountered and believed to be suitable for this type of scale. (3) Interviews were conducted with doctoral students and faculty members at the Rutgers University library school dealing with the various attitude objects and some statements were gained from these interviews. (4) A few statements in each category were made up by the investigator to fill in what he perceived to be gaps in the coverage of the attitude domain by the collection that had been gathered.

The second part of this step was the editing of all of these statements. The attempt was made to eliminate ambiguities, weed out statements of fact, phrase them as much as possible in an interesting, meaningful and natural manner, and maintain a balance by assuring as nearly equal number of positively and negatively keyed items.[11]

As a preliminary screening of the edited statements, a procedure recommended by the same source was employed[12] which used three Rutgers library school students, not

involved heretofore, who responded to all of the items in each scale as though they had a positive attitude, and again as though they had a negative attitude. Statements were eliminated which were scored in the same direction for both administrations, indicating that they might be statements of fact, and which tended to draw "unsure" responses, indicating that they might be vague or ambiguous. At this point there were about 40 statements for each scale.

Refinement of Items and Construction of Scales

This collection of statements was roughly twice the desired size, as several sources spoke of 20-25 items as a satisfactory number.[13] The collection was put into questionnaire form by "jumbling" the items from the different scales into an unsystematic arrangement. This questionnaire, containing 217 items in all, was given to 189 students in four graduate library schools, as well as to 23 students who had been accepted for admission but had not yet enrolled in a graduate library program. Questionnaires were mailed to the students who had not yet enrolled, but in all other cases the administration was done by the investigator or an accomplice with the subjects assembled as a class group. The following pattern of administration was used: The test administrator was invited into the classroom 30 minutes or so before it was completed. The instructor would introduce the administrator and then leave. The administrator would read the following

instructions to the group:

> "First of all, thanks for your cooperation. This is not an achievement or aptitude test, so there are no right or wrong answers, and no scores or grades as such. It is what is called an attitude test. There are two things to be emphasized:
> (1) No one here at (name of school) will see any of the completed questionnaires, so there need be no concern for answers that you think might be acceptable or unacceptable to the faculty here.
> (2) We need each statement marked. If you find a statement confusing or a certain word ambiguous, react to it as best you can. This is really a measure of emotional feelings, so you need not worry too much about the intellectual implications of some of the statements. The questionnaire should take about 30 minutes to complete, if you work rapidly. If there are questions during the taking of the questionnaire, raise your hand and I'll come to you."

The directions printed on the first page of the questionnaire (included in Appendix A) were also read aloud and following this they began immediately to work. The administrations were not timed and students would turn in their questionnaires and leave when they had completed them.

For purposes of analysis, at least two hundred cases were desired[14] and when a total of 212 was reached, analysis was begun in order to establish the best items for the final scales. Three criteria were used in choosing the items to be used in the final scale: (1) the correlation of the item with the scale as a whole; (2) the factor loadings produced by factor analysis, and (3) the mean score on the item for the 212 initial cases.

The theoretical reasons for these three criteria can be outlined briefly at this point. The first criterion,

which is recommended in nearly all discussions of attitude scale construction, is based on the assumption that all of the scale items represent the best--and usually the only--known measure of the particular attitude. Therefore, those items which correlate significantly with the scale as a whole can be considered good measures of the attitude. The second criterion is based on the results of factor analysis, a powerful statistical tool that gives us, generally speaking, the patterns of responses that can be seen in a large number of individual cases. Since a factor represents a component or subset of the data that accounts statistically for the observed interrelations in the data, the results can tell us, empirically, the degree to which an item "hangs together" with other items, whether in the same scale or not, and is evidence of the homogeneity of any scale. The third criterion, the mean score of the item, enables us to avoid items that most subjects tend to agree with or that most tend to disagree with.

The methods of analysis are as follows: for the first criterion, a simple Pearson product moment correlation coefficient was obtained between each item and the total scale score. These coefficients were then plugged into the following formula, which will give us the correlation of the item with the total scale minus the value of the item.[15]

$$r1(y-1) = \frac{r_{y}{}^{1}\sigma y - \sigma 1}{\sqrt{\sigma 1^{2} + \sigma y^{2} - 2\sigma 1 \sigma y r y 1}}$$

The second criterion, factor analysis, was done by the "canned" BIOMED computer program for factor analysis (BMD X72), and the results used as criteria were the loadings from the orthogonal rotated factor matrix.

For the third criterion, simple arithmetic means were calculated for the 212 cases for each of the 195 items.

These three sets of results were used together in selection of items for the final scales. Items were sought that had correlations of .4 and above, factor loadings of .4 and above, and means of 5.5 and below on a scale of 7. At the same time, a roughly equal number of positively-keyed and negatively-keyed items were desired for each scale.

The final questionnaire was constructed by "jumbling" items from all scales and interspersing 13 irrelevant items in an attempt to help disguise the nature of the measure.

Reliability

Reliability was discussed generally in the first section of the chapter. The three methods employed for demonstrating reliability in this study were coefficient alpha, which shows internal consistency, the split-half technique, and the test-retest method. In all of these methods, results of at least .8 were sought, as "reliabilities in the 70's or low 80's are adequate for most purposes that involve using summaries of test scores as information about groups."[16]

The formula used to calculate coefficient alpha was[17]

$$r_{kk} = \frac{k}{k-1} \qquad \frac{\sigma y^2 - \Sigma \sigma i^2}{\sigma y^2}$$

where k is the number of items, y is the total scale score and i is the item score. The calculation of this is not as difficult as it might appear, as part of the output from the correlation in the previous step was the standard deviation for each item and for the total scale, and these figures can be squared to give the variance. The sample used in this step was the same 212 that were used in the refinement of items discussed in the previous section. The results, given in full on p. 52, were all satisfactory.

The calculation used for the split-half method was a simple correlation coefficient between the even numbered and odd numbered items on each scale, corrected by the Spearman-Brown prophecy formula, which is[18]

$$r = \frac{nr}{1 + (n-1)\, r}$$

Once again, the sample was the 212 students used in the initial refinement of items. The results were satisfactory and are detailed on p. 52.

For the test-retest method of demonstrating reliability, the scales were administered to a required class of students at the Rutgers Graduate School of Library Service, none of whom had previously been exposed to the research. The 33 students were read the instructions in the same manner as described in the section on refinement of items.

In addition, they were asked to write the last five numbers of their home telephone number in a space provided on the first sheet, with no explanation given for this. One week following this, 30 of these students were administered the same scales after the following remarks were made:

> I know everybody around here is getting sick of psychological questionnaires. Nonetheless, I'm going to ask you to take exactly the same questionnaire you took last week. I know there's bound to be resentment, as it takes a lot of time, but I want to ask you please to cooperate in the same way you did last week, as it's very important to this piece of research. Let me tell you this much: I'm not trying to test your memory. I'm not trying to test the consistency of your positions. I'm trying to test this questionnaire. I'm not at all interested in individuals. O.K.? So please fill them in honestly and candidly, according to your own feeling at this time. Also please fill in the last five digits of your phone number again.

The scores were matched up according to telephone numbers and a simple correlation coefficient was calculated for the group. The results were satisfactory and are detailed on p. 52.

Validity

As was discussed in Chapter I, the validation of these scales has involved making certain predictions about each of them and considering three successful predictions as evidence of the probability of their validity. It was also pointed out that none of the scales should correlate with a measure of verbal ability nor with a measure of social desirability. The predictions made for each scale will be discussed separately, scale by scale, below.

1. Innovation and Change Scale

This scale is concerned with a willingness or hesitation to try new and different methods of administering libraries or giving library service. For that reason, it was believed that this scale's results could be compared with the results of previously developed psychological measures that attempt to get at traits of a related nature. The first such attempt was the prediction that the results of this scale would correlate negatively with the Gough-Sanford Rigidity Scale.[19] This scale, which has now become a part of the California Psychological Inventory, is a 22 item scale designed to measure rigidity or flexibility in a person's thinking and social behavior.

The two scales were given at the same time to 38 students in a graduate library school program. Also, the Rigidity Scale was combined with the measure of social desirability discussed at the end of this section. This combining of measures was done to help disguise both measures, and also to intersperse the items on the rigidity scale, which contains only positively-keyed items, with the social desirability items, which are keyed both positively and negatively. This combined measure is presented as Appendix C. The correlation for this prediction was significant, as reported on pp. 53-54 of the chapter giving the results.

The second prediction was that the results of the innovation and change scale would correlate positively

with the Political Scale of the Allport Vernon Lindzey Study of Values.[20]

The theorizing behind this prediction is based on the intuitive notion that those persons most eager to innovate and effect change within an institution would have the highest concern with political power and influence, while those with a low appetite for innovation would probably have less political drive. The Study of Values and the instrument under study were given to two groups of graduate library school students totaling 44 subjects. This prediction was confirmed, with the significant result given on p. 54.

The third prediction was that the ratings of statements about innovation and change in libraries made by a group of library school students, the statements being judged and sorted into groups by library school faculty, would show a correlation with scores on the innovation and change scale. All five scales were put to this test and the procedure described below was used for each scale, with the sample being the same for all scales, also.

The procedure was to give each student in two graduate library school classes, totaling 39 students, a packet containing instructions and five sheets of paper, each sheet with two quotations at the top. Twenty of the students were given the packet before they filled in the attitude scales under study and nineteen were given it afterward. The packets and the attitude scales were con-

trolled so they could be connected to the same subject. The instructions read:

> Instructions
> We are interested in the attitude of library school students toward certain issues in librarianship. In this exercise, we are asking you to write out, as succinctly as possible, your reaction to the quotations at the top of each of the following pages which represent points of view which are held by many different people in the library field. We are interested only in your personal view about the issues, rather than your knowledge or experience or behavior. If you could express your feelings in three sentences or less, that would be helpful; but it is not necessary. Please remember that this is not an examination and that no connection will ever be made between you as an individual and your remarks on these pages. Thank you for your cooperation.

For the innovation and change part of this test the following quotations, one positive and one negative, were used:

> "Society is constantly and rapidly changing and libraries must also to remain a part of it."

> "Tinkering around with library routines tends to disrupt service."

The students' comments were typed on cards and the set of 39 cards was given in turn to five judges who were members of the teaching faculty at Rutgers Graduate School of Library Science. (This was done for comments on each of the five attitude objects, with the faculty judging group for each scale being varied. It involved a total of 18 faculty members.) Each judge was asked to sort the 39 cards into nine separate groups, ranging from those whose comments they felt revealed the least favorable attitude toward innovation and change, to the most

favorable. A value from one to nine was assigned to each of the comments and the judges' ratings were averaged. These averages were then correlated with the scores on the innovation and change scale of the attitude measure. The results were significant as given on p. 54.

