AN EXPERIMENTAL STUDY TO EXPLORE THE RELATIONSHIP BETWEEN RIGIDITY AND SOCIAL SPEECH FRIGHT AMONG COLLEGE STUDENTS

Thesis for the Degree of Ed. D.

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Gertrude E. Montgomery

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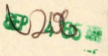

AN EXPERIMENTAL STUDY TO EXPLORE THE RELATIONSHIP BETWEEN RIGIDITY AND STAGEFRIGHT AMONG COLLEGE STUDENTS

by

Gertrude E. Montgomery

AN ABSTRACT

Submitted to the School of Graduate Studies of Michigan State College of Agriculture and Applied Sciences in partial fulfillment of the requirements for the degree of

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The Problem. This study was concerned with the comparison of two variables, social speech fright and rigidity among Freshman College students at Michigan State College. A new scale to measure social speech fright was constructed to parallel a standardized scale designed to measure rigidity. The hypothesis to be tested is that there is no relationship between rigidity and social speech fright.

Operational definitions for the two variables were:

Social Speech Fright: Inability to give an assigned or impromptu speech or oral report.

Rigidity: The inability to change one's set when the objective conditions demand it, or the inability to restructure a field in which there are alternative solutions to a problem in order to solve that problem more efficiently.

Methods, Techniques, Data. An experimental approach was used with a sample of 157 subjects selected from a population of Freshman college students in Communications Skills classes. The sample was divided into (1) an experimental group -- consisting of students exhibiting social speech fright, judged so by teachers, speech experts, and introspection. This group was referred to the Counseling Center for help. (2) A control group -- consisting of students equated by number and sex randomly chosen, who were judged by the same methods as not exhibiting social speech fright.

Two scales were administered to both groups -- the E scale, a standardized ten-item sorting task to measure rigidity; and S scale,

constructed by the investigator in the same manner, to measure social speech fright.

Reliability of these measures was determined by two judges rating all responses given by the subjects into a three-way classification: (1) comprehensive organization -- when all ten items were organized into a single whole, (2) isolated organization -- one in which items are broken into two or more substructures with little interrelationship among these separate divisions, (3) narrow organization in which one or more of the words objectively present is omitted from the definition by the respondent. These responses were assigned numerical values in order to quantify them for comparison.

Findings: Performance on the two scales (E and S) was submitted to statistical tests. A significant Chi Square value between the scales was obtained. The Phi coefficient based on this Chi square indicated a +.55 relationship. Analysis of variance indicated, in all instances except for the female experimental group, that the means of the groups differ significantly among themselves, that is, they show more variation than can be attributed to random sampling from populations with a common population mean. A 't' ratio between the experimental and control groups on the rigidity scale was significant at the 2% level and a 't' ratio between the experimental and control groups on the stagefright scale was significant at the 10% level.

Conclusions: On the basis of the evidence from the study, rigidity and stagefright are related and the null hypothesis is rejected. The 'E' scale could better differentiate between those who had stagefright and those who did not have stagefright than could the 'S' scale. The 'S'

scale could differentiate between mild and severe stagefright in the samples studied. The findings indicate that there would seem to be some evidence that both rigidity and stagefright stem from experiences where there are emotional concomitants and that the learned behavior will perseverate if these emotional concomitants are sufficiently potent or frequent in the early stages of either rigidity or stagefright. Since speech fright appears to be a result of learned responses, early recognition of a speech-fright rigidity pattern could permit reduction of the emotional components so that these reinforcing situations would not occur.

AN EXPERIMENTAL STUDY TO EXPLORE THE RELATIONSHIP BETWEEN RIGIDITY AND STAGEFRIGHT AMONG COLLEGE STUDENTS

A Dissertation

Presented to

the Faculty of the Graduate School

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by

Gertrude Eileene Montgomery

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This study could not have been accomplished without the assistance of a number of persons. Acknowledgment is made to the instructors of Written and Spoken English classes at Michigan State College, Dr. John L. Auston, Dr. Charles L. Pedrey and Mr. James Platt for their aid in diagnosing the students in the experimental group and lending assistance for administering the scales to the control groups. Miss Carrie Boyle and Dr. Stanford Glazer deserve a special mention for their extensive efforts in judging all of the responses on the scales.

Thanks are also expressed to my doctoral committee, Dr. Walter F. Johnson, Dr. James Karslake and Dr. C. E. Erickson. Deep gratitude is expressed to Dr. Milton Rokeach who engendered the plan of the thesis and whose kindliness and courtesy was continuously manifested. A very special mention of appreciation goes to my husband, Kingsley, who gave encouragement and help throughout the writing of the entire study.

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CHAPTER I

THE PROBLEM

Introduction to the Problem

The purpose of this study is to explain the phenomenon of stagefright as it occurs in a college setting. A comparison is drawn between the observed effects of stagefright in this environment and those effects noted from another phenomenon, that of rigidity.

This problem became interesting to the writer several years ago. With the organization of the Basic College at Michigan State College certain remedial, advisory and counseling personnel services were incorporated to further implement the goals of critical thinking and concepts to be taught in these beginning two years of a college degree program. Through these facilities, a growing recognition of stagefright situations initiated an awareness that here was a problem requiring closer examination.

Incoming students were screened by the speech clinicians who were housed with the Department of Written and Spoken English (now Communications Skills). During the early years of the program these clinicians sent students exhibiting observable problems of personal adjustment related to speech-giving activities to the writer at the College Counseling Center for further interviewing regarding resolution of their problems. As all remedial services grew in scope, a decision was made later to refer every student with a speech problem (i.e. students with nasality, 's' disorders,

the investigation of rigidity.[1] A replication of his experiment was carried out. To accomplish this a comparable instrument to study social speech fright was devised to further cross-validate the concept of rigidity.

The following assumptions underly the study:

1. That rigidity can be tested by the 'E' Scale already standardized by M. Rokeach.[2]
2. That a speech scale that measures speech fright can be constructed.

Definition of Terms Used

Neither concept mentioned for investigation, stagefright nor rigidity, can be defined in a way that meets agreement with all authorities. At the same time some reasonably clear definition and understanding of the terms is necessary before formal study can be profitable.

1. Stagefright. An extended discussion of the varied definitions regarding stagefright is treated in Chapter II, Review of the Literature, because these definitions correlate in direct proportion to the changing beliefs of speech personnel and to the consequent treatment performed by these persons regarding the problem. Because the problem under study takes place in Communications Skills classes at Michigan State College the definition will describe the phenomenon in this environment. Some further description of characteristics of stagefright may serve to present the variable in a proper light. The first specific step chronologically is

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[1] Rokeach, M., "Prejudice, Concreteness of Thinking and Reification of Thinking," Journal of Abnormal and Social Psychology, Vol. 46, No. 1, January 1951, pp. 83-91.

[2] Ibid., pp. 83-91.

et cetera) for this same service. The number of students referred after this decision seemed to increase geometrically.

During the Fall quarter of 1952, 276 students with speech disorders were referred to the Counseling Center. The 276 persons were interviewed and directed into one of the three existing campus services for help with their problem: (1) re-referral to the speech clinic for speech therapy only, (2) retention for continued counseling, or (3) referral to psychiatric or medical services. Most of the students preferred readily one of these services; but 82 students who were diagnosed as exhibiting symptoms of speech fright could not feel satisfied with any existing plan of treatment or assistance with their problem.

Since this number of students rejected current facilities, yet desired some kind of help; they were retained for further counseling under an exploratory plan to seek out common bases for working with them. Persons previously referred with speech fright symptoms did not respond to usual counseling procedures and were frequently in process at the end of each quarter when a new group arrived for classification.

Statement of the Problem

This investigation is concerned with the relationship of cause and effect in cases of speech fright. In previous studies, the symptoms of speech fright have never been related to rigidity. This study is concerned with such a relationship. Stated as the null hypothesis, the present study becomes a proposal to test the statement: No relationship exists between the variables of social speech fright and rigidity.

This relationship was studied through a method used by Rokeach in

realization that stagefright is a name applied to the situation which occurs when a student is unable to give an assigned oral report. Instructors report that the presence of stagefright is an interruption of a speech function and interferes with attainment of the objectives of the class. Introspections by students verify this external observation.

A listing of descriptive activities appearing in stagefright have been named by students in rank order of importance:[1]

1. Dryness of throat or mouth.
2. Forgetting.
3. Tension in the abdominal region.
4. Inability to produce voice.
5. Stuttering or stammering.
6. Tremors of knees and hands.
7. Weak voice.
8. Excessive perspiration.
9. Accelerated heart rate.
10. Speech rate too fast or too slow.
11. Stomach upset.
12. Difficulty in breathing.
13. Inability to look at audience.
14. Feeling that the audience is disapproving.
15. Inability to finish speaking.
16. Excessive hesitation.
17. Dread before speaking.

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[1]Greenleaf, Floyd, "Exploratory Study of Speech Fright," Quarterly Journal of Speech, October 1952, p. 328.

18. Jittery.

Most of these symptoms appear in each reported case of stagefright. Case histories reported in the literature contain evidence that these same symptoms have been produced previously. That they are perseverated in this new additional speech situation is illustrated by the referral slip. The question might be asked whether this perseveration might not be similar to the failure to change set often alluded to as rigidity. The symptoms appear fixed enough so that these behaviors are typically called forth in every situation met by the individual. This is construed as speech failure or stagefright in the typical class situation; however, should these symptoms be considered of high value, they would as surely appear, but the resulting diagnosis would be success, not failure. The constancy of this phenomenon cued to individual characteristics assuredly dominates any definition. The problem also signifies avoidance or negative reaction and occurs in a social situation when the need for communication is recognized by the speaker. The term social speech fright is more descriptive of this phenomenon and will be used henceforth to describe it in this paper. This terminology has been accepted and used by Floyd Greenleaf since 1952.[1] Hollingsworth used this same terminology years earlier[2] but studies following his reverted to the older term. As a result of this difference, disagreement, and lack of clarity, the following definition was accepted for this study by three speech clinicians at Michigan State College, Mr. James Platt, Dr. John L. Auston and Dr. Charles Pedrey. Social Speech

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[1] Ibid., p. 326.

[2] Hollingsworth, H. L., The Psychology of the Audience (New York: American Book Company, 1935), p. 20.

Fright -- inability to give an assigned or impromptu speech or oral report.

2. Rigidity. The presence of rigidity had been established with a similar population of college students in an earlier experiment.[1] This definition of rigidity in behavior and thought process was utilized for the present study. Rigidity is defined as the inability to change one's set when the objective conditions demand it.

Importance of the Study

Social speech fright is a well known phenomenon and more common among both children and adults than most people realize. One study reported in 1952, indicated that out of 512 high school students of speech in a large city, only 29 percent were judged to be free of some form of emotional difficulty in speaking situations.[2] In that same year, the University of Minnesota reported 56 percent of one group of 210 students and 61 percent of another group of 277 students were listed as having some form of nervousness in speaking.[3]

At the University of Iowa, 789 students in Communications Skills were screened to find 384 expressing a stagefright problem.[4]

The figures indicate the phenomenon to be very widespread. However, the total number of cases reported from different sources may be subject to error because of the varied considerations in diagnosis. For this reason, exact comparisons by number cannot be made. A reference as to how

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[1] Rokeach, op. cit., pp. 83-91.

[2] Greenleaf, op. cit., p. 327.

[3] Ibid., p. 326.

[4] Ibid., p. 327.

these differences occur can be ascertained in Chapter II in perusal of the literature referring to stagefright.

The lesser number of cases occurring at Michigan State College cannot be used as an illustration that the problem is less acute on its campus. These totals were determined by counting only those students who were unable to stand before their class and deliver creditable routine oral assignments. Only those students were included in the present study. Others not infrequently verbalized a condition of nervousness via introspection but yet gave fairly creditable performances and were neither referred nor tabulated.

Relatively little has been done to study this subject scientifically. The experience of counseling with these students, and the resulting reflection upon the problem by the writer, suggested specific reasons for study of the problem. Some of the considerations which were taken into account follow:

1. Perhaps the prime consideration is that stagefright is a social problem causing much unhappiness and feelings of failure for the person. It interferes with spoken communication, one of the most prevalent means of discourse and contact with fellowmen. A disorder of speech affects not only the individual but as with any other handicap, affects him in every facet of his life.

2. Some objectives of the communication skills program are based on the following common knowledge among speech instructors. The gastro-intestinal tract and the respiratory system are bound together embryologically and functionally and as such are the "sounding board" of the emotions. These two tracts are richly enervated by the autonomic nervous

system and play such an important part in interrelated functions of the alimentary and respiratory tract that when propriety of a person's conscience is offended these body areas suffer correspondingly. Speech is one of these functions; thus it is possible to have speechlessness, stuttering or faulty sound formations. Speech education has as a basic consideration the emotional adjustment of the speaker in order that the individual may have a free set of organs to profit from speech exercises and drill. For students having stagefright, these goals are unattainable.

3. The students, as a group, exhibited little or no accompanying characteristics of becoming poor students in other aspects of the courses and the teaching staff felt some responsibility in correcting the problem.

4. Interviews with the students exposed the varieties of problems encountered in adjusting to the situation.

Mild to severe degrees of stagefright were described as well as witnessed by instructors before referral to the writer. Some students reported anxiety from time of assignment of the speech till some weeks later when the speaking situation occurred. Others became apprehensive and tense while approaching the speaker's platform. The "quality" or degree of fear present in the speaking situation was not directly related to the existence of any one other variable. Some descriptions illustrating this variability will lend clarity.

Some persons could not recall more than vague reactions to their earliest stagefrighted experience; others related extensive verbal reports of a vivid memory. A few of these examples were: A man 32 years of age did not experience speech fright to any degree until he entered college. His former experiences included speaking before fraternity groups, large

bodies of men in the army and radio broadcasting. He reported speech fright only in speech class, stating that on the same day as an assigned speech he could do a radio broadcast without discomfort. One young lady was an expert cello player and had no "jitters" before performances; but because her mother and a piano teacher forced her to play in a recital, she was unable to speak in groups of more than two or three. She attributed her ease with the cello to the fact she learned this on her own and was successful before her family was aware of it.

Other students relate a more generalized response. A young freshman - an attractive, blond girl - could not carry on social conversations with boys or girls her own age, superiors in classes, dormitories, et cetera. Many students reported that mixed groups of both sexes caused them to freeze in the classroom. A further extreme was shown in a number of clients in the referred groups prior to this study who rarely conversed with any peers and some to only a very limited extent with adults. A few noticed that the presence of the teacher caused them worry.

Varying degrees of effort in overcoming the problem were noted among the same students. Some verbalized a great desire to rid themselves of this problem; yet motivation to do so did not bring tangible results in every case.

5. Attempt to isolate causative factors for the group gave only diverging reasons for the phenomenon. In diagnosing any individual case, however, certain causes and the degree of severity seemed inter-related meaningfully in explaining the continuing appearance of speech fright.

6. The problem interferes with functioning of the person toward the attainment of his desired goals.

7. In practically every case, one or more embarrassing audience situations occurred, sometimes at home but most frequently at school. There seems to be considerable indication that something in the school environment contributed markedly to the development of the early fears and tensions. Authoritative criticism and disapproval by parent figures and reactions to them determine partly the degree of social speech fright and the types of situation in which it is experienced. In other words, the environment plays some part in creation and continuance of the problem.

8. So little is known about the problem of stagefright that treatment consists of rule of thumb procedures. The varied descriptions surrounding the phenomenon further illustrate the improbability of transferring treatments from one successful instance to another and expecting similar results. Previous experimentation indicated in the literature suggested the impracticality of continuing to study the problem in any isolated context. The next desirable alternative was to study stagefright in conjunction with some other variable.

9. Early discovery of these potential "social speech frights" would aid in preventive measures both therapeutic and administrative. The incidence of this problem among college students is a concern to many university personnel. The selectivity of our college populations suggests that these are the students in whom society has great investment. These persons in the referred group are among those students being trained with more techniques and knowledge for communication of the goals of civilization and democracy to others not as fortunate. This endowment should allow them to make more promising contributions to society; not to be crippled with the vehicle for transition of their knowledge at the outset

of their career.

Limitations of the Study

The limitations of this study can be categorized into two parts: (a) those limitations surrounding the concepts of the two variables, and (b) limitations related to the methodology and instruments used.

A first limitation is partially due to the paucity and quality of information regarding stagefright or social speech fright. Little experimental study has been undertaken with this variable and the existing material seems gained only from observation with much of this contributed by non-experts in the speech field.

A contrasting limitation is illustrated by the wealth of experimentation dealing with rigidity concepts. The limitations exist in the lack of agreement either among experts or experimental results; as a consequence the accepted body of knowledge holds contradictions. The results of this present study may thus be accepted by some proponents and rejected by those of a different orientation to the concept of rigidity.

A third limitation exists in the defining of both variables.

Limitations of (b) lie in selection of the sample, construction of a new scale designed to measure social speech fright, and in conditions of reliability; the judging of the scale responses.

Organization of the Study

Chapter II attempts first: to excerpt the entire range of reported studies on social speech fright to better illustrate the present level of research in this field; and secondly, to report those contrasting variations of rigidity concepts so as to understand the function of the

definition used in this research. Chapter III will provide explanation of the procedures and methods used. Analysis of the data will appear in Chapter IV. In Chapter V the findings, conclusions and some implications for further research are presented.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter is divided into two complete sections. The phenomena of social speech fright and rigidity have not been discussed in relationship to each other in any literature so this review treats them separately. Controversial points of view are held by authorities in the field of speech and authorities in the field of psychology about the respective subjects of social speech fright and rigidity. A review of each of these topics in isolation will make the subjects more readily understood.

Review of Social Speech Fright

The subject of social speech fright is considered first. A single definition of stagefright satisfying to all speech teachers currently in the field cannot be found. Stagefright (the older term) or social speech fright is an aberration or sub-division of a much larger discipline, speech. Preliminary statements regarding the concepts in the entire field are necessary to understand meaningfully the varied attempts in delimiting stagefright.

The term speech conveys differing meanings and was selected more than a century ago as a generic term to include public speaking, discussion, debating, voice science, correction and pathology, oral interpretation drama, the theatre, and related fields.[1] The use of the word in the name

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[1]Winans, James A., Speech Making, New York: Appleton-Century

of the national organization, The Speech Association of America, illustrates this broad meaning. No other word covers all this territory so well as speech.

But what is speech? Any explanation of the term must emphasize the concept of communication. Speech is basically a form of communication between speaker and listener. Ordinarily the medium used is that of the spoken word; but since the act of speaking words is usually accompanied by facial expression, bodily posture, and gesture, speech properly and naturally includes these visible elements as well as the audible features. Of course, communication can be carried by words alone, as over the radio, or in the dark; communication can also be effected by gestures and signs, as in pantomime.

Communication is, therefore, the cornerstone of speech activity. This is the concept that brings a semblance of unity to the many subdivisions of the field. It is also the concept that links the individual with the outside world. As a report of the Contest Committee of the North Central Association states:

> Communication makes possible group living; and speech, as the chief means of communication, is the universal instrument of social cooperation and coordination. From the most ordinary conversation to the most complex political discussion, speech is used more often and more widely than any other means of communication. The world of today is for more persons a speaking and listening world. It is a world, furthermore, that the great majority of youth must learn to live in without the privilege of higher education. Youth, then, must have mouths that speak and ears that hear. "Without speech, I can exist," said the sage, "but I cannot live."[1]

It would follow that an interruption of or deviation in this communication process would be unpleasant and distasteful to the recipient. However,

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Company, 1938, p. 1.