The final prediction made was that a known group, such as a student group within a library school that works on a voluntary basis to change or improve the school's curriculum or other matters, or an activist group, such as a student chapter of the Social Relations Round Table, would score significantly higher on the innovation and change scale than would the student sample as a whole. Because of practical problems, this prediction has not been put to a test during the course of this investigation.

2. Intellectual Freedom

This scale is concerned with the students' attitudes about the availability or control of reading materials for the public. It can be theorized that these attitudes are related to the degree of open-mindedness or close-mindedness an individual has, or the extent to which he is dogmatic in his thinking. For this reason, it was predicted that the results of this scale would correlate negatively with the Rokeach Dogmatism Scale[21] which is "designed to measure individual differences in the extent to which belief systems are open or closed."[22] The two scales were given at the same time to 38 students in a

graduate library school. The prediction was confirmed with the result given on pp. 54-55.

The second prediction made was that this scale would correlate with the Theoretical Scale on the Allport Vernon Lindzey Study of Values[23] since the "theoretical man" is concerned with observing, understanding and knowing, and free access to information would likely be a desideratum for such a person. The two scales were given at the same time to 44 graduate library school students in two different schools. The result, given on p. 55 , was significant.

The third prediction was that there would be a correlation between the results of the intellectual freedom scale and the statements of the students about the attitude object, as judged by faculty members. The procedure and the sample for this step were the same as that described in the section on innovation and change, except that the quotations used in the packet were:

> "A professional librarian's first commitment should be to preserve intellectual freedom for everyone."
>
> "People who want to read questionable books ought to buy them at a newsstand and not expect the library to provide them."

The prediction was confirmed with the result given on p. 55.

The fourth prediction was that a class in "book selection" in a graduate library school where the professor was understood to emphasize the importance of a professional commitment to intellectual freedom--if given

the questionnaire the first week of class and again the last week of class--would show a significant increase in the average score on the intellectual freedom scale. The questionnaire was given to 41 students on the first administration and to 20 on the second administration. This prediction was not confirmed. Results and discussion are found on pp. 55-56.

The fifth prediction was that out of a class in the graduate library school students willing to sign a card showing their interest in joining an organization concerned with advancing intellectual freedom would have significantly higher scores on the intellectual freedom scale than those who did not. The procedure followed was to have, on the first day of class for a group of 25 newly matriculating library school students, a student not known to them enter the class at the invitation of the instructor and describe a fictitious organization that required annual dues of $5.00 and would involve letter writing, fund-raising, petition signing and similar activities in support of librarians who become involved in controversies involving intellectual freedom. Cards were passed out to all students and students who felt they were either "probably" or "definitely" interested were asked to put their names, addresses and phone numbers on them, while others left the cards blank. All cards were taken up by the same person when he returned near the end of the class period. The two groups to be compared for significant

difference in scores were the students who indicated definite or probable interest in joining the organization and those who did not.

The method of analysis was the Mann-Whitney U test, a non-parametric test for use with small unequal samples. The formula used is[24]

$$U = N_1N_2 + \frac{N_1 (N_1+1)}{2} - \Sigma Rx$$

If the calculated U is the same as or less than the tabled value of U at the .05 level of significance then the difference is significant. It was significant and the results can be found on p. 55.

3. Administration and Management

This scale is concerned with the enthusiasm or hesitation on the part of students to become involved with modern administrative theory or management methods, and, more generally, their feelings about the worth of such methods. There are two scales in the Allport Vernon Lindzey Study of Values[25] that theoretically would seem likely to correlate with attitudes toward administration and change; these are the Political and the Economic Scales.

As was discussed earlier in the section on the innovation and change scale, the "political man" is concerned with power, competition and renown. In librarianship, the route to these goals is ordinarily through adminis-

tration and management, although admittedly not necessarily through modern management methods or administrative thinking. The scale however is not totally unidimensional and also taps interest in administration in its broadest sense. For that reason, the first prediction is that there will be a correlation between the scores on the Political Scale of the Study of Values and the administration and management scale of the attitude questionnaire. The prediction was confirmed with the result given on p. 57.

The second prediction is that there will also be a correlation between the scores on the administration and management scale and the Economic Scale on the Study of Values. The "economic man" is concerned with what is useful and practical, and we might presume that such concerns would lead him to be interested in the practical affairs of administering the business of a library. This prediction was not confirmed. Results and discussion can be found on pp. 57-58.

The third prediction was that there would be a correlation between the results of the administration and management scale and the statements of the students about the attitude object, as judged by faculty members. The procedure and the sample for this step were the same as that described in the section on innovation and change except that the quotations used in the packet were:

> "Libraries have got to wake up to modern administrative and management techniques."

"Library administration is just a lot of bureaucratic busy-work."

The result, given on p. 57, was significant.

The fourth prediction was that those students who expressed a preference for administration as the type of work they wanted to do in libraries would have a significantly higher score on the administration and management scale than those students who preferred public service or technical service work. On the cover sheet of the questionnaire used in the final data-gathering, following demographic information, was a question asking "What type of work are you hoping to do? (Check only one) public services, technical services, administration, other, undecided." Those checking the first two options were compared with those checking the third among a sample of 204 students. The method of analysis was to compute a Z score and check its significance in the tabled values of Z at the .05 level in a two-tailed test. This prediction was confirmed with the results given on p. 57.

4. Service

This scale is concerned with the enthusiasm a student has for giving personal service to library patrons. The first prediction was that the scores on this scale will correlate with the scores on the Social Scale of the Study of Values.[26] The "social man" is altruistic and philanthropic, and we would therefore expect him to find reward in service to others. As with the other attitude objects,

the sample and procedure were the same as were outlined in the section on innovation and change. This prediction was not confirmed. The result and discussion of it can be found on pp. 59-61.

The second prediction was that there would be a correlation between the results of the service scale and the statements of the students about the attitude object, as judged by faculty members. Again, the procedure and sample for this step were the same as that described in the section on innovation and change, except that the quotations used in the packet were:

> "Giving service to patrons is probably the most rewarding work done in a library."
>
> "Library patrons expect too much personal assistance of the "spoonfeeding" variety."

The prediction was confirmed with the result given on p. 59.

The third prediction was that those students who expressed a preference for public service as the type of work they wanted to do in libraries would have a significantly higher score on the service scale than those students who preferred the other options. The procedure, sample and analysis were the same as for the fourth prediction under administration and management. The result, given on p.59 , was significant.

The fourth prediction was that there would be a correlation between the scores on the service scale and the scores on a measure developed for this purpose which

forced students to make choices between service to patrons and other alternatives. This measure, which is reprinted in full as Appendix D, was disguised as a 10 item questionnaire on decision making in libraries. Four of the ten items were designed to present the student with a dilemma in which he could make a decision in favor of service or in favor of other options, specifically, more efficient handling of routines in one case, upward mobility or long-range planning in another, cutting back on expenses in a third, and attempting to bring political pressure on an anti-library group in the fourth. The other six items were dilemmas of various sorts that could be encountered in a library and were used simply to disguise the actual purpose of the measure. The two measures were given at the same time to 44 students at one graduate library school. The results, given on p. 59, were significant.

5. Research

This scale is concerned with the importance that students attach to the value of research into libraries and library practices. The first prediction was that the scores on this scale would correlate with the scores on the Theoretical Scale of the Study of Values.[27] The "theoretical man" is primarily interested in the discovery of truth and his chief aim is ordering and systematizing his knowledge. The expectation of a relationship here is obvious if the theoretical man's concerns go beyond his own personality and into his profession. Again, the

sample and procedure were the same as those outlined in the section on innovation and change. The prediction was confirmed with the result given on p. 61.

The second prediction was that there would be a correlation between the results of the research scale and the statements of the students about the attitude object, as judged by faculty members. The procedure and sample for this step were the same as that described in the section on innovation and change except that the quotations used in the packet were:

> "Research into the problems of librarianship is one of the profession's greatest needs."
>
> "A really good library is too involved with giving service to concern itself with research projects."

The result, given on p. 61, was significant.

The third prediction was that out of a class in a graduate library school, students who selected as a visiting speaker a person concerned with research would have a significantly higher mean score on the research scale than those who did not. The procedure followed was to have, on the first day of class for a group of 25 newly matriculating library school students, the instructor pass out slips to all students headed "New Student Survey" and with the following text:

> Choice of guest speaker at GSLS colloquium: This school brings in outside speakers from time to time to address students and faculty who are interested in attending. Which of the two speakers described below do you feel you would most enjoy and benefit from hearing? (Check one:)

> Speaker A would discuss research on the evaluation of effectiveness of service in public libraries and the findings, methodology, and difficulties of research of this sort.
>
> Speaker B would discuss and describe a "demonstration" library set up in a disadvantaged urban neighborhood, using innovative library facilities and services, that resulted in increased library use.

After the students had completed their choices, the instructor took up the slips. The two groups to be compared were those who checked the first description and those who checked the second.

In calculating whether there was a significant difference between the two groups, the Mann-Whitney U Test was employed. The formula for this test was given above in the section on Intellectual Freedom. The results, given on p. 61, were significant.

The fourth prediction was that the members of a class in research methods in a graduate library school would have a significantly higher score on the average than the average of all students in the final data-gathering. This group of 19 was comprised of two categories of students: those who were at the master's level and elected to take the course, and those who were at the doctoral level and were required to take the course. It was theorized that those who elected to take the course would have a strong interest in research, their choice of electing it being evidence of such; also it was theorized that those students entering a doctoral program and knowing of the importance of research in

such a program probably had a commitment to research that would be reflected in a favorable attitude toward it. To make the testing of the prediction as difficult as possible under the circumstances, the questionnaire was administered on the first day that the class met. The results, which appear to be significant, are discussed on p. 61-62.

6. All Scales

It was pointed out on p. 21 of this chapter that there are two tests that all psychological measures should undergo: no measure should correlate significantly with a measure of intelligence, nor with a measure of social desirability.

(a) The first prediction was that none of the scales would correlate with the scores earned by students on the Borgatta-Corsini Quick Word Test,[28] a short, self-administering, easily scored measure of verbal ability with considerable evidence of high reliability and correlations with the standard general tests of intelligence.[29] This test was given along with the questionnaire to 27 students in one graduate library school. The prediction was confirmed for each of the five scales, with the results given on p. 63.