[1]Report delivered at Speech Convention, 1950.

such interruptions do occur. Statistics are obtained annually on those persons manifesting speech disorders. The literature is filled with studies of diagnosis and treatment of these problems in the field of specialization known as speech correction.

One of these phenomena has been known as stagefright and has been studied from many angles. The literature exposes a wide range of definitions, methods of study and attempts at treatment.

Stemming from the inclusive and loosely defined field of speech it is not unusual to find lack of standard or simple frame of reference accepted. Consequently, the task of the writer was to comb all literature regarding stagefright. Review of national conventions, national and sectional conferences and all known published material with all of the differing concepts and experiments therefrom are included in this report. Unpublished studies and dissertations have been included when any knowledge of such reached the writer. Some few studies that exactly duplicated others in procedure and conclusions were discarded in favor of the more recent ones. An exhaustive search and presentation was regarded as necessary in order to gain the proper perspective to conduct an experimental study with uncontrolled variables.

Passages from a very recently published textbook have been chosen to illustrate the historical counterpart of development in the study of this problem.[1] Primarily observations with trial and error methods for cure predominated. Cure was the keynote for investigation in early years. It should be noted that this text was published in 1952, suggesting that a

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[1]Reid, Loren D., Teaching Speech in the High School, Columbia, Missouri: Artcraft Press, 1952.

segment of the practicing speech field still adopts this view.

Reid states that stagefright is a universal human experience. The anxiety that an individual suffers before a performance, and perhaps while he is going through it, has a counterpart in most fields of endeavor. Football players are tense before an important game. Professional musicians are nervous before a concert, even when playing a program they have presented many times previously. Surgeons became apprehensive before a critical operation. People who want to borrow money, or apply for a job, or sell a short story, have described themselves as walking around the block for hours before they finally generated enough courage to enter the building. The common element seems to be either the lack of experience in the particular situation or the presence of an audience or its equivalent; sometimes both elements appear.

> Stagefright is common among speakers. A survey of a large group of university professors, most of whom had occasional public lecturing experience in addition to their regular teaching, revealed only two persons who did not report stagefright. Bryan, describing his fear during the cross of Gold speech says in historical recordings of the occasion that only the knowledge that he had a good conclusion kept him going. Governor Leslie R. Shaw, a notable stump speaker at the turn of the century, later a member of Theodore Roosevelt's cabinet said: "If a man doesn't get nervous, he is going to make a poor speech." Henry Ward Beecher was one of the eloquent pulpit orators of the last century. For forty years he drew nearly 3,000 people each Sunday morning and each Sunday evening to hear him preach at Plymouth Church in New York City. Yet, on one occasion, he testified, as he entered the church and walked toward the pulpit, he prayed that the Lord would strike him down so that he would not have to preach. Exceptions appear to this rule, especially among those who are constantly called upon to speak in public; but undoubtedly, even a hardened lecturer who can face a run-of-the-mill, popular audience week after week without a tremor, would find his old stagefright reappearing if he had to make a critical speech before a different audience.[1]

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[1] Ibid., p. 96.

Reid[1] also suggests a method for overcoming stagefright in view of its universality: in any given class of speech follow the first round of speech giving with an inquiry as to how many suffered from stagefright. He surmises that nearly all will report in the affirmative, even those who seem most self-confident. Following this, he suggests that each student be asked to write on a slip of paper the names of his classmates he thought were scared; this list would be surprisingly short. Since students gain comfort from learning that others are afflicted, he feels that one is justified in be-laboring the point that stagefright is the general rule. He feels relief of the problem will come by acceptance of the fact that others also suffer.

Further statements from the same author, but found in nearly every standard speech text say that a certain amount of stagefright is probably essential to the best speaking performance. It may not be necessary for a "good" popular lecture, since for many experienced lecturers it is also fairly routine. It may not be necessary for a "good" classroom lecture, since for the teacher, this type of performance is routine. But once in a while a teacher or a popular lecturer gets worked up; he has a message of uncommon import; and if on these special occasions the speaker delivers not merely a "good" but a "brilliant" speech, his speaking was probably accompanied by a little tension.

Some experimental evidence is being reported that does not entirely support this point of view, but it nevertheless continues to be a prevalent belief among teachers of speech. The problem therefore becomes not to cure stagefright but to control it.

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[1] Ibid., p. 97.

The universality of the phenomenon indicates by definition that it is potentially possible for everyone to experience stagefright. A corollary illustration to leaving the problem at this level is explained by that of the common cold - knowledge that others have it gives little relief of the cold in an individual instance, and were stagefright known to follow a given course of symptoms and then disappear after the "fortnight" quarantine of the cold virus, one still would suffer during the interim. Any relief by the "commonality" theory is in feelings or attitudes surrounding the phenomenon and perhaps in engendering it as is explained later in this review by research studies. This observation is not ti discourage speech teachers from this technique but to suggest that it is dismissing the problem too easily to leave solution of the situation at this level.

The physiological concomitants of stagefright when they serve to enhance the performance will no longer be considered in the context of this paper. Turning to behavior theory an explanation is given for dropping it in comparison with the concept of motivations. Motivation also is interwoven with physiological concomitants and serves to enhance or facilitate a given activity. However the greater the amount of motivation exerted the more we observe it no longer facilitating but dissipating itself with meaningless activity or hindering the original task performance. As motivation is most frequently studied for its interfering factors stagefright will likewise be discussed in the delimited frame of reference as a handicapping step in the area of communication.

Continuing with quotations from the "sample" textbook[1] selected as representative of those in the field it is seen that the author, Reid,

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[1] Ibid., pp. 98-99.

also differentiates in degrees of stagefright. He defines degrees of this phenomenon in terms of (1) audience tension, (2) audience fear, and (3) audience panic.

Audience Tension

A student may therefore ask himself the question, "What form of stagefright do I have?" (Some students may feel they have all three!) Although there is physiological similarity in bodily chemistry as one goes from excitement to fear and back to excitement again, much practical difference exists between audience tension and audience panic. The difference in speaking experience may be a hundred or a thousand speeches. Audience tension may have these symptoms: nervousness, excitement and increase in the pulse rate, a feeling of constriction in the throat or chest or stomach, trembling of the hands or knees. After the speaker gets under way, he feels much less bothered by these symptoms; in fact, he may feel quite in command of the situation. It may then be said of him as Gorgias said of Socrates: "Socrates, you have an unusual attack of fluency."

Audience Fear

The second form of stagefright, properly described as audience fear, is something of a different sort. Here the individual undergoes one or more symptoms that actually make his speaking deteriorate. His voice may become squeaky, his words may sound muffled, his flow of ideas may falter. The list of sensations is a familiar one. Often there is a pounding of the heart, a thumping as ominous as if the speaker had run several blocks to make his speaking engagement, taking the platform before he had a chance to recover his wind, knees wobble, hands become shaky and moist, or hot and dry. Inhalation and exhalation are accomplished with difficulty. The tongue becomes parched and the mouth dry, so that the speaker needs to drink quantities of water, without ever quite being able to get his speech mechanism properly cooled and lubricated. Contrast, for example, the behavior of the beginning debater who consumes half a gallon of water in an hour's debate with that of experienced outdoor speaker William Jennings Bryan -- whose principal interest once in a pitcher of ice water was to pour the contents on his shining bald head so that the sun would not be so oppressive. The feeling in the stomach is miserable. Irvin S. Cobb must have had what we call audience fear in mind when he described how a man feels when he has a speech turning around in his system and is wondering whether it is going to come sloshing out, rich in proteins and butterfats, or just clobber inside of him and produce nothing but a

thin whey."

> The speaker who suffers from audience fear is a man abandoned by the gods. The expectations of the ordeal are terrible enough, but the actual performance is worse. He wants to stop, but he has to go on, and reveal his suffering in the presence of witnesses. He may stumble over his first sentence; he may mispronounce words; he may lose control of his voice; he may make a foolish statement like "Mr. Chairman" when he means "Madam Chairman." A more fortunate wretch may eventually get control of himself and finish without difficulty. Or he may have to fight the demons throughout his entire address. Either way he is likely to want to paraphrase the sentiment expressed by Huck Finn at the completion of his first book: "If I'd knowed what a trouble it was to make a speech I wouldn't a tackled it, and ain't a going to no more."

Audience Panic

> Audience panic is an entirely different order of experience. Once in a while there shows up in a public speaking class - and the percentage seems to be about the same among classes of college students and classes of adults - a person who is unable to face the audience. This person may not even be able to read to an audience from a manuscript, or stand up and tell his name and address, or say a few words about a profession which he has followed for years. Even if he is cajoled to the front of the room and catapulted by bogus flattery into beginning a speech, he may break down before a few sentences are finished and be compelled to retire."

This investigator could find no research to validate this classification. However, perusal of this and other texts illustrate the same breakdown of divisions signifying degree of the problem. A discussion of the following Approaches that do not help are contradicted in philosophy by the second quotation Suggestions for managing stagefright. Inclusion of these passages are repeated in so many texts (along with the inferred philosophy) that restating illustrates vividly the need to bring more sophistication and delimitation to this problem before much long range modification of speech fright can result.

Approaches That Do Not Help[1]

Certain approaches to the problem of stage fright, used principally by laymen, are of little real help and may actually be harmful.

"Pick out a friendly person in the audience and talk to him." This advice frequently appears in print, but is not good doctrine. Every member of an audience likes to feel that the speech is addressed to him; this attitude is reinforced if he can catch the speaker's eye now and then. To speak to a single person is fine for that person, but not helpful to others present.

The advice is especially ridiculous when applied to a group conversation or conference. An individual who addressed his remarks only to one person would lose communication with the rest of those present.

"Look just over the heads of your listeners." The idea behind this fraudulent counsel is that if the speaker can avoid looking directly at any one person, he will be less embarrassed. Those who offer this advice apparently feel that listeners will think the speaker is looking directly at them; any teacher can demonstrate in half a minute that this supposition is fallacious.

The best place for the speaker to look is into the eyes of his listeners. Instead of being embarrassed by them, he should receive a good deal of friendly encouragement; a thoughtful countenance, a generous smile, a nod of agreement, are all heartening to the speaker.

"Imagine that all the members of your audience are sitting in their underclothes." This advice burst into print only recently, and is intended to make the speaker feel superior to the listener. Obviously the mental attitude of a good speaker should be not that he is superior to the listener, but that he is genuinely interested in him. The same brand of advice in an earlier day was worded like this: "Imagine that every member of your audience owes you five dollars, and that you are determined to collect." A speaker will need all the imagination he can muster to get on with his speech without wasting any trying to collect fictitious five dollar bills from the hearers.

"Say repeatedly to yourself, 'I'm a better man than they are, I'm a better man than they are.'" Again, this

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[1]Reid, op. cit., pp. 99-100.

puts the speaker into the wrong mental attitude. What he should be saying repeatedly to himself, as he begins a speech, are the opening words of his talk: once he gets them safely launched his problem of stagefright begins to recede.

You may find it entertaining to relate some of these theories in order to put your own ideas in better perspective.

Ways of Managing Stage Fright

The following advice is helpful:

Humor. Beginning speakers usually take themselves too solemnly. Lincoln, Ingersoll, Wilson, Roosevelt, Churchill, and most other great speakers and teachers had an unfailing sense of humor. Tension and anxiety cannot exist in the presence of laughter. A speaker need not tell a funny story; a turn of phrase, an illumination of a situation, a frank poke at himself are all sufficient to break the ice.

Message. Speakers must talk on subjects they are personally concerned about. They must be alive, enthusiastic, mentally on fire. When the speaker is over his depth, when he is paraphrasing an article instead of probing his own study and reflection, when his imagination breaks down before the task of intriguing his hearers in the facts to be presented, when his intellectual resources are shallow, then the setting for stagefright is 100% complete. Facts are not dull: facts are dynamic, exciting, persuasive. The dullness lies in the inferior selection, interpretation, application or presentation.

Organization. The human listener has limitations. The speaker should boil his ideas down to four or five main points; two or three are even better. Let these main points represent the quintessence of the case. Disregard the rest; save them for another day -- or perhaps use them if the audience asks questions. Sam Jones, the lyceum wizard, used to say, "My speeches are like a string of boxcars. First I roll out the locomotive; then I attach as many cars as the occasion requires; and when the end of my time approaches, I hook on the caboose."

Conviction. Timidity has as little place in speaking as it has anywhere else. A speaker must have the courage of his convictions. Even if his purpose is merely to explain, and not at all to induce belief, he needs the self-assurance of knowing what he is talking about. Students should avoid discussing topics that they know little about or that they do not fully believe in. They should have the powerful conviction ascribed to the Southern orator: "I will debate secession, suh, with man or devil, suh, at any time or in any place; and what

I lack, suh, the subject will more than make up."

Experience. The good speakers are experienced speakers. A speaker may have to make a certain number of speeches against his inclination in order to prepare himself for the speeches that are important. Edward Everett advised the young man who asked the secret of oratory: "Whenever anyone is foolish enough to ask you to speak, you should be foolish enough to accept." A sure way to help students control stagefright is to give them repeated experience in speaking.

The Paradox of Stagefright

Stagefright is a paradox. It has been said that the two things of which Americans are most afraid are traffic cops and audiences. The fear of traffic cops is understandable: the policeman is clothed with the authority to stop you when you are busiest, and compel you to converse with the judge. The fear of audience is more difficult to analyze, since Americans have the reputation of being the talkingest people in the world. The tradition of town halls, legislative assemblies, mass meetings, stump speaking, and discussion forums is as deeply rooted as any aspect of American life.

Fear of audiences also runs counter to the deep need of human beings for listeners. Each one has a small group of individuals to whom he can turn with his problems and his hopes. Difficult problems become more clear when they are talked out. Philosopher John Dewey is said to have exclaimed, after a two-hour seminar that was confusing to the students, "Well, now it is clear to me." Physicist J. Robert Oppenheimer, describing the massive theoretical problems confronting those studying the atom, declared, "What we don't understand, we explain to each other." At times, a need exists for another kind of audience--the larger, more diffuse audience of the public speaker--especially when the time comes to go on crusade for an idea or a program of acting. If stagefright prevents anyone from reaching the different kinds of audiences that he needs, he should indeed give the problem careful study.

The Importance of Experience

The foregoing comments may be helpful in counseling students. As years go on, you will become better able to advise beginning speakers. You will yourself need to gain two sorts of experience; first, that which comes from repeated conversation with beginning and experienced speakers, to learn their ways of managing their nervousness; and second, and more important, the experience that comes from the speaking

you yourself do. One who frequently goes through the actual business of speaking to an audience can best appreciate the beginner's problem.

As a counteroffensive against the beginner's fear, you should remind him that fundamentally public speaking is an exciting, stimulating human activity. The approval of an audience is a great intoxicant. To have an audience completely absorbed in what you are saying is a thrilling experience, for which any amount of preliminary apprehension is a small price to pay.

The Encyclopedia Brittanica verifies the same overall theory as that of this text; universality and generality without attempting to define or measure the phenomenon beyond simple observable behavior or introspection.

The writer does not dismiss the problem in such Pollyanna terms as quoted in the last section of the Reid text. Reid over-generalizes a phenomenon by starting with definition of a seemingly unsurmountable problem but later dismisses it from consciousness. If his latter statements are bent toward improved methods of prevention or improved speech education stating it as he does in this context does not differentiate from his earlier treatment of the subject.

The foregoing resume' is not to be construed as representing the thoughts of everyone in the speech field but does perhaps illustrate the philosophy and practice of recognizing stagefright and the all too frequent level of attention given it by those who are regarded as authorities in the field.

Reid's first classification, audience tension, will no longer be considered for inclusion in the definition used in this study. The term stagefright will continue to be used in this review since it has been stated this way in the literature. However, Greenleaf[1] renames the

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[1] Greenleaf, Floyd, "Exploratory Study of Speech Fright," Quarterly Journal of Speech, October 1952, p. 327.

phenomenon social speech fright since it occurs in a social situation and seems to suggest fear or fright. The stage is no longer the most frequent arena of formal speaking situations and deserves to be dropped from the definition.

"Stagefright seems always with us like the poor," quoting Dr. Charles Van Riper.[1] And similar to the problem of disposing of poverty or making many inroads or dimunition of such needs; changing the field of thought regarding stagefright is difficult. However ignoring its presence is not possible for speech teachers so we note an acceptance of a phenomena with little attempt to decrease its prevalence.

The basic importance of developing measuring techniques may be further clarified when it is considered that experimentation with stagefright therapies cannot proceed beyond a rule of thumb phase unless and until it becomes possible to measure stagefright before and after the controlled application of various therapies.

Theoretically, the literature yields three possible types of measuring techniques or indices, appropriate to the phenomena of stagefright: (1) introspective reports, (2) reports by observers, and (3) physiological changes.

Further investigation shows that the discoveries regarding stagefright as a phenomenon as well as the treatment or modifications of it are not very systematized or tied together, nor do recent publications very aptly encompass results of former studies.

Experimental research on stagefright phenomena will be seriously

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[1]Van Riper, Charles, Speech Correction, New York: Prentice-Hall, Inc., 1942.

limited unless and until techniques of satisfactory validity and reliability can be devised for the measurement of those phenomena.

The difficulties of measurement arose when Holtzman[1] tried to correlate scores on the Minnesota Multiphasic Personality Inventory (M.M.P.I.) and three inventories, judges rating scale, two subjective inventories: to measure stagefright. Time consuming efforts early in the study showed the three measures of stagefright were found to agree in three different ways with the M.M.P.I. according to which sub-scale was used and data was further confused by sex differences. He concluded that any final statement in terms of a general concept of stagefright is not warranted by the scope or data of his study. On the contrary, it can only be noted again that stagefright defies any but operational definition and that its relations to personality structure depend upon the nature of that definition.[2]

More specifically he noted that all of the stagefrighted students whether mild, moderate or severe cases had mean averages above the general population mean.

The PRCS (a scale for rating stagefright introspectively) denoted significant differences among the men and highly significant differences among the women. The Utzinger scale determining degree of stagefright via judges showed more significant differences among men but not at all among women. He does state rather conclusively that non-stagefright behavior is symptomatic of not less but differing kinds of personality

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[1] Holtzman, Paul Douglas, "An Experimental Study of Some Relationships Among Several Indices of Stagefright and Personality," Unpublished Ph.D. Dissertation, August 1950, University of Southern California.

[2] Ibid.

difficulties.

Holtzman's[1] design was to measure the personality structure in the severely stage frightened individual contrasted with that of the less stage frightened. A teleological argument could have developed in the case of positive findings. However, something more descriptive of the phenomenon under scope of this present study might have emerged.

Most references in the literature tend to do what our earlier quoted author, Loren Reid,[2] still does, use introspection both as the means of discovery and as judgment of alleviation after several placebos have been employed.