(b) The second prediction was that none of the scales would correlate with the scores earned by students on the Crowne and Marlowe "Social Desirability Scale,"[30] a widely used 33 item measure of the response set wherein a subject

tends to answer questions in a way he feels is socially desirable. This test was combined with the items in the Gough-Sanford Rigidity Scale, as discussed on p. 30 of this section (and included as Appendix C) and given to 38 students in one graduate library school. The prediction was confirmed for four of the five scales with one failure. Results and discussion can be found on p. 63.

Reliability for Faculty

The testing of the hypotheses involves the use of faculty members as subjects, so that their scores can be compared with students' scores; and for that reason it was necessary to see if the scales were reliable for them as a group. It was felt that, if the scales were as internally consistent for them as for students, it would not be necessary to put them to any further test. The method was to take the responses of the 30 faculty members involved in the testing of the hypotheses and compute coefficient alpha for each of the scales. Coefficient alpha was discussed previously in this chapter in the section on reliability. The results, detailed on p. 64, were significant.

Hypotheses

The three hypotheses tested in this investigation were discussed on pp. 11-12 of Chapter One. They are (H1) that the attitude scores of students in their first semester of library school will have more variance than

the attitude scores of students in their second or a later semester; (H2) that the means of the two groups differ to a degree that is statistically significant; and (H3) that the mean of the later semester students' scores will have moved in the direction of the mean of the faculty members' scores.

All of the data used in testing these hypotheses were gathered by administering the questionnaires to a cross-sectional sample of students at three graduate library schools and to a selection of the faculty at each of these schools.

Practical considerations entered into the selection of the samples. First, it was decided to administer the questionnaires to two groups at each school--one, newly matriculating students; the other, students who had completed at least one semester--on or shortly after the first day of class of a new semester. It was desirable to have these courses be required in order to get the most representative cross-section of students. Since the investigator would be administering the questionnaires in person, three library schools that had not previously been used in the research and whose opening week of classes did not conflict with each other were needed.

The Deans of three schools that fit these requirements were contacted, the needs outlined and arrangements made for administration. Also, several weeks before the sessions began, each school was sent a packet of question-

naires for the regular faculty members who were willing to cooperate to fill out. In two cases, these were returned in a group through the mail; in the other case, they were picked up when the testing of the students was done.

As in previous testing, the scales were administered to classes as a group, with the classes being selected on the basis of convenience for the host school. In each case, however, one of the two classes at each school was made up entirely of newly matriculating students, the other of students who had completed at least one semester. A nearly equal balance in class size was an important consideration also. The directions that were read to the classes were the same as those read earlier (see Chapter Two, p. 25) except that the average time of completion was given as 15 minutes instead of 30, since the final instrument was roughly half as long as the preliminary instrument.

When the testing was completed, the two groups of students at each school were compared with each other, and with the faculty at that particular school. The sample sizes were as follows:

School A: New Students, 33; Old Students, 31; Faculty, 13
School B: New Students, 44; Old Students, 48; Faculty, 12
School C: New Students, 25; Old Students, 23; Faculty, 5

The results of the testing of hypotheses are detailed on pp. 64-67, and summarized on pp. 67-69.

FOOTNOTES

[1]There are many descriptions of this type of scale. A satisfactory, not overly-technical discussion can be found in Claire Selltiz and others, Research Methods in Social Relations, Revised Edition (New York: Holt, Rinehart and Winston, 1959), pp. 366-70.

[2]Shaw and Wright, op. cit., pp. 16-17; Jum C. Nunnally, Psychometric Theory (New York: McGraw-Hill Book Company, 1967), pp. 210-16.

[3]Shaw and Wright, op. cit., pp. 17-20; Nunnally, op. cit., pp. 75-94.

[4]Lee J. Cronbach and P. E. Meehl, "Construct Validity in Psychological Tests," Psychological Bulletin, LII (July, 1955), pp.281-302.

[5]Eugene J. Webb and his co-authors discuss this in their Unobtrusive Measures: Nonreactive Research in the Social Sciences (Chicago: Rand-McNally & Company, 1966), especially pp. 27-29.

[6]Donald T. Campbell, "Recommendations for A.P.A. Test Standards regarding Construct, Trait, or Discriminant Validity," American Psychologist, XV (August, 1960), pp. 548-49.

[7]Webb, et al., op. cit., p. 3.

[8]Cronbach and Meehl, op. cit., p. 295.

[9]Likert's own should be mentioned: Gardner Murphy and Rensis Likert, Public Opinion and the Individual (New York: Harper and Brothers, 1938), pp. 281-91.

[10]Allen L. Edwards, Techniques of Attitude Scale Construction (New York: Appleton-Century-Crofts, Inc., 1957); Nunnally, op. cit.; A. N. Oppenheim, Questionnaire Design and Attitude Measurement (New York: Basic Books, 1966).

[11]Edwards, op. cit., pp. 13-14.

[12]Ibid., p. 13.

[13]Edwards, op. cit., pp. 153-55; Nunnally, op. cit., p. 533.

[14]Nunnally, op. cit., p. 532.

[15]Ibid., p. 262.

[16]Dean W. Seibel, "Measurement of Aptitude and Achievement" in Dean K. Whitla, editor, Handbook of Measurement and Assessment in the Behavioral Sciences (Reading, Mass.: Addison-Wesley, 1968), p. 272.

[17]Formula from Nunnally, op. cit., p. 196.

[18]Formula from Edward J. Furst, Constructing Evaluation Instruments (New York: Longmans, Green, 1958), p. 319.

[19]Reproduced in Milton Rokeach, The Open and Closed Mind (New York: Basic Books, Inc., 1960), pp. 418-19.

[20]Study of Values, 3rd ed. (Boston: Houghton Mifflin Company, 1970).

[21]Rokeach, op. cit., pp. 72-80.

[22]Ibid., p. 19.

[23]Study of Values, op. cit.

[24]Formula from M. M. Downie and R. W. Heath, Basic Statistical Methods, 2nd ed. (New York: Harper and Row, 1965), pp. 240-42.

[25]Study of Values, op. cit.

[26]Ibid.

[27]Ibid.

[28]Edgar F. Borgatta and Raymond J. Corsini, Quick Word Test, Level 2, Form AM (New York: Harcourt, Brace and World, Inc., 1964).

[29]QWT Manual, pp. 4, 14-15.

[30]Reproduced in John P. Robinson and Phillip R. Shaver, Measures of Social Psychological Attitudes (Ann Arbor, Mich.: Institute for Social Research, 1969), pp. 644-45.

CHAPTER THREE

RESULTS

The results of the analysis of the original items, on which the decisions about the final scale items were based, are given in full as Appendix B. As was discussed in Chapter Two, final items were selected on the basis of three criteria: (1) correlation with total scale scores, (2) loadings in factor analysis, and (3) mean scores for all cases. Analysis was performed on 39 items for each scale, making a total of 195 items for the five scales. The analysis was based on the responses of the first sample, which was made up of 212 library school students or applicants to library schools, 32 of which were males, and 180 females; and 122 of which were full-time and 90 were part-time. From this analysis, the final scales were established as follows: Innovation and change, 25 items, 12 positively keyed and 13 negatively keyed; intellectual freedom, 20 items, 9 positively keyed and 11 negatively keyed; administration and management, 20 items, 11 positively keyed and 9 negatively keyed; service, 25 items, 11 positively keyed and 14 negatively keyed; and research, 20 items, 12 positively keyed and 8 negatively keyed. These items, which are asterisked in Appendix B, form a final set of scales made up of 110 items, 55 positively keyed and 55 negatively keyed, plus

13 irrelevant items, making a total of 123 items.

The irrelevant items were added in an attempt to disguise the purpose of the instrument and also, in one case ("I certainly am getting tired of filling out this questionnaire."), to provide some relief in the late section of the questionnaire.

Analysis of Original Items

Only one complication came up during the analysis of the original items, and that was with the results of factor analysis on two scales: service and innovation and change. Both of these scales loaded significantly on two factors, the first being their own unique factor, and the other being another separate factor that was shared by or common to both of them. (The terms "load" and "loading" are used to indicate a correlation between the variables, i.e., items, and the factors, i.e., components of the data.) In Appendix B, in the factor loadings column, both the service items and the innovation and change items have two loadings listed, the first being for its own unique factor and the second for their shared factor. When the items which loaded significantly on this shared factor were examined, it was observed that they are, for the most part, negatively-keyed items. Furthermore, there is contained in most of them a certain tone that might be described as disparaging or derogatory. As an example, one item from the service scale that was

not used in the final questionnaire was "Too many service-oriented librarians think of patrons as helpless babies that have to be spoon-fed."

It would seem that this phenomenon could be caused by one of two things: either there was another attitude at work in these items that was as strong as or stronger than the attitudes toward service and innovation, or a sufficiently large number of subjects responded similarly to the "tone" of the items to cause them to load on a separate factor. Careful analysis of these items failed to reveal another attitude object common to them, so it appears that the "tone" of the items did indeed cause the loadings on the shared factor. The question remained whether or not the presence of this shared factor was weakening the internal consistency of the service, and the innovation and change scales. To test this, the items loading significantly on the shared factor were removed from the service and innovation scales, and other items which had high loadings on the service and innovation factors were substituted. The analysis for coefficient alpha was then performed on these new scales to see whether the reliability was increased by this "purification." Comparing 20-item scales, innovation and change increased from .82 to .85 and service increased from .80 to .81. Greater increases were gained, to .86 and .84 respectively, by increasing the number of items from 20 to 25, including the shared factor items. It

was therefore felt that these items were internally consistent with the rest of the scale items and that confidence could be placed in them as discriminators of the attitudes.

Reliability

Coefficient alpha (discussed in Chapter II, p. 27) was established to be as follows for the final form of the scales:

Innovation and change (25 items)	.86
Intellectual freedom (20 items)	.91
Administration and Management (20 items)	.87
Service (25 items)	.84
Research (20 items)	.88

N = 212

The next step in establishing the reliability of the scales was the split-half technique (Chapter II, p. 28). These results were as follows:

Innovation and change	.80
Intellectual freedom	.92
Administration and management	.88
Service	.89
Research	.87

N = 212

The final step in establishing reliability was the test-retest method. (Chapter II, pp. 28-29.) The results were:

Innovation and change	.84
Intellectual freedom	.88
Administration and management	.96
Service	.86
Research	.93

N = 30

All of these correlations are at or well above the suggested reliabilities cited in Chapter II, p. 27, which indicates that all of these scales can be considered to

have demonstrated reliability.