One of the more exhaustive studies has been the paper-and-pencil questionnaire administration by Gilkinson.[3] This consisted of a systematic introspective report in a form that can be expressed in quantitative terms. The report entitled, "Personal Report of Confidence of Speakers" (PRCS) is comprised of 104 items expressing feeling of confidence or fear. It was administered to 420 men and women speech students at the University of Minnesota. He reported a "satisfactory degree" of statistical reliability on the basis of internal consistency of PRCS items. He did not, however, validate the PRCS against any direct and independent criterion.

He did determine that fearful speakers tend toward generalized low self-evaluation, and toward anxieties about matters involving social relationships. He concluded that a generalized sense of inferiority frequently operates as a primary cause of the emotional disturbance of a speaker in facing an audience.

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[1] Ibid.

[2] Reid, op. cit., p. 100.

[3] Gilkinson, Howard, "A Questionnaire Study of the Causes of Social Fears Among College Speech Students," Speech Monographs, 1943.

A descriptive personality picture of the stagefrighted person appears in Gilkinson's[1] previous discoveries. Generalities abound in the words insecure, self-devaluating and feeling inadequate in varying situations.

In this study, Gilkinson[2] quotes Eisenson and presents the possibilities that stagefright may be: (1) direct fear reaction, (2) emotional conflict, (3) a learned reaction, and (4) inadequacy of response. The results of the study substantiate only the first.

Another aspect of the introspective report was that of Henrikson.[3] Observing that students suffering from stagefright said that their speaking time was always so very long he wished to see if judgment of speaking time is influenced by the degree of stagefright.

In a series of experiments, 110 students made several guesses:

Part A. One day students were asked to guess, (in their opinion) and mark in degrees, how much fear of speaking will influence judgment in amount of speaking time.

Part B. One guess was to determine an amount of time they sat doing nothing, second guess was to guess how long the speaking time was after one had given an impromptu speech on a short subject presented him at the time of speaking.

Part C. Third step was to guess his own degree of stagefright on a scale ranging from point one measuring no stagefright to point ten measuring a very great degree.

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[1] Ibid.

[2] Ibid.

[3] Henrikson, Ernest H., "A Study of Stagefright and the Judgment of Speaking Time," Journal of Applied Psychology, October 1938, Vol. 32, No. 5.

During Part B, judges actually clocked the times.

Under the conditions described and within the limits indicated most students (95%) believe that the intensity of a person's stagefright and the length of time elapsing during a speech has a positive relationship.

Experimental results indicate that persons of all degrees of stagefright may make errors in judging a period of time, whether they make the judgment while they are speaking or while they are sitting doing nothing. There is no significant tendency for degree of stagefright to correlate with an estimation of speaking time, as the students in this study thought.

These results tend to throw some doubt upon the introspective report being valid in matters of degree of stagefright. A subceptive matter may be operating. When a subject is unable to report a visual discrimination verbally he is still able to make a stimulus discrimination at some level below that required for a conscious response or recognition. This is called subception. Factors of personality which act as organizers of perception and of which the individual may be completely unaware can continue to be experimentally explored as is attempted in this present study.

The second type of research attempt has been summarized by Dickens, Gibson, and Prall[1] where reports of 61 expert judges rated 40 male speakers at University of Southern California on observable degrees of stagefright. Sound motion pictures and Gilkinson's PRCS scale were additional techniques. Correlations of +.59 and +.104 between the PRCS and judge rating were reported. This seems reasonable when the

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[1]Dickens, Milton; Gibson, Francis; and Prall, Caleb, "An Experimental Study of the Overt Manifestiations of Stage Fright," Speech Monographs, March 1950.

PRCS purports to measure how the speakers felt, while judge rating purports to measure how they looked and sounded. The experimenters also reported that a split-half comparison of the 61 expert judges tended to be remarkably stable and highly reliable with as few as five judges.

The third approach, that of physiological measures, has also been given attention in the literature. William Brady, M.D.,[1] who writes a syndicated News Column, says that examination jitters and stagefright are just two names for the same ailment anxiety, worry, fear.

In a pamphlet that he circulates for cure of stagefright he starts with advice, "First of all keep cool and don't worry about the forthcoming examination or performance." He tells concerned persons to begin approximately three weeks beforehand taking a grain of quinine and one milligram of thiamine before or with each meal three times a day. Furthermore, he says that if only two grain tablets are available, use these and take only one-half as often.

This treatment has brought calm to many sufferers in his experience and after taking faithfully, he invites the subjects to write him of how easy it was to cure themselves.

Combining the physiological with other approaches, Dickens and Parker[2] did an experiment. Fifty male and 50 female subjects gave regularly assigned speeches. Each was rated by his classmates for observable degrees of stagefright. Immediately following the speech the

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[1]Brady, William, M.D., "Examination Jitters and Stagefright," Pamphlet distributed by author on request.

[2]Dickens, Milton and Parker, William R., "An Experimental Study of Certain Physiological, Introspective and Rating-Scale Techniques for the Measurement of Stagefright," Speech Monographs, November 1951.

speaker went in to an outer-room (clocked at 39 seconds) where his pulse, blood pressure and pulse readings and PRCS were taken preceeding a speech.

Means and t-ratios were ascertained for all the possible comparisons with the following conclusions:

1. The normal pulse and blood pressure rates of over 90% of the subjects were measurably affected by the speaking situation.
2. The direction of fluctuations was predominantly upward although a significant minority of instances showed a decrease.
3. Measures of blood pressure fluctuation before and after were not statistically significant.
4. In general, the Judge Rating and physiological scores provided higher correlation than the PRCS.
5. Data showed many sex differences and suggested that experience of stagefright may be different for men and women.

The theory of universality in stagefright is in error and can be discarded as not specific enough to either study the problem adequately nor by the same philosophy denote any dimunition of it. Adhering to the assumption that stagefright is unpleasant to the speaker and listener or at least is an interruption of satisfactory communication, stagefright may have to be classified as a more specific phenomenon.

An error of the second order would be to emphasize the opposite extreme of complete specificity. The problem of stagefright is closely allied with that of speech disorders proper. It must always be viewed in its proper setting, and its wholesale classification as pathology may be considered doubtful in view of the fact that many seasoned actors admit to having suffered from stagefright throughout their career.

However, when stagefright reaches proportions out of the ordinary and hampers the individual in normal intercourse and functioning, it must be classified as a phobia and treatment directed toward the removal of the emotional block underlying the symptom.

Many of the studies under the three classifications listed in this review have touched upon an area of experimentation postulated in this paper: inter-relation of social speech fright with the psychological aspects of human nature. This was done without intention to study it from this emphasis but the conclusions in the more sophisticated studies infer such a connection between the two variables.

The fourth area of investigation of the problem has been to examine the phenomenon from the standpoint of its psychological implications. Without so stating some studies have done this.

Stanley Paulson[1] did a pre-and post-treatment or therapy type of study. He administered the Bell Adjustment Inventory and PRCS to students before and after ten weeks of speech training. To test transfer of training he then had them give speeches under new conditions in new situations. His discoveries were: significant increases in confidence that tended to stay when in a new situation, significant differences on the Bell Adjustment Inventory, in the social adjustment scale; but none of the others. It seems that his subjects perceived themselves in a better light, similar to the results of the Hawthorne[2] experiments.

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[1]Paulson, Stanley, "Changes In Confidence During a Period of Speech Training," Speech Monographs, November 1951.

[2]Rothlisberger, Fritz J., and Dixon, W. J., Management and the Worker, Cambridge: Harvard University Press, 1939.

Lomas[1] found contradictory results on the same problem Paulson worked on, the transfer of training did not work although stagefright was decreased during training.

A previous study by Moore[2] had found no significant differences between stagefrighted and non-stagefrighted students on Knower's Speech Attitude Scale, Bernreuter Personality Inventory and Freshman Placement Examination.

Moore[3] found significant improvement in self-sufficiency, dominance, emotional stability, and significant decrease in introversion measured on Bernreuter Personality Inventory. Rose[4] found a significant increase in dominance and decrease in neurotic tendency as measured by the Bernreuter Personality Inventory.

Low and Sheets[5] conducted an extensive study on relation of psychometric factors to stagefright. The evidence of stagefright in college alarmed them and their experience correlates highly with that at Michigan State College.[6] In 1948, a change in college requirements at Iowa State University made it requisite for every student to elect a fundamentals speech course. This doubled the number of students enrolled because they

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[1]Lomas, Charles, "Study of Stagefright Measured by Students' Reactions," M.A. Thesis, Northwestern University, 1934.

[2]Moore, Glen, "Personality Changes Resulting from Training in Fundamentals of Speech," Speech Monographs II, 1935, pp. 56-59.

[3]Ibid., p. 57.

[4]Rose, Forrest A., "Training in Speech and Changes in Personality, Quarterly Journal of Speech, 26, 1940, pp. 193-196.

[5]Low, Gordon and Sheets, Boyd V., "The Relation of Psychometric Factors to Stagefright," Speech Monographs, November 1951.

[6]Chapter III will discuss these test results.

had formerly by-passed the course. An unusual number of cases of stage-fright appeared. Out of 400 students enrolled, 132 were classified as having a clearly distinctive case of stagefright.

These cases were determined by rating of students themselves, classmates and instructors. This three-way rating proved more valid than previous measures. The study's purpose was to determine relationship of stagefright to the cooperative English test, Cooperative General Achievement Test, American Council on Education Psychological Examination for College Freshmen, Lee Thorpe Occupational Interest Inventory - Advanced series, Minnesota Multiphasic Personality Inventory, Biographic Inventory and Speech Questionnaire.

No significant differences were found in General Intelligence, Quantitative Reasoning Ability, more important phases of personality, interest in fields of science, mechanics, nature and business. The greatest difference was found in amount of experience in speaking although as many opportunities for speaking were presented the stage-frighted group and they had not utilized them. The environmental background of the two groups was similar but the lack of speaking experience might be interpreted as symptomatic of a deep-seated personality problem suggesting need for a clinical approach in more severe cases.