Validity

The theory behind the validation of a measure such as the ones in this investigation was discussed at some length in Chapter II, pp. 19-22. Basically, the purpose of this step is to demonstrate that each of the five scales fits our ideas about what it is supposed to measure and that we can successfully make predictions based on theory, that can be tested and confirmed. It was also suggested (p. 21-22) that at least three confirmed predictions can be considered evidence of validity. The scales will be discussed one at a time below.

1. Innovation and Change

Four predictions were made, and the reasons for making the predictions and how they were tested were outlined on pp. 30-33 of Chapter II, while the results are given below in Table I. The predictions were that the results of this scale would correlate negatively with the Gough-Sanford Rigidity Scale, positively with the Political Scale of the Study of Values, positively with the faculty ratings of student statements about innovation and change, and that the scores of the members of an innovation-minded organization would be significantly higher than the average score of the entire sample. This last prediction was not put to a test because of practical problems, but the first three were confirmed as accurate predictions.

being significant at the .05 level, giving support to the scale's validity.

Table I

Results of Innovation and Change Validation

Prediction of a negative correlation with the Gough-Sanford Rigidity Scale	r = -.52 N = 38
Prediction of a positive correlation with the Political Scale of the Study of Values	r = .27 N = 44
Prediction of a positive correlation with statements made by students and judged by faculty	r = .44 N = 39

II. Intellectual Freedom

Five predictions were made, and the reasons for making the predictions and how they were tested were outlined on pp. 33-36 of Chapter II, while the results are given below in Table II. The predictions were that there would be a negative correlation with the Rokeach Dogmatism Scale, positive correlations with the Theoretical Scale of the Study of Values, and with the faculty ratings of student statements about intellectual freedom, a significant difference in mean scores of members of class who were willing to join an organization concerned with advancing intellectual freedom and members who were not, and a significant increase in the mean score of a class tested before and after a course emphasizing a commitment to intellectual freedom. The last prediction failed, but the first four proved correct, being significant at the .05 level, giving support

to the scale's validity.

Table II

Results of Intellectual Freedom Validation

Prediction of a negative correlation with Rokeach Dogmatism Scale	r = -.40 N = 38
Prediction of a positive correlation with Theoretical Scale of the Study of Values	r = .30 N = 44
Prediction of a positive correlation with statements made by students and judged by faculty	r = .44 N = 39
Prediction of a significant difference between students joining and not joining organization	U = 38 N1 = 16 RX = 242 N2 = 9 Tabled U = 42
Prediction of significant increase in mean score of class taking course emphasizing intellectual freedom	N1 = 41 X1 = 98.69 N2 = 20 X2 = 96.65

The prediction that was not confirmed was the one on page 34-35 of Chapter II, that the mean score of a class of students would rise a significant amount after being exposed to a course that dealt with intellectual freedom. The mean score in fact went down in the second administration though not significantly. As can be seen, less than half of the original sample was in attendance at the class for the second administration. This fact in itself would cause us to question the results. As well, several students known to the investigator were questioned after the data had been analyzed and it was discovered that intellectual freedom had not been stressed

to the extent that had been set forth in the course syllabus. This fact had not been known to the investigator previously as neither the instructor nor any of the students had been informed of the purpose of the testing prior to or during the semester. Since the prediction and experimental design were based on expectations of a certain performance by the instructor that were not fulfilled, it seems obvious that this failure should not reflect unfavorably on the measure's validity.

III. Administration and Management

Four predictions were made, and the reasons for making the predictions and how they were tested were outlined on pp. 36-38, while the results are given below in Table III. The predictions were that the results of this scale would correlate positively with the Economic Scale and also the Political Scale of the Study of Values, positively with faculty ratings of student statements, and that there would be a significant difference between students who checked administration as their career choice and those who checked public or technical services. The first prediction, dealing with the Economic Scale of the Study of Values, failed, but the last three were confirmed as accurate predictions, being significant at the .05 level, giving support to the validity of this scale.

Table III

Results of Administration and Management Validation

Prediction of a positive correlation with the Economic Scale of the Study of Values	r = .23 N = 44	
Prediction of a positive correlation with the Political Scale of the Study of Values	r = .41 N = 44	
Prediction of a positive correlation with faculty ratings of student statements	r = .56 N = 39	
Significant difference for students checking administration as career choice	z = 7.21 N1 = 33 N2 = 114	X1 = 100.9 X2 = 84.9

The prediction that was not confirmed was the one on page 37 of Chapter II that there would be a correlation between the administration and management scale and the Economic Scale of the Study of Values. The correlation coefficient of .23 is in the right direction but did not reach the tabled level of significance (.27). In trying to account for the failure of this prediction, one can question both the theorizing behind it, and the instrument that was used to test it. On page 37 of Chapter II it was suggested that library school students favorably disposed to administration and management might be expected to have "interests" and "values" within their personalities that would be identified by a personality inventory that tapped into concerns with practical and useful matters, as library management can be viewed as a practical operation with useful objectives. The Economic Scale of the Study of Values seemed an appropriate measure, as its

manual states that the economic man is primarily interested in what is "useful" and can be considered "thoroughly practical."[1] However, one of the problems with the Study of Values, as a number of critics have pointed out,[2] is that the descriptions of the values and interests of the six personality types are rather vague and difficult to understand completely. For example, our grasp of the personality of the "economic man" is somewhat confounded by further remarks in the Manual that he is concerned with the accumulation of tangible wealth and may be described as making his religion the worship of Mammon.[3] This would seem to imply that his concerns with what is useful or practical have a purely selfish and greedy basis, a characteristic that does not fit well with our image of a library administrator, or, indeed, a librarian of any sort. Therefore, it seems fair to say that the original theorizing in this investigation on the relationship between library administration and the "economic man" was somewhat confused and that the expectations regarding the appropriateness of the Economic Scale of the Study of Values were based on a rather vague understanding of what that scale actually measures.

IV. Service

Four predictions were made for this scale, and the reasons for making the predictions and how they were tested were outlined on pp. 38-40 of Chapter II, while

the results are given below in Table IV. The predictions

Table IV

Results of Service Validation

Prediction of a positive correlation with Social Scale of the Study of Values	r = .14 N = 44	
Prediction of a positive correlation with statements made by students and judged by faculty	r = .47 N = 39	
Prediction of positive correlation with unobtrusive measure of service orientation	r = .35 N = 44	
Prediction of a significant difference in mean score of students checking "public service" as career choice and those not checking it	z = 3.85 N1 = 94 N2 = 109	X1 = 138.5 X2 = 130.6

were that the results of this scale would correlate positively with the Social Scale of the Study of Values, positively with the faculty ratings of student statements about service, positively with a measure of service orientation that was disguised as "decision-making dilemmas," and that there would be a significant difference between the mean scores of students who checked public service as their career choice and those who did not. The first prediction failed, but the last three proved correct, being significant at the .05 level, giving support to the scale's validity.

The prediction that was not confirmed, that there would be a correlation between the service scale and the Social Scale of the Study of Values, was discussed on pp. 38-39 of Chapter II. This result was surprising

and explanations for it are not immediately obvious. One possibility is that there was at work a response set that was stronger on the service scale than on others. Perhaps the library school students who had been hearing in a number of courses of the importance of service in librarianship felt the need to show themselves in a good light. The service scale did have the highest average score of the five scales, although not by a statistically significant margin.

Another possibility is that the theoretical connection made between the two scales was not as logical as it seemed. Perhaps the "social man" of the Study of Values, who has altruistic and philanthropic values and who is kind, sympathetic and unselfish[4] does not necessarily have a set of attitudes that favor giving professional service to patrons in a library. In other words, perhaps loving people and being concerned about people are not necessarily the same as wanting to serve people. Taking it from the other direction, it is not difficult to imagine the personality of a librarian being such that he felt a professional commitment to giving effective service to library users, but, in his non-professional life, not feeling humanitarian and philanthropic instincts to the same degree. As well, some of the remarks made earlier (p. 58) about the Study of Values probably apply here as well. Perhaps the vagueness and lack of clarity in that measure's typology of personalities make it not

the best instrument to use when testing theoretical predictions about attitudes.

V. Research

Four predictions were made for this scale, and the reasons for making them and how they were tested were outlined on pp. 40-43 of Chapter II, while the results are given below in Table V. The predictions were that the results of this scale would correlate positively with the Theoretical Scale of the Study of Values, positively with the faculty ratings of student statements about research, that there would be a significant difference between the mean scores of studenrs who chose as a guest speaker a research oriented person and those who did not, and that the

Table V

Results of Research Validation

Prediction of a positive correlation with Theoretical Scale of the Study of Values	r = .40 N = 44	
Prediction of a positive correlation with statements made by students and judged by faculty	r = .63 N = 39	
Prediction of a significant difference for students choosing research oriented guest speaker	U = 33 N1 = 13 N2 = 12	RX = 214 Tabled U = 41
Prediction of a significantly higher score for students enrolled in research methods course	N1 = 19 N2 = 204	X1 = 98.63 X2 = 93.48

mean score of the students enrolled in a research methods course in library school would

be significantly higher than the mean score of the entire final sample. The first three predictions proved correct, and while the mean score of the experimental group in the last prediction was over five points higher than the mean score of the final sample, an appropriate nonparametric statistical test for significance does not, to this investigator's knowledge, exist. With three definitely confirmed predictions, and one other that performed according to expectations, there is sufficient evidence to place confidence in the validity of this scale.

VI. All Scales

As part of construct validation, all psychological measures should undergo two tests (discussed in Chapter II, pp. 43-44). First, the measure should not correlate significantly with a measure of intelligence, so that one can have confidence that verbal ability is not a factor in the measure; and, second, it should not correlate significantly with a measure of social desirability, so that one can have confidence that its design is such that subjects will not consistently give the answers that they feel are desired. For intelligence, the five scales were correlated with the Borgatta-Corsini Quick Word Test, and, as predicted, none of the correlations were significant. The results are given in Table VI.

Table VI

Correlation with the Quick Word Test, a measure of verbal ability

N = 27	
Innovation and Change	.17
Intellectual Freedom	.19
Administration and Management	.26
Service	.08
Research	.09

For social desirability, the five scales were correlated with the Crowne-Marlowe Social Desirability Scale, and, as can be seen in Table VII, one of the five correlations was significant, but, as predicted, the other four were not. The correlation of .277 for the administration and management scale was significant at the .05 level. This was also a surprising result since it implies that when responding to items dealing with administration and management, students tend to try to present themselves in a favorable light, and of the five scales, administration has the lowest (or least favorable) average score. Perhaps with a larger sample, the correlation would drop, and it was significant by the slimmest of margins (.277, compared to a tabled level of significance of .275).