Other leaders in the field have accepted the underlying assumptions studied in this paper. The minority of their position, however, necessitates the present study.

Husband[1] says that the symptoms of rapid heart beat, frequent

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[1]Husband, R. N., "A Study of Emotion in Excitement," Journal of General Psychology XLVI, 1934, pp. 465-47.

urination, hollow feeling in stomach and dry mouth are indicative of psychological changes, which are in turn indicative of the existence of an emotional state brought about when the individual experiences a change in the organization of responses.

Some speech clinicians believe that stagefright is a fear response in which the typical adjustment of flight, aggressiveness, immobility, collapse, and manipulative activity are presented. They name it as an instinctive fear response. However, it must be toward strange patterns and the unanswered question is by what perceptual properties an audience becomes a strange pattern.

Murray[1] feels that it is neurotic behavior resulting from conflict - longing for an audience and fearing it. He discovered that the attitude of too great self-attentiveness bordering on the neurotic is conducive to the state of stagefright.

Hollingsworth[2] calls it a learned form of behavior or emotional reintegration -- establishment of responses in connection with reduced cues. An example illustrating this is a real life reincarnation: a singer panicky in an audience was in a train accident where a surging crowd had nearly crushed her. She transferred this to her audience and continues to perform below her previous level.

Dr. Elwood Murray[3] points out that a mechanism of identification is probably at work in stagefright. He states that speakers are

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[1]Murray, Elwood, The Speech Personality, Revised Edition, Chicago: J. B. Lippincott, 1944.

[2]Hollingsworth, H. L., The Psychology of the Audience, New York: American Book Company, 1935.

[3]Murray, op. cit., p. 10.

responding to another situation which has similarities to the present situation and in which there might have been actual danger.

Greenleaf[1] studied many cases of stagefright and concluded that blockages had origins in an earlier experience. "Stagefright is the association of fear with inferiority, rising insidiously to the surface and expressing itself in great mental and bodily suffering. The first cause may have been trivial and apparently not connected with a public appearance. Because it has passed unnoticed, the lack of observation became its deadliest factor. Nevertheless it was always something or someone that caused the feeling of fear.

Summary of the writings in this field indicates only that stage-fright is an emotional response to the speaking situation or to the anticipation of such a situation.

It is difficult to avoid noting a need for fuller understanding of whatever factors underlie this behavior in the individual.

A universal and frequently occurring phenomenon still not isolated as a measurable variable but eternally with us is indicated by the survey. The studies in the literature testify not only to the paucity of useful materials but also the need for some order to the chaos. Because of the disorder surrounding speech fright, comparison with more sophisticated investigation may point toward dual benefits. The concept of rigidity has been the subject of careful experimental investigation.

It is seen that social speech fright occurs in social situations and is related to personality orientation and overt learned responses. Its onset appears at a time when formerly learned responses are no longer

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[1] Greenleaf, op. cit., p. 329.

operative and a new phenomenon occurs -- that of disorganized activity and reappearance of a stubborn set of responses continuing this behavior despite conscious effort by the subject to overcome them. In short, this problem seems closely related to that of rigidity described in psychological literature.

Relevant Research in Study of Rigidity

Few terms in psychology are as universally adhered to with as much affect as in the term 'rigidity.' With the exception perhaps of the concept dynamic, rigidity has as many meanings as there are individuals using the term. Rigidity is used as a construct; that is, some process intervening between directly observable events; rigidity is used as an adverb, modifying or describing some ongoing activity; rigidity is used as a concept, true in its own definition and linked to other concepts; and, finally, rigidity is isolated as a "factor" by some correlational manipulation which asserts its commonality in a number of apparently unrelated activities. Each and every viewpoint of rigidity has not been included in this review but some reference to every well documented position has been listed.

Each individual who has used the term rigidity with a great degree of vehemence, has claimed the term as his own, and has criticized others for misusing the term. Usually, they pay little attention to the <u>form</u> of another's usage, nor to the framework into which it is being fitted. Ignoring the form and content of a statement, it is then generally easy to show how such a concept does not fit another unique set of criteria for the usage of the term.

However, one of the priority problems in developing an educational science is that concerned with building a system of concepts. It is through a conceptual system that the elements of experience in a logical machine fashion are tied together in a related manner. It should be recognized, however, that while it may be possible to attribute certain observable phenomena to a particular conceptual scheme, if the concept does not represent anything real, then the results, in terms of the concepts, are meaningless. Hull[1] states that a theoretical system consists of these elements: a definition of essential terms, a set of postulates, a body of interrelated theorems derived from the foregoing postulates and stated in such terms that they can be empirically verified. The concept of rigidity, which has been developed by the foregoing criteria, is a basic concept utilized in such problems of personality structure and social speech fright as are presented in this study.

Hull[2] also mentions that one of the elements of a theoretical system is a definition of essential terms.

It is the theory that attempts to explain behavior, not the concepts which make up the theory, nor the constructs which hold the theory together. If one accepts these remarks as valid it can be acknowledged that the controversies existing about the term 'rigidity' may not be actual controversies. What seems to be at issue among several individuals, is some personal preference for a theory or for a unique interpretation of such a theory. It is not proper to abstract a term from its context and

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[1]Hull, Clark, Mathematico-Deductive Theory of Rote Learning (New Haven: Yale University Press, 1940), pp. 1-13.

[2]Ibid., pp. 1-13.

then criticize it as not fitting another theory but this seems to be the basic premise for many rigidity controversies.

Werner[1] may be in a vulnerable position to criticize Kounin's[2] use of the concept and insist that the adverbial form used by himself is the only proper one. Luchins[3] may not be less vulnerable to state that Rokeach[4] is in error using rigidity as a concept while his usage as a construct is the only appropriate term.

The specific approach as exemplified by Kounin[5], a student of Lewin's, is superficially an ahistorical, structural formulation of the role of rigidity in personality. For the specifists, rigidity refers to the degree of thickness of boundary between regions in a topological representation of the psychological life-space. The thickness of the boundary (rigidity) controls the amount of communication between regions, and therefore the degree of integration in a personality. He believes that rigidity is a construct, a way of talking about a process which is intervening --- it has no direct behavioral counterpart.

The interest of Kounin and Lewin seems to be a description of the individual as he is now constituted, and to the degree that this present description is accurate to predict the future.

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[1]Werner, Heinz, "The Concept of Rigidity: A Critical Evaluation," Psychological Review, 53:43-52, January 1946.

[2]Kounin, J. S., "Experimental Studies of Rigidity," Character and Personality, 9:251-272; 273-282, June 1941.

[3]Luchins, A. S., "Rigidity and Ethnocentrism, A Critique," Journal of Personality, 17: 449-466, June 1949.

[4]Rokeach, Milton, "Prejudice, Concreteness of Thinking, and Reification of Thinking," Journal of Abnormal and Social Psychology, Vol. 46, No. 1, January 1951, p. 3.

[5]Kounin, op. cit., p. 253.

The factor analysts do not espouse a theory in the strictly formal sense. They view the problem principally as extrapolation from various behavioral measures of certain common elements -- and then labeling these elements or factors. Cattell[1] uses factor analysis as a methodology but describes the phenomenon of rigidity as a "stiffness," a resistance to forces attempting to produce change. He has attributed this to a racial trait peculiar to Mediterranean-Near Eastern physical types. This rigid temperament is passed along to progeny through genes in a Mendelian fashion.

He does not seem satisfied to view it as a single factor, but has extracted many different forms of rigidity in many different tests and interprets them in different fashion.

The writer does not pretend to categorize unfairly each of the positions made by various authors but to place them in juxtaposition to each other as they seem to place themselves in most of their published work.

Werner[2] states that there has arisen a general ambiguity as to the meaning of the term 'rigid,' in his paper on a critical evaluation of the concept of rigidity. One of the reasons for this lack of clearness is the fact that some define the term structurally and others define it functionally. The structural definition has taken on a literal -- physical -- meaning, expressed within the framework of Lewinian topological psychology. An exponent of this definition, Kounin,[3] employing Lewin's

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[1]Cattell, R. B., and Tiner, L. G., "The Varieties of Structural Rigidity," Journal of Personality, 17:321, March 1949.

[2]Werner, op. cit., p. 43.

[3]Kounin, op. cit., pp. 251-272.

theory of personality structure, formulated an hypothesis of rigidity as a quasi-material property of mental organization. It would be profitable to quote Kounin here. He states:

> The concept of rigidity has its place in a series of interrelated statements and constructs which are postulated in topological and vector psychology. Briefly, the 'person' is said to be structured and differentiated into parts. The unit of structure is coordinated to a geometrical region, or 'cell,' which occupies a certain position among other regions. The psychological environment in which a person behaves is also structured into regions. Behavior is said to be a resultant of certain forces functioning and relating the personal and environmental structures. The structural and positional properties constitute topological psychology. The functional relationships and forces which determine the behavior that occurs within the given structure make up vector psychology.
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> The construct of rigidity deals with the closeness of the functional relationships between cells of the person; in other words, it refers to that property of the functional boundary between the cells of the person which represents the relative independence (degree of segregation) of different regions of a person. Occurrences in one region may have quite different effects upon other regions. A change in region A of a person may produce more change in a region B than the same amount of change in a region X produces in a region Y; i.e. tension may spread more easily from region A to region B than from region X to region Y. There may be such differences in rigidity of the boundary between different regions of the same individual and differences in rigidity between comparable regions of different individuals.[1]

Viewing the term by the ways in which rigidity is manifested overtly, rigidity can be referred to as sluggishness in variation of response,[2] fixation of response,[3] lack of variability,[4] perseveration,[5] inability

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[1] Ibid., pp. 251-252.