Table VII

Correlation with the Crowne-Marlowe Social Desirability Scale

N = 38	
Innovation and Change	-.08
Intellectual Freedom	.01
Administration and Management	.277
Service	-.19
Research	.09

VII. Reliability for Faculty

Reliability for use by library school faculty was computed by coefficient alpha, as discussed in Chapter II, p. 44. The results are all well above the minimum levels for reliability cited in Chapter II, p. 27.

Table VIII

Coefficient alpha for sample of library school faculty members

N = 30

Innovation and Change	.86
Intellectual Freedom	.88
Administration and Management	.85
Service	.87
Research	.87

Testing of Hypotheses

The results of the testing of hypotheses, discussed in Chapter II, pp. 44-46, will be presented for each of the three schools involved, taking one scale at a time. The first hypothesis was that the attitude scores of students in their first semester of library school will have more variance than the attitude scores of students in their second or later semester. The results were as follows:

Innovation and Change:

	variance of first semester students	variance of later semester students
School A	295.8	243.36
School B	204.49	179.56
School C	193.21	309.76

Intellectual Freedom:

	variance of first semester students	variance of later semester students
School A	302.76	462.25
School B	466.56	396.01
School C	388.09	252.81

Administration and Management:

School A	163.84	265.69
School B	183.25	127.69
School C	132.25	313.29

Service:

School A	193.21	316.84
School B	210.25	179.56
School C	166.41	475.24

Research:

School A	129.96	392.04
School B	144.00	219.04
School C	228.01	400.00

The second hypothesis was that the means of the two groups will differ to a degree that is statistically significant, which in the case of this analysis would require the Z score being equal to or greater than 1.95. The results follow:

Innovation and Change:

	mean score of first semester students	mean score of later semester students	Z score
School A	110.3	121.9	2.79
School B	117.2	125.0	2.88
School C	118.4	121.0	0.56

Intellectual Freedom:

	mean score of first semester students	mean score of later semester students	Z Score
School A	83.5	95.4	2.38
School B	96.5	99.8	0.76
School C	88.2	92.2	0.77

Administration and Management:

School A	86.8	95.3	2.27
School B	85.6	85.4	0.07
School C	82.8	88.7	1.35

Service:

School A	132.5	139.8	1.79
School B	129.1	138.0	3.05
School C	132.4	133.7	0.24

Research:

School A	92.5	93.0	0.12
School B	93.4	93.1	0.10
School C	91.7	97.3	1.08

The final hypotheses was that the mean of the later semester students' scores will have moved in the direction of the mean of the faculty members' scores. The results are as follows:

Innovation and Change:

	mean scores of first semester students	mean scores of later semester students	mean score of faculty
School A	110.3	121.9	123.3
School B	117.2	125.0	132.2
School C	118.4	121.0	125.6

Intellectual Freedom:

	mean scores of first semester students	mean scores of later semester students	mean score of faculty
School A	83.5	95.4	93.9
School B	96.5	99.8	105.5
School C	88.2	92.2	97.6

Administration and Management:

School A	86.8	95.3	95.2
School B	85.6	85.4	96.5
School C	82.8	88.7	104.4

Service:

School A	132.5	139.8	144.9
School B	129.1	130.0	135.9
School C	132.4	133.7	137.8

Research:

School A	92.5	93.0	105.3
School B	93.4	93.1	113.5
School C	91.7	97.3	110.4

Summary of Hypothesis Testing

The first hypothesis, that the scores of students in their first semester of library school will have more variance than the scores of students in their second or later semester, was put to three tests for each of the five scales. The overall results for these fifteen tests were six occasions when the hypothesis was confirmed, and nine when it was not. For the innovation and change scale, there were two successful confirmations and one failure; for intellectual freedom, two successes and one failure;

for administration and management, one success and two failures; for service, one success and two failures; and for research, three failures. Looking at each school individually, for school A, there was one success and four failures; for school B, four successes and one failure; and for school C, one success and four failures.

For the second hypothesis, that the means of the two groups will differ to a significant degree, the overall results were five successes and ten failures. For the innovation and change scale, there were two successes and one failure; for intellectual frrreom, administration and management, and service in each case there was one success and two failures; and for research, there were three failures. Taking each school individually, for school A, there were three successes and two failures; for school B, two successes and three failures; and for school C, no successes.

For the third and final hypothesis, that the mean of the later semester students' scores will have moved in the direction of the mean of the faculty members' scores, the overall result was thirteen successes and two failures. For innovation and change, intellectual freedom and service, there were three successes each. For administration and management and research, there were two successes and one failure each. For schools A and C, there were five successes each, and for school B, three successes and two failures. In all fifteen instances, the faculty had a

higher mean score than first semester students, and in twelve instances their mean score was also higher than the later semester students.



FOOTNOTES

[1] *Study of Values*, *op. cit.*, p. 4.

[2] See, for example, the reviews in the 6th and 7th *Mental Measurement Yearbooks*: Buros, Oscar, ed., *The Sixth Mental Measurement Yearbook* (Highland Park, N.J.: The Gryphon Press, 1965), pp. 384-87. Buros, ed., *The Seventh Mental Measurement Yearbook* (Highland Park, N.J.: The Gryphon Press, 1972), Vol. I, pp. 355-56.

[3] *Study of Values*, *loc. cit.*

[4] *Ibid.*, p. 5.

CHAPTER FOUR

SUMMARY AND CONCLUSIONS

This study has been concerned with the creation of an instrument that will assist researchers in investigating the attitudes of library school students and librarians, and not with describing such groups or discovering relationships. Specifically, an instrument has been constructed that will measure the attitudes of a group of library school students toward five issues in librarianship, i.e., innovation and change, intellectual freedom, administration and management, service, and research. This work has been primarily directed at developing as effective a research tool as possible, and at demonstrating that the tool can be considered reliable and valid. The evidence indicates that these goals have been realized.

The instrument itself is a set of five Likert-type attitude scales, one for each of the attitude objects. The scales are made up of twenty (for three scales) or twenty-five (for two) statements of opinion with which the subject is asked to agree or disagree on a seven-step scale. These statements of opinion (items) were randomly arranged and combined with thirteen irrelevant items to form a 123-item instrument, plus a coversheet containing directions and a brief demographic questionnaire. Items were selected rigorously according to criteria established

by authorities in this field.

The reliability of the measure was tested rigorously by subjecting it to three standard techniques, coefficient alpha or internal consistency, split-half, and test-retest. In all three of these tests, each scale demonstrated reliabilities at or well above the suggested level of .8, advanced in Chapter II, p. 27, as a criterion.

The evidence of validity for the instrument was described in detail in Chapter II, pp. 53-61, but can be briefly reviewed here. It was felt that each of the five separate scales should be subject to at least four tests of whether it performed in accordance to theoretically-based predictions. For the innovation and change scale, four predictions were made, three were confirmed, and one was not put to a test due to practical problems. For the intellectual freedom scale, five predictions were made and four were confirmed. For the administration and management scale, four predictions were made and three were confirmed. For the service scale, four predictions were made and three were confirmed. And, finally, for the research scale, four predictions were made and three were confirmed, while the fourth was "probably" confirmed. In addition, it was predicted that none of the scales would correlate with measures of verbal ability or social desirability. These predictions were confirmed, except that one scale correlated with the social desirability measure, although by the slimmest of margins.

The issue of how many confirmed predictions it takes to demonstrate validity was faced in Chapter II, pp. 21-22, with the conclusion that three for each scale would be sufficient. The quotation from Webb et al. that was used for support of that conclusion is quoted here again:

> Once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced. The most persuasive evidence comes through a triangulation of measurement processes. If a proposition can survive the onslaught of a series of imperfect measures, with all their irrelevant error, confidence should be placed in it.[1]

In addition to this principal goal of establishing a reliable and valid research instrument, a limited number of assumptions about library education were examined through testing of the hypotheses. These hypotheses, which relate essentially to the change of attitude during matriculation in a graduate library school program, were: (1) that the scores of students in their first semester of library school will have more variance than the scores of students in their second or later semester; (2) that the mean of the second (later) group will be significantly higher than that of the first group; and (3) that the mean of the later semester students' scores will have moved in the direction of the faculty members' scores. These hypotheses were designed to test an assumption that the faculty and curriculum of a library education program significantly change the attitudes of participating students, and the investigation approached this assumption

in three ways that relate directly to the hypotheses as stated above, using the research instrument to measure a group of 204 students and 30 faculty from 3 library schools. First, the group of students, one half in the early class periods of their first semester of library school and the other half in a second or a later semester, was tested, and the results were analyzed to see if the variance of the scores of the first group were greater than of the second group; that is, if the attitudes of the first group are scattered over a wider range than those of the second. Next, the results were analyzed to see if the scores were significantly higher, i.e., more favorable, than the first. Third, the results were analyzed to see if the scores of the second group were nearer to the faculty's average scores than were the first group.

What we are comparing here is a set of scores for each of the three groups, that set being made up of the results of five different scales for three different schools, that is, fifteen separate results for each group. In testing the first hypothesis, we found that the variance of the later semester students proved to be as great or greater than the first semester in nine of fifteen instances. In testing the second, and again differing from the hypothesis, though not contrary to it, in only five of the fifteen instances of comparison was there a significantly higher score for later semester students. However, in thirteen instances, the scores were higher

even when not significantly so. Finally, in thirteen instances, scores of the later semester students had moved in the direction of the faculty scores.

It is a great temptation at this point to fall back on such "basic laws" of the behavioral sciences as "the differences are not very great" and "some do and some don't." The conclusions we are able to draw are very limited, it is true, but let us look at some of them. We can say, I think, that library education does affect the attitudes of its students, but not very much. The attitudes of the students are definitely not made "firmer" or more closely grouped together, as we saw in the failure of the first hypothesis. They do tend to become more favorable toward each of the attitude objects, but not significantly so for most instances. In fact, the differences were so small in the testing of the second hypothesis that we cannot ignore the possibility that some of the results were caused only by chance. The evidence is pretty conclusive that to the extent that a student's attitudes do change, they change in the direction of the faculty who have been teaching them.

It would not be fair to infer from this that library education has no effect on students' attitudes, but it seems appropriate to say that we have some evidence that attitudes are not as influenced by library education as some library educators would like, and that it appears that the amount of attitude change we might witness is

very modest. This has to say to us that if a student enters library school with a generally negative attitude toward intellectual freedom, say, or toward research, or even service to patrons, he or she will probably leave library school feeling pretty much the same way.

That there are such students is demonstrated by the rather low average scores for the final sample, as shown in Table I. These figures give the average scores for an item within a scale, which may make these results

Table I

Average Item Scores

	Beginning Students (N = 102)	Later Students (N = 102)
Innovation and Change	4.61	4.90
Intellectual Freedom	4.47	4.78
Administration & Management	4.25	4.49
Service	5.25	5.48
Research	4.62	4.72

easier to understand. Since there was a seven point scale for responding to each item, a score of 1 would indicate a highly negative attitude, a score of 7 a highly positive attitude, and a score of 4 no attitude at all or indecision. To put these figures into perspective, it might help to imagine a one question or single item attitude scale, such as, for the Innovation and Change scale, "Innovation and change in libraries is a good and important thing." An average score of 4.61 would mean that the average subject's

response was somewhere between "unsure" and "unsure but tend to agree." As we can see in the table, the average "later student" is coming very close to "unsure but tend to agree." The highest average scores are on the service scale, and, in looking at those, let us imagine the one item to be "Service in libraries is a good and important thing." Here our average beginning student is a bit above "unsure but tend to agree" and our average later student is about halfway to "agree," which is the step represented by the score of 6.

Looked at in this way, these scores are not cause for rejoicing. Library educators examining these data would feel much better about their programs and much better about their students if we had been dealing with scores that ranged between "agree" and "strongly agree" instead of between "unsure" and "tend to agree." The fact that these scores tend toward the middle of the scale is some evidence that the attitudes this investigation has been dealing with are not well formed at all. It is as if the subjects were saying "I don't know how I feel about this," rather than "I don't feel very favorable about this." When a new student begins matriculation in a library education program, we would expect him to bring with him a moderately favorable attitude toward service in libraries, certainly, since such an attitude is normally part of the total motivation that caused the student to choose librarianship as a career. As

for how he would feel about the others, it is hard to predict. Taking research, for example, it is not difficult to imagine a new student never having given much thought at all to how he feels about the value of research to the field. To other students, though, who have been exposed to at least a third, often more, of the curriculum, feelings of uncertainty about their own attitudes toward some fairly important professional issues is a bit surprising and, to some, no doubt dismaying.

The likelihood exists, of course, as it does with any research that deals in large groups, that a small number of individuals are significantly influenced in their attitudes. Possibly library educators are philosophical about the difficulty of changing their students' attitudes and console themselves with the few students who come along whose attitudes are significantly affected. Another possibility, perhaps a more likely one, is that library educators are not concerned with attitudes. They could be concerned more with course content and teaching methods for one thing. They might also feel that such concerns were not within their area of responsibility, laying it to survey or introductory types of courses. Perhaps they assume that the students who select themselves for library school and are further screened by the institution, have the appropriate favorable attitudes already. Then, of course, we cannot assume that all or even most faculty members have strongly favorable attitudes themselves

toward these issues.

Keeping these points in mind is important when the question is asked: why did the second hypothesis fail? We had hoped to discover a significant increase in the attitudes of experienced students over beginning students, that hope being based on the assumption that library educators believed such things to be important. Did the scores not increase significantly because these attitudes are just especially difficult to modify, or is it because library education is not attempting to modify them? The answer is that we do not know, but speculation has led to the realization that library educators have a number of plausible reasons for not being concerned with attitudes, while there is no tangible evidence to demonstrate that they are concerned. It seems likely, then, that the assumption behind the hypotheses, that library educators did desire to create strong positive attitudes in their students, is rather questionable in retrospect.

This seems regrettable. Though attitudes are difficult to change, they are more easily changed than deeper traits of personality. If the personality of the "average" librarian can be characterized, as it has been in the studies cited in Chapter I, as introverted, conformist, conservative, apathetic and passive, then library educators are passing up an important opportunity if they ignore the possibility of affecting attitude change in their students. For, on the whole, attitude theorists

maintain that attitude is correlated with present and future behavior. If library school students were sent out into the field with positive and strong attitudes favoring innovation and change, intellectual freedom, service, research and modern administrative and management techniques, then the profession in time might be revitalized in a way that seems desirable to many critics at this time.

LIMITATIONS

The limitations of this study divide themselves into two categories. One set of limitations deals with the study generally and with the conclusions drawn from it; another set deals with the instrument that has been developed.

The attitude scales themselves have some drawbacks. For one thing, they are very long, longer at any rate than many researchers would want to incorporate into a questionnaire of their own. For that reason, and because many subjects rebel at having much more than fifteen or twenty minutes of their time taken up by testing, the instrument would have to be administered separately in most cases. For another thing, it would be of no value in trying to measure the attitudes of an individual, but is only useful when dealing with groups. It should be clearly understood that, because of the nature of attitude scales, their construction and their validation, and the ease with which they can be "faked" by an individual

they cannot be relied on except in research situations with groups, the members of which are guaranteed anonymity. There is another limitation that cannot so easily be overcome: the likely existence of response sets among the subjects who take the test. The temptation is great with an instrument of this sort to give the answers that will put the subject in the best light, and, as was stated earlier, this is an easy instrument to "fake." Ideally, it would be given to subjects who have had it made clear to them that there is no advantage to them in faking, and a considerable disadvantage to the researcher, and that no connection can ever be made between them as individuals and the answers they give on the questionnaire. In other words, a situation in which the subject is willing to be completely candid is needed.

The other set of limitations deals with the study generally and the conclusions drawn from it. The first limitation is the matter of generalizability. It is very incautious to think that because attitudes do not change significantly in the case of 210 students at three eastern library schools that library education is having no effect on the attitudes of its students. We can only truthfully claim that at the particular time of testing and with the particular sample that was used, our results obtain. We do not, at this time, have enough knowledge about these attitudes to claim more.

There are also limitations involved in using any sort

of psychological testing. The human mind is very complex, and despite the efforts of generations of psychologists in developing better and better tools for the measurement of the mind, one must come back to the fact that the human personality is very very difficult to capture on paper, and that efforts to do so involve some risk of being inaccurate. Finally, the conduct of the investigation and the interpretation of the findings are necessarily limited by the qualifications of the investigator, whose training and experience have been in librarianship and not in psychological testing.

FURTHER RESEARCH

Certainly the most important consideration for further research is finding more definite answers to the original questions, especially how are attitudes formed and how do they change in library education? This key question has not been satisfactorily answered yet, and using the present instrument seems the most feasible and logical way to proceed.

There are several approaches that could be used. Simple replication is one, although a slightly different design might make the results easier to interpret. For instance, a clearer line could be drawn between the two test groups by assuring that the later students were in their final semester of library school. Also, care could be taken to keep out other variables that could conceivably

influence the results. It is possible that previous library experience could be one such variable. The idea of a longitudinal study also has a great deal of appeal, despite the fact that the subjects would not be able to be guaranteed complete anonymity. A group of subjects could be tested in their first day of classes in library school and again in their final semester, with comparisons being made between individuals' scores in the two testings as well as between group scores.

This idea of a longitudinal study leads us to another interesting research area. This same group of students could be tested after they leave library school and enter the profession, to see if attitudes change to any degree when influenced by the practices and situations encountered in a working environment. They might be tested a year after graduation, again after five years, and perhaps at five year intervals thereafter. Of course, it would be necessary to give the subjects repeated assurances that their individual responses would not be connected with them personally and that all questionnaires would be treated in a confidential manner.

There are a number of other research uses the instrument could be put to. In its present form, it could be used to compare library schools or classes within a library school in regard to different aspects of curriculum; e.g., emphasis on information science, practical emphasis compared to theoretical, independent study compared to

traditional classroom instruction, or any type of experimental class or program where the students' attitudes are considered as important as the subject content.

For that matter, any piece of research that could benefit from measurement of the subjects' attitudes toward any one of the attitude objects could make use of the attitude scales developed for this project. Separate and shortened scales that still show evidence of reliability could be used with confidence in a great many research situations. A shortened form of the research scale has been developed and used, and this investigator plans to develop shorter forms of the other scales also.

The traditional form of attitude scale is not the only way to measure attitudes and similar personality traits, and the development of disguised measures that would not reveal their true purpose would serve an especially valuable function. One such measure, the ten decision making dilemmas discussed in Chapter II, p. 40, and reprinted as Appendix D, was developed to measure attitudes toward service. Before being widely-used in research situations, this measure and other similar measures would have to have their reliability and validity demonstrated.

We should not be satisfied, however, with discovering that attitudes do or do not change or even to what degree. We should concern ourselves also with how they change and why they change or why they do not change. This sort of

research problem can probably best be handled by controlled experiments with the present instrument, supplemented possibly by interviewing.

Beyond the measurement of attitudes, the entire area of the personality of the librarian needs considerable study. Most of the principal studies in this area, discussed in Chapter I, are out of date by decades now. Such questions as what are the outstanding personality traits of librarians, what are their values, why are they motivated to enter librarianship, what sort of satisfaction do they derive and hope to derive from their work, and many others need to be asked in well-designed research projects.

FOOTNOTES

[1] Webb, et al., op. cit., p. 3.

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APPENDIX A

SAMPLE OF FINAL QUESTIONNAIRE

Note: Permission to examine and use the complete instrument can be obtained from the author, care of the Division of Librarianship, Emory University, Atlanta, Georgia.

DIRECTIONS

In this questionnaire are a number of statements about which people in librarianship have different opinions. As you read each statement, please indicate your own personal agreement or disagreement with it by checking the appropriate response according to this key:

Strongly Agree	Agree	Unsure but Tend to Agree	Unsure	Unsure but Tend to Disagree	Disagree	Strongly Disagree
SA	A	A?	??	?D	D	SD

It is important as you fill out this questionnaire that you try not to think in terms of desirable answers or consistent positions. React to each statement individually according to your own feelings of the moment. Do not spend much time with any one statement. If you are not sure how you feel, check the response you think is closest to your feelings. But be sure to respond to every statement.

Do not sign your name to this questionnaire. Your identity will remain unknown, but some information about you is needed. Before continuing, please complete the items below. Thank you for your cooperation.