[2] Werner, op. cit., pp. 43-52.

[3] Krechevsky, I., and Honzik, C. H., "Fixation in the Rat," University of California Publications in Psychology, 6:19-26, 1932.

[4] Krechevsky, I., "Brain Mechanisms and Variability," Journal of Comparative Psychology, 23:121-130, August 1937.

[5] Spearman, C. E., Abilities of Men: Their Natures and Measurement (New York: MacMillan and Company, 1927), p. 53.

to change one's set when the objective conditions demand it, the inability to restructure a field in which there are alternative solutions to a problem in order to solve that problem more efficiently.[1] Werner[2] defends the functional definition as the more fruitful of the two and it is in this sense that the concept of rigidity is used in the discussion here presented. While it is simpler to think of rigidity from the behavioral, the functional, point of view, one should also keep in mind the theoretical concept of the psychological structure and differentiation of mental organization from which this behavior seems to stem. In line with this latter thought it should also be noted that stereotyped actions cannot always be directly derived from the rigidity of the boundaries of a person's psychological structure. Such elements as security, fear, and the time element may lead to phenomenologically rigid behavior that may not be due to structural rigidity of the psychological boundaries.

A consideration of the literature in this area showed that the literature could be broken down in terms of the following aspects of rigidity: (a) rigidity on the clinical and genetic level; and (b) the general rigidity factor.

(A) Rigidity on the clinical and genetic level.

Much of the work on rigidity has been from the aspect of brain injured individuals, and a comparison of normal with feebleminded individuals. Werner[3] has also studied rigidity with reference to the maturity and immaturity of individuals. He distinguishes the following

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[1]Rokeach, op. cit., p. 83.

[2]Werner, op. cit., pp. 47-49.

[3]Ibid., pp. 43-52.

three instances:

1. The 'regions of personality' of an immature individual are little differentiated; it is therefore to be expected that mutual interference, in the form of perseveration and stereotypy, should occur frequently.

2. In a mentally growing organism the regions become more differentiated; a differentiated behavior emerges, varying with changes of situation (functional stability and flexibility).

3. If regions are severed from one another, intercommunication ceases, and a state of rigidity, due to 'isolation' prevails. Only in this particular instance does the concept of rigidity approach the structural terms as used by Kounin.[1]

Werner[2] takes the position that rigidity is in reality a multiform and not a unitary trait, especially when one considers that there are differing forms of feeblemindedness, which differ from each other in their mental organization. Werner and Strauss[3] have shown that varying kinds of rigidity can be distinguished which change in quantity and quality with conditions of the organism. Conclusions drawn by various authors from experiments with children of unspecified forms of mental deficiency may be biased depending on the selection of subjects.

As Horwitz[4] indicates in his factored comparisons of 50 normal and

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[1]Kounin, op. cit., pp. 273-283.

[2]Werner, op. cit., pp. 43-52.

[3]Strauss, A. A., and Werner, H., "Experimental Analysis of the Clinical Symptom 'Perseveration' in Mentally Retarded Children," American Journal Mental Deficiency, 17:185-188.

[4]Horwitz, Leonard, "Rigidity Factors in Normals and Psychiatric Patients," (Unpublished), Study made at Winter Veterans Administration Hospital, Topeka, Kansas.

psychotic patients in 1952, the extensive battery of rigidity tests that he employs tapped different functions when applied to different populations. The two groups revealed a basic difference in rigidity factors. All these studies might suggest that the "multiform" discoveries reveal aspects of a concept more general than has been previously defined. The name rigidity is applied as a differentiating characteristic, not as an inclusive one.

In a paper presented in 1943 Goldstein[1] expressed the view that brain injured patients display two kinds of rigidity, called primary and secondary rigidity. Both forms are basically due to 'isolation': "... rigidity appears if a part of the central nervous system that is anatomically and functionally separated from the rest of the system is exposed to stimulation." Primary rigidity is independent of an impairment of higher mental processes. It is a basic lack of ability to change from one 'set' to another. This deficiency becomes apparent only if the patient attempts to shift from one activity to a task that is not related to that activity. The difficulty does not lie in the task itself; in general, the patient is quite capable of solving any of these tasks even if a higher level of abstraction is demanded. This type of primary rigidity has been observed in patients with lesions of the sub-cortical apparatus. A secondary form of rigidity is a result of the impairment of thinking. This rigidity appears only if the task is too difficult; the patient, in order to avoid a complete breakdown, sticks to the task he has solved before, repeating it over and over. Rigidity here is a

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[1]Goldstein, K., "Concerning Rigidity," Character and Personality, 11:209-226, June 1943.

secondary phenomenon; it is a means to escape from a frustrating experience. There are other means of escape, such as distractibility. Unable to master the situation the patient shifts from one part of the field to another. Goldstein[1] believes that rigidity of the feebleminded is also due to this mechanism; the mentally defective, not being able to cope with abstract tasks, becomes perseverative and distractible.

Some of the writings of Kounin[2] can be profitably explored here in relation to the concept of rigidity. Kounin in this series of papers reveals the concept of rigidity, particularly as applied to the theory of feeblemindedness, tentatively formulated by Lewin.[3] This theory is based on studies dealing with comparative behavior of feebleminded and normal children. In experiments concerned with the process of satiation, the resumption of interrupted tasks and the substitute values of substitute actions; the findings revealed decided differences between the feebleminded and normal children. After becoming satiated with an assigned drawing activity, the feebleminded refused to continue with free drawing, while the normal children did not refuse. The feebleminded exhibited an 'either-or' status in that they were either satiated or not satiated, while the normal children were partially satiated. In experiments on resumption of interrupted activities, the feebleminded manifested a greater fixation on goals than did the normal. This was evidenced by their more frequent resumption of interrupted activities. In studies on

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[1] Ibid., pp. 209-226.

[2] Kounin, op. cit., pp. 273-282.

[3] Lewin, K., A Dynamic Theory of Personality: Selected Papers (New York: McGraw Hill, 1935), pp. 209-238.

substitution it was found to be more difficult to create satisfactory substitute goals in the case of the feebleminded than in the case of the normal children. He summarized the differences between the two groups of children as indicating that the feebleminded children behaved more rigidly, i.e. in a pedantic, 'all-or-none' 'either-or' manner. The construct of rigidity was utilized to derive these differences.

Kounin[1] states that rigidity of overt behavior cannot be directly coordinated with rigidity of the boundaries of the regions making up a person's structure, i.e. with his dynamic rigidity. There are factors other than boundary or dynamic rigidity that may operate to produce phenomenological rigidity. He further states that there are three such uncontrolled factors which may have influenced the results obtained by Lewin:[2] (1) the degree of differentiation of the person. The mental ages and related degrees of differentiation of the feebleminded and normal children used in the experiments were not equated; (2) the degree of differentiation of the relevant areas. Kounin[3] states that, "One can speak of the degree of differentiation 'as a whole,' and the degree of differentiation of particular areas. Two persons may have the same total degree of differentiation, yet one of them may behave in a more stereotyped manner in a particular situation because the relevant and applicable regions are less differentiated for him;[4] and (3) the security of the two

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[1]Kounin, op. cit., pp. 273-282.

[2]Lewin, op. cit., p. 286.

[3]Kounin, op. cit., pp. 251-272.

[4]Ibid., p. 253.

groups (fear of failure, et cetera). If an individual feels insecure he may exhibit phenomenologically rigid behavior, not because of his dynamic rigidity but because he is afraid of trying the new and so clings to what he does know.

Kounin[1] worked on the problem of evaluating the concept of rigidity by developing and measuring the properties of rigidity and ascertaining its validity in theories of age and feeblemindedness. Specifically, with factors such as degree of differentiation and security controlled, can one speak of rigidity of boundaries of regions? If so, can the concept be related to theories of feeblemindedness and of age? Another part of his work was to attempt to ascertain the predictive value of the construct of rigidity and related topological and dynamic aspects. Specifically: does the theory permit one to state the consequences to be obtained in defined conditions? For a complete description of this series of experiments the reader is referred to the papers of Kounin.[2] It is perhaps sufficient to present here the summary and conclusions as Kounin stated them:

> The general conclusion is to the effect that any performance which requires a certain degree of communication between neighboring regions (the degree of communication being inversely proportional to the degree of rigidity) is to such an extent made difficult for the older and/or more feebleminded as far as these experiments permit one to generalize, the phenomenological nature of the performance is unimportant. The task may be predominantly of a cognitive nature ... of a motor nature ... or of a volitional nature. If a task is facilitated by a lack of communication between the neighboring regions, such a task will be more efficiently and accurately performed by an older and/or more feebleminded individual (as indicated by the "transfer of habit" experiment).[3]

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[1] Ibid., pp. 251-272.

[2] Ibid., pp. 252-272; 273-282.

[3] Ibid., p. 271.

There have been a number of approaches used to get at an understanding of the comparative nature of the psychological structure of feebleminded and normal individuals. These approaches have included comparison on standard tests, comparison of the learning ability, and comparative studies of the cognitive processes of both groups. Another type of approach has come from a consideration of general psychological theory, an example of which is the dynamic theory of feeblemindedness that has been proposed tentatively by Lewin.[1] The rigidity theory has proved fruitful because it has permitted the derivation of such postulations as concrete-mindedness and the results of the experiments reported above. Studies in rigidity in feebleminded subjects,[2,3,4,5,6] in brain injured and spastic subjects,[7,8,9,10,11,12] and in schizophrenia[13] all indicate

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[1]Lewin, op. cit., pp. 209-238.

[2]Goldstein, op. cit., pp. 209-226.

[3]Kounin, op. cit., pp. 251-272.

[4]Lewin, op. cit., pp. 209-238.

[5]Werner, op. cit., pp. 43-52.

[6]Werner, Heinz, "Abnormal and Subnormal Rigidity," Journal of Abnormal and Social Psychology, 41:15-24, 1946.

[7]Loc. cit.

[8]Goldstein, op. cit., pp. 209-226.

[9]Strauss and Werner, op. cit., pp. 185-188.

[10]Cotton, C. B., "A Study of the Reactions of Spastic Children to Certain Test Situations," Journal of Genetic Psychology, 58:27-40, March 1941.

[11]Strauss, A. A., and Werner, H., "Comparative Psycho-pathology of the Brain Injured Child and the Traumatic Brain Injured Adult," American Journal of Psychiatry, 45:1-41, July 1943.

[12]Werner, H., and Strauss, A. A., "Causal Factors in Low Performance," American Journal Mental Deficiency, 45:213-218, 1940.

[13]Kasanin, J., and Hanfman, R., "An Experimental Study of Concept Formation in Schizophrenia," American Journal of Psychiatry, 95:36, July 1936.

that concreteness of thinking is usually found in rigid persons.

A number of studies on the effect of decortication on rigidity have been performed. These studies compare the performance of decorticated rats with that of normal rats. Cameron[1] concluded that rats with cortical lesions are inferior to normal rats in learning new problems and in adapting to modifications of old problems. Maier[2] inferred that operated rats are more likely to repeat errors than normal rats. Hamilton and Ellis[3] concluded from their investigations that operated rats were more constant in their behavior than the same animals had been when normal. Krechevsky[4] came to the decision that cortical lesions in rats resulted in less variability and plasticity of behavior. Krech and Hamilton[5] found that, with stress, a naive experimental rat will immediately fixate on one form of response and will show almost no variability at all in his choice of activity.

Farber[6] "found in rats that fixation resulting from shock may be a result of operation of secondary reinforcement resulting from anxiety reduction and due to factors operating in ordinary learning situations."

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[1]Cameron, N., "Cerebral Destruction in Its Relation to Maze Learning," Psychological Monographs, Vol. 39 #1, 1928.

[2]Maier, N. R., "The Effect of Cerebral Destruction on Reasoning and Learning," Journal of Comparative Neurology, 54:45-75, January 1932.

[3]Hamilton, J. A., and Ellis, W., "Behavior Constancy in Rats," Journal of Genetic Psychology, 42:138, March 1933.

[4]Krechevsky, op. cit., pp. 121-130.

[5]Krech, I., and Hamilton, J. A., "Studies in the Effect of Shock Upon Behavior Plasticity in the Rat," Journal Comparative Psychology, 1933: 16,237-253.

[6]Farber, I. E., "Response Fixation in Anxiety and Non-Anxiety Situation," Journal Experimental Psychology, 1948-38; 111-131.

There has been a number of experiments testing the effect of frequency and repetition on rigidity of behavior. Krechevsky and Honzik[1] in an experiment utilizing rats as the experimental subjects concluded that rats that had overlearned a particular pathway to a goal had thereafter greater difficulty in learning a new pathway. Luchins[2] in an experiment involving experimental increase in rigidity found that he could increase the rigidity on critical problems by giving the subjects more problems designed to establish a set. Rokeach[3] designed and carried out a series of experiments from which he concluded that an increase in perception time seems to result in a decrease in rigidity and also decreases concreteness of thinking.

(B) The General Rigidity Factor.

A number of workers in the field of rigidity as a personality factor have hypothesized that there is a general rigidity factor which will pervade many of the actions of the individual, both actions that are overt and those that are not apparent on the surface. The work of Fisher[4] on a study involving individuals all of average intelligence, though differing as to normal and abnormal behavior, has for its basic hypothesis a persistent personality rigidity. He states:

> The hypothesis that forms the basis for the measurement procedures utilized in this study is that there are persistent personality rigidity trends which are relatively independent

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[1]Krechevsky and Honzik, op. cit., pp. 19-26.

[2]Luchins, op. cit., p. 455.

[3]Rokeach, Milton, "The Effect of Perception Time Upon Rigidity and Concreteness of Thinking," Journal of Experimental Psychology, 40: 206-216, April 1950.

[4]Fisher, S., "Patterns of Personality and Some of Their Determinants," Psychological Monographs, 64:1-48, 1950.

> of intelligence. It will be assumed that such rigidity trends reveal themselves in the degree to which any given individual is able to indicate in some behavioral way his ability to utilize alternate modes of response when dealing with problems or situations requiring adjustment.... It is important that it be clearly understood to what degree this brief hypothesis really does neglect the complexity of factors involved in rigidity phenomena. One suspects that if sufficiently sensitive measuring instruments were available, it would be possible to analyze rigidity phenomena in many different dimensions. Thus, hypothetically one might be able to measure rigidity as it affects perception of situations, as it affects subjective reactions to situations, and of course as it affects overt behavioral reactions to situations. Furthermore one might be able to describe rigidity in each of these dimensions in terms of a large number of descriptive continua (e.g., quickness with which evoked, degree of persistance after arousal, and degree of generalization). Ideally, it would be well to measure as many of these phases of rigidity as possible. But it has been necessary here to treat the problem in a simpler fashion: to confine postulations to overt behavioral manifestations of rigidity and to limit them to rigidity manifestations conceived to exist on a single restricted continuum....[1]

Fisher's[2] project was based on the following questions: (1) Do individuals show a consistently rigid behavior in various situations? (2) Are there differing kinds of rigidity; if so, what is the importance of each in the personality structure? (3) Do individuals who are in general emotionally restricted show a rigidity of behavior? (4) Does the self analysis of a subject have any relation to rigidity? and (5) Do those who are not normal (e.g., neurotic) show specific rigidity trends?

Fisher concluded from his studies that the results implied that personality rigidity manifestations cannot accurately be described in either very specific terms or in very general terms. Fisher states that

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[1] Ibid., pp. 1-2.

[2] Ibid., p. 3.

his data suggest that there are possibly two levels of rigidity: (1) situations involving no emotional threat to the individual; and (2) those situations involving threat to the individual or which question his self esteem. He also states that intelligence seems to have no clear relationship to the character of an individual's rigidity pattern.

To summarize Fisher's work[1] in relation to the hypothesis of generalized mental rigidity, while Fisher is operating on the basis of this hypothesis his results do not present any conclusive evidence to indicate either generalized mental rigidity or rigidity in specifics.

The work of Frenkel-Brunswik and Sanford[2] and Levinson and Sanford[3] indicate the possibility that rigidity of personality structure is an all pervasive phase of the personality. These authors indicate that the differences between the prejudiced and non-prejudiced individuals suggest that there would exist similar differences in the manner in which they would solve other types of problems that they would be confronted with.

A certain inability, in the perceptual and cognitive approach of an individual to tolerate more complex, conflicting, or open structures might, it seemed, occur also to a certain extent in the emotional and social areas. Proceeding from the observation that some persons can tolerate the coexistence of love and hate less than others can and that these persons seem to tend toward perceiving people generally in terms of positive or

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[1] Ibid., pp. 1-48.

[2] Frenkel-Brunswik, E., and Sanford, R., "Some Personality Correlates of Anti-Seminitism," Journal of Psychology, 20:271-291, November 1945.

[3] Frenkel-Brunswik, E.; Levinson, D., and Sanford, R., "The Anti-Democratic Personality," Readings in Social Psychology, The Newcomb Editor (New York: Henry Holt and Company, 1947), pp. 531-541.

negative halos and dichotomies rather than allowing for independent and continuous variability of traits, we may ascertain just how pervasive this disposition might be in memory concept formation and perception proper.

Results collected by Cattell and Tiner[1] support the conjecture that by and large such tendencies as the quest for unqualified certainty, the rigid adherence to either authority or a stimulus, the inadequacy of reaction in terms of reality, operated in more than one area of personality. They demonstrate that specific forms of reaction as orientation toward concrete detail (stimulus-boundness) tend to occur again and again without an individual in contexts seemingly far removed from each other. Inclination toward mechanical repetition of faulty hypotheses, inaccessibility to new experience, satisfaction with subjective and at the same time unimaginative, over-concrete or over-generalized solutions, all appear to be specific manifestations of a general disposition which holds sway among certain groups of individuals, such as the ethnically prejudiced, in their approach to emotional and social as well as more purely cognitive problems. A desperate effort is made to shut out uncertainties the prejudiced individual is unable to face, thus narrowing what Tolman[2] has called the cognitive map to rigidly defined tracks.

This pervasive mode of behavior is learned by the organism to protect itself against the ego-threatening forces of the society and the internalized representation of that society, the super-ego. This intolerance of ambiguity is learned to reduce the threat to the ego which social and

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[1] Cattell and Tiner, op. cit., p.

[2] Tolman, E. C., "Cognitive Maps in Rats and Men," Psychological Review, 1948, 55, 189-208.

parental attitudes produce when the naturally ambivalent feelings of the individual come into conflict with such attitudes. These "naturally" ambivalent feelings are universals, according to the Freudian formulation of the psychosexual nature of the development of the personality. The concept rigidity then, is a mechanism which an individual makes use of in the course of growth of the personality and apparently due to the resultant decrease in the ego-threat, becomes a pervasive mode of behavior. The pervasiveness of this mode of behavior is evidenced in response to attitude scales, ethnocentrism scales, change of set experiments, projective techniques, and in play therapy situations. The question then arises: Why do some individuals seek such a mode of behavior (rigid) while others make use of some other mechanism? The resolution of this question seems to be in the early learning experiences of the individual; which, of all the mechanisms available to the individual, provides the greatest and easiest reduction of this ego-threat.

Rigidity, then is an intolerance of ambiguity; a refusal to deal with objects and problems in the internal and external environs in a manner other than that of dichotomization. Everything is either good or bad, liked or disliked, loved or hated, black or white. The rigid individual resists