1. ( ) Male ( ) Female

2. ( ) Part-time student ( ) Full-time student

3. What type of library are you planning to work in? (Check only one)
   - ( ) School
   - ( ) College, university
   - ( ) Public
   - ( ) Special
   - ( ) Other _____
   - ( ) Undecided

4. What type of work are you hoping to do? (Check only one)
   - ( ) Public services
   - ( ) Technical services
   - ( ) Administration
   - ( ) Other _____
   - ( ) Undecided

5. Undergraduate major _____

KEY:

Strongly Agree	Agree	Unsure but Tend to Agree	Unsure	Unsure but Tend to Disagree	Disagree	Strongly Disagree
SA	A	A?	??	?D	D	SD

	SA	A	A?	??	?D	D	SD
1. The female librarian is greatly discriminated against in American librarianship.	____	____	____	____	____	____	____
2. It is not the library's province to act as protector of unwary patrons from potentially questionable material.	____	____	____	____	____	____	____
3. Change in most libraries can only be for the better.	____	____	____	____	____	____	____
4. Research in our field can't come up with answers because the issues involve people and not statistics.	____	____	____	____	____	____	____
5. Most people would have to agree that attending library school is a stimulating exciting experience.	____	____	____	____	____	____	____
6. Administration, by its nature, causes a library director to lose contact with what's going on in his library.	____	____	____	____	____	____	____
7. In giving service to students, libraries are essentially performing a service for society at large.	____	____	____	____	____	____	____

APPENDIX B

ANALYSIS OF ORIGINAL ITEMS

INNOVATION AND CHANGE

Original Item Number	Correlation with Scale	Mean Score	Factor Loadings
* 1.	.54	5.37	.36/.30
* 2.	.36	4.32	.39/.16
* 3.	.52	5.77	.40/.30
4.	.39	6.14	.33/.14
* 5.	.37	4.54	.08/.41
* 6.	.43	3.90	.34/.15
7.	.40	4.18	.01/.27
8.	.48	6.14	.45/.21
9.	.45	5.71	.3[illegible]/.14
*10.	.43	5.00	.04/.58
11.	.48	6.15	.36/.15
12.	.41	5.57	.21/.34
*13.	.59	5.31	.64/.16
14.	.44	5.48	.14/.43
15.	.51	6.25	.61/.04
*16.	.37	4.61	.09/.46
*17.	.44	4.85	.16/.47
*18.	.52	5.39	.46/.24
*19.	.58	5.03	.22/.55
20.	.40	5.47	.36/.19
*21.	.43	5.06	.33/.005
22.	.49	6.15	.48/.14
*23.	.55	4.97	.49/.21
24.	.37	6.03	.27/.08

Original Item Number	Correlation with Scale	Mean Score	Factor Loadings
*25.	.48	5.89	.42/.08
26.	.35	5.20	.02/.40
*27.	.54	4.54	.54/.14
28.	.38	5.72	.14/.35
29.	.43	5.67	.29/.16
30.	.14	4.71	.15/-.12
*31.	.38	3.94	.07/.35
*32.	.42	4.74	.51/.003
*33.	.48	5.85	.30/.33
*34.	.50	6.17	.56/.10
*35.	.52	5.19	.21/.45
*36.	.59	5.61	.53/.16
*37.	.44	4.80	.11/.50
*38.	.56	5.64	.53/.17
*39.	.57	5.34	.24/.47
	INTELLECTUAL FREEDOM		
40.	.44	5.82	.44
*41.	.40	4.32	.33
*42.	.56	5.07	.57
43.	.21	4.73	.10
*44.	.45	4.82	.44
*45.	.71	4.91	.69
*46.	.44	4.54	.36
*47.	.71	5.07	.74

Original Item Number	Correlation with Scale	Mean Score	Factor Loadings
*48.	.41	4.38	.34
49.	.67	6.01	.68
50.	.52	5.99	.47
51.	.32	5.50	.24
*52.	.58	4.68	.59
53.	.53	6.19	.49
*54.	.65	5.51	.64
*55.	.67	4.27	.70
56.	.36	2.88	.34
57.	.57	5.89	.56
*58.	.70	4.86	.72
59.	.43	6.31	.39
60.	.72	6.18	.72
*61.	.53	5.22	.51
*62.	.52	4.25	.52
63.	.65	5.63	.69
*64.	.65	5.57	.66
65.	.65	5.41	.67
*66.	.57	4.97	.54
*67.	.49	5.26	.45
68.	.53	6.04	.51
*69.	.77	5.35	.77
*70.	.56	4.68	.47
71.	.55	6.07	.54
72.	.34	5.54	.23

Original Item Number	Correlation with Scale	Mean Score	Factor Loadings
*73.	.77	5.34	.76
74.	.71	5.85	.71
75.	.55	5.98	.53
76.	.78	5.61	.79
77.	.66	6.02	.66
*78.	.49	5.05	.44
	ADMINISTRATION AND MANAGEMENT		
79.	.45	5.87	.62
*80.	.42	4.91	.36
81.	.25	5.09	.15
82.	.46	5.67	.51
83.	.27	4.21	.23
*84.	.41	5.31	.31
*85.	.61	3.50	.51
86.	.33	5.65	.21
87.	.61	5.41	.61
*88.	.43	4.05	.29
*89.	.57	4.40	.53
*90.	.40	4.62	.41
91.	.48	5.52	.57
*92.	.41	4.20	.51
*93.	.46	4.10	.36
94.	.47	5.82	.53
95.	.51	5.33	.32

Original Item Number	Correlation with Scale	Mean Score	Factor Loadings
96.	.46	5.55	.29
*97.	.47	5.11	.28
*98.	.71	4.63	.67
*99.	.48	3.36	.37
100.	.59	5.82	.39
*101.	.58	5.09	.52
102.	.43	5.25	.45
103.	.59	5.58	.56
104.	.28	5.18	.39
*105.	.39	3.72	.24
106.	.34	5.86	.25
107.	.58	5.45	.67
*108.	.58	5.25	.57
*109.	.46	4.92	.38
*110.	.48	4.72	.31
*111.	.53	4.66	.60
112.	.62	5.40	.57
113.	.27	4.74	.17
*114.	.59	4.91	.55
*115.	.66	4.43	.62
*116.	.50	4.19	.33
117.	.39	5.01	.51
	SERVICE		
*118.	.33	5.01	.31/.22

Original Item Number	Correlation with Scale	Mean Score	Factor Loadings
119.	.23	4.87	.01/.02
120.	.19	5.40	.02/.10
121.	.37	5.62	.16/.36
*122.	.46	5.94	.28/.49
123.	.24	5.49	.08/.08
124.	.13	5.13	.06/.03
125.	.20	5.02	.19/.05
*126.	.51	6.04	.37/.40
*127.	.57	5.66	.36/.47
128.	.30	6.06	.02/.22
*129.	.33	4.37	.17/.27
*130.	.38	5.07	.37/.09
*131.	.52	5.42	.01/.59
*132.	.44	5.67	.45/.20
133.	.35	5.57	.04/.35
134.	.41	6.25	.12/.27
135.	.29	4.66	.35/.21
136.	.19	4.71	.10/.04
*137.	.42	5.24	.11/.34
138.	.22	4.28	.29/.01
*139.	.47	5.79	.04/.39
*140.	.44	5.89	.36/.25
*141.	.46	6.05	.16/.38
*142.	.44	5.57	.06/.57
*143.	.46	6.15	.35/.36

Original Item Number	Correlation with Scale	Mean Score	Factor Loadings
*144.	.37	4.97	.02/.50
*145.	.49	6.87	.00/.58
*146.	.36	5.07	.36/.32
*147.	.44	5.13	.02/.61
*148.	.34	4.80	.47/.05
*149.	.47	5.99	.05/.48
*150.	.55	5.64	.46/.28
*151.	.37	5.87	.38/.15
*152.	.54	5.99	.21/.38
153.	.23	3.85	.13/.19
*154.	.54	5.51	.08/.64
155.	.23	3.58	.00/.04
*156.	.49	5.20	.10/.36
	RESEARCH		
157.	.49	5.70	.49
158.	.39	5.78	.44
159.	.28	2.73	.11
160.	.49	5.53	.41
*161.	.50	5.43	.48
162.	.34	5.48	.34
*163.	.45	4.97	.40
*164.	.52	5.15	.47
165.	.47	5.47	.49
*166.	.45	4.46	.38

Original Item Number	Correlation with Scale	Mean Score	Factor Loadings
*167.	.45	4.97	.41
168.	.52	5.42	.50
169.	.27	3.98	.13
170.	.58	5.53	.61
171.	.22	3.92	.12
*172.	.44	5.19	.43
*173.	.51	4.12	.53
*174.	.62	4.51	.56
*175.	.56	4.69	.49
*176.	.57	4.69	.55
*177.	.66	5.27	.66
178.	.71	5.55	.71
*179.	.59	5.32	.58
180.	.63	5.88	.63
*181.	.51	4.26	.42
182.	.48	6.14	.41
*183.	.57	4.51	.54
184.	.28	4.47	.18
185.	.61	5.76	.60
186.	.57	5.52	.57
*187.	.65	4.88	.67
188.	.38	3.72	.32
*189.	.69	5.32	.70
*190.	.64	5.26	.65
191.	.40	5.40	.40

Original Item Number	Correlation with Scale	Mean Score	Factor Loadings
*192.	.53	5.34	.50
*193.	.61	4.85	.52
194.	.53	5.29	.45
*195.	.55	4.98	.49

APPENDIX C

COMBINED RIGIDITY--SOCIAL DESIRABILITY MEASURE

PERSONALITY SURVEY

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Circle the letter T if you feel it is true and the letter F if you feel it is false. Please answer every question.

T F 1. Before voting I thoroughly investigate the qualifications of all the candidates.

T F 2. I never hesitate to go out of my way to help someone in trouble.

T F 3. It is sometimes hard for me to go on with my work if I am not encouraged.

T F 4. I have never intensely disliked anyone.

T F 5. On occasion I have had doubts about my ability to succeed in life.

T F 6. I sometimes feel resentful when I don't get my way.

T F 7. I am always careful about my manner of dress.

T F 8. My table manners at home are as good as when I eat out in a restaurant.

T F 9. I am often the last one to give up trying to do a thing.

T F 10. If I could get into a movie without paying for it and be sure I was not seen, I would probably do it.

T F 11. There is usually only one best way to solve most problems.

T F 12. On a few occasions, I have given up doing something because I thought too little of my ability.

T F 13. I prefer work that requires a great deal of attention to detail.

T F 14. I like to gossip at times.

T F 15. I often become so wrapped up in something I am doing that I find it difficult to turn my attention to other matters.

T F 16. There have been times when I felt like rebelling against people in authority even though I knew they were right.

T F 17. I dislike to change my plans in the midst of an undertaking.

T F 18. No matter who I'm talking to, I'm always a good listener.

T F 19. I never miss going to church.

T F 20. I can remember "playing sick" to get out of something.

T F 21. I usually maintain my own opinions even though many other people may have a different point of view.

T F 22. There have been occasions when I took advantage of someone.

T F 23. I find it easy to stick to a certain schedule once I have started it.

T F 24. I'm always willing to admit it when I make a mistake.

T F 25. I do not enjoy having to adapt myself to new and unusual situations.

T F 26. I always try to practice what I preach.

T F 27. I prefer to stop and think before I act even on trifling matters.

T F 28. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.

T F 29. I try to follow a program of life based on duty.

T F 30. I sometimes try to get even, rather than forgive and forget.

T F 31. I usually find that my own way of attacking a problem is best, even though it doesn't always seem to work in the beginning.

T F 32. When I don't know something I don't at all mind admitting it.

T F 33. I am a methodical person in whatever I do.

T F 34. I am always courteous, even to people who are disagreeable.

T F 35. I think it is usually wise to do things in a conventional way.

T F 36. At times I have really insisted on having things my own way.

T F 37. I always finish tasks I start, even if they are not very important.

T F 38. There have been occasions when I felt like smashing things.

T F 39. I often find myself thinking of the same tunes or phrases for days at a time.

T F 40. I would never think of letting someone else be punished for my wrongdoings.

T F 41. I have a work and study schedule which I follow carefully.

T F 42. I never resent being asked to return a favor.

T F 43. I usually check more than once to be sure that I have locked a door, put out the light, or something of that sort.

T F 44. I have never been irked when people expressed ideas different from mine.

T F 45. I have never done anything dangerous for the thrill of it.

T F 46. I never make a long trip without checking the safety of my car.

T F 47. I believe that promptness is a very important personality characteristic.

T F 48. There have been times when I was quite jealous of the good fortune of others.

T F 49. I always put on and take off my clothes in the same order.

T F 50. I have almost never felt the urge to tell someone off.

T F 51. I am sometimes irritated by people who ask favors of me.

T F 52. I have never felt that I was punished without cause.

T F 53. I sometimes think when people have a misfortune they only got what they deserved.

T F 54. I have never deliberately said something that hurt someone's feelings.

T F 55. On the whole,I believe that private schools are superior to public schools.

APPENDIX D

DECISION-MAKING DILEMMAS

Note: Asterisks have been placed by those four items that were scored as a measure of service orientation.

RUTGERS UNIVERSITY
Bureau of Library Research
New Brunswick, New Jersey

DECISION-MAKING IN LIBRARIANSHIP

You are being asked in these pages to react to ten dilemmas that could present themselves in librarianship. In each situation you are requested to check the decision you believe you would tend to make if presented with such a dilemma, and also, just below, to indicate whether the decision was easy or difficult to make.

Of course, in a real-life situation you would have more information available to you to help guide your decisions, and it is likely that other options might also be available that you would prefer to the ones presented. Despite this, please react as best you are able to these briefly-described situations.

Remember that your responses are anonymous and confidential, and that your honest reaction is the one that is sought. Also, it is important that each item be answered. If you find yourself completely unsure, please take a guess. Thank you for your help.

1. You are the director of a public library in a large city. About a dozen of your staff members want to take part in an anti-war rally as a group, carrying banners and signs such as "Librarians for Peace." Your board has heard of this and informs you it is firmly opposed to such actions. You are able to convince the board that your staff members have a right to engage in political activities as individuals, but they insist that the name of the library not be used on any signs or banners. The spokesman for the peace group strongly believes that carrying the banner of the library itself will add great thrust to their protest and pleads for your support. No time remains for further negotiation with the board. What is your decision?

   [ ] Allow the use of the banner.

   [ ] Deny its use.

   ( ) This decision was easy to make.
   ( ) This decision was difficult to make.

2. As director of libraries in a medium-sized university, you have worked for some years for academic rank for your professional staff, but thus far have been unsuccessful. You are approached by a representative of the administrative staff of the university and are told that they also desire faculty status. The representative suggests that if the librarians and the administrative staff join forces and begin some serious and "hard-nosed" bargaining they would have a good chance for success. Your staff is--on the whole--hesitant, feeling that this is "unprofessional" behavior. What is your decision?

[ ] Join forces with the university's administrative staff.

[ ] Decline their offer for a cooperative effort.

( ) This decision was easy to make.
( ) This decision was difficult to make.

*3. You are the new director of public services in a large public library. A number of years ago an evaluation of the library's systems revealed that the reserving of books by patrons (involving flagging circulation cards, sending out post cards when books were returned, and holding them for patrons to pick up) was using up an inordinate amount of the budget that could be diverted to the acquisitions department for the purchase of more books. As a result, a policy was instituted allowing reserves only on adult non-fiction. Your staff feels that this policy has been causing bad public relations with certain groups of users, especially children, young adults, and readers of light fiction. What is your decision?

[ ] Attempt to convince the director to return to the previous policy of unrestricted reserves.

[ ] Attempt to convince your staff of the wisdom of saving time and money for larger concerns.

( ) This decision was easy to make.
( ) This decision was difficult to make.

4. You are the new director of a medium-sized public library. A new professional line has been added to your budget by the city council. The former director, just retired, had promised this line to the cataloging department, which is understaffed. You plan, nonetheless,

to create a new position, wherein a professional librarian will be brought in and assigned as a liaison and resource person for the city's various social welfare and social action agencies and groups. When your head cataloger and her assistant hear of this, they threaten to resign unless they receive the line as promised. What is your decision?

[ ] Create the new post and face the prospect of trying to hire a new cataloging department.

[ ] Postpone the creation of the new post until you receive another new line.

( ) This decision was easy to make.
( ) This decision was difficult to make.

*5. There is to be a senior staff meeting at 3:00 at which you, a junior staff member of a university library's reference department, are scheduled to present--at your own request--a detailed long-range plan for the improvement of reference service to undergraduates. At 2:55, as you are planning to close the periodicals division control desk which you have been covering, a high school student arrives with an extensive and rather muddled bibliography of journal citations dealing with the economic development of Central America. You realize that he will need considerable assistance and guidance, and there is no one else available to help him. What is your decision?

[ ] Ask him to return at 4:30.

[ ] Send word to the senior staff that you will have to put off your presentation until the next meeting.

( ) This decision was easy to make.
( ) This decision was difficult to make.

6. A nearby community college has graduated its first clar of Library Technical Assistants (LTA's), a "sub-professional" group with two years of college education that emphasizes the technical aspects of library operations. Your own library in a state teachers college has been given three LTA lines and you have some impressive candidates for the jobs. By their education and practical training, they should logically be placed in positions superior to several members of your present staff who have

only high school diplomas but many years of effective and loyal service. Feeling out your staff, you soon realize that you could have a morale problem of major dimensions. What is your decision?

[ ] Hire the LTA's and place them in supervisory positions.

[ ] Hire the LTA's but give them routine clerical tasks.

( ) This decision was easy to make.
( ) This decision was difficult to make.

*7. You are in charge of circulation at a busy industrial research library. Through past experience it has been established that by far the most efficient way of filing the cards for documents that have been checked out is to "batch" them during the day and then file them all during the first hour of the next day of work, a slack period for your staff. A number of users, however, have complained to the director that this procedure prevents them from finding out the status of any document that has been checked out during that particular day, and there can be hundreds of these. The director suggests continuous filing of cards as they are checked out, but your staff feels that this will result in a chaotic situation at the circulation files, with several clerks trying to take cards out and others trying to put cards in. What is your decision?

[ ] Implement the director's suggestion to satisfy the users.

[ ] Support your staff and request a continuation of the former policy.

( ) This decision was easy to make.
( ) This decision was difficult to make.

8. You have been hired to start a library for a junior college which is to begin operating in two years. You will open with about 5000 volumes and plan a maximum capacity of 50,000 volumes. You and the cataloger you have hired must decide on what classification scheme to use. Both of you are familiar only with the Dewey Decimal Classification. On the other hand, since you plan to use Library of Congress cards in your cataloging, you realize that a number of advantages would come from using the L. C. Classification, not the least of which would

be the economy of following their classification "blindly," eliminating the need for over 90 per cent of original classifying and assigning Cutter numbers. What would be your decision?

[ ] Library of Congress Classification.

[ ] Dewey Decimal Classification.

( ) This decision was easy to make.
( ) This decision was difficult to make.

*9. You are the director of an urban library system. Recently bookmobiles sent into a certain Black neighborhood have been repeatedly harassed and vandalized by a small Black militant group which views the library as a propaganda agency for white culture. Different approaches have been tried, including emphasis on Black writers and Afro-American culture, but the group remains hostile. The resulting financial losses are causing serious budget problems, while the Black community appears divided as to what it wants the library to do. Senior staff members suggest stopping the service for one month in the hope that the Black community will realize the value of the bookmobile service and bring pressure on the militant group. What is your decision?

[ ] Stop service for one month.

[ ] Continue the bookmobile service.

( ) This decision was easy to make.
( ) This decision was difficult to make.

10. You are the current president of your state library association. At its annual conference, the membership, after an angry and divisive debate, passed a resolution that would divert $300.00 of the association's budget, that ordinarily would be spent on the promotion of National Library Week, to the defense fund of a group of young Puerto Ricans arrested in the capital of your state for occupying a neighborhood school building for several days to dramatize their demands for better facilities. The association's executive committee is deadlocked on the issue of whether such a donation is proper use of the association's funds and has passed the decision on to you. You know of no precedent. What is your decision?

[ ] Divert the money to the legal defense fund.

[ ] Keep the budget as it originally stood.

( ) This decision was easy to make.
( ) This decision was difficult to make.

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1934	Born December 23 in Roanoke, Virginia
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1956	B.A., Hampden-Sydney College, Hampden-Sydney, Virginia
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1959-61	Reference assistant, Atlanta (Georgia) Public Library
1961-63	Head cataloguer, Virginia Military Institute, Lexington, Virginia
1963	Documents Librarian, University of East Africa, Kampala, Uganda
1964-69	Librarian, Episcopal High School, Alexandria, Virginia
1969-71	Teaching Assistant, Graduate School of Library Service, Rutgers University, New Brunswick, New Jersey
1971-	Assistant Professor, Division of Librarianship, Emory University, Atlanta, Georgia
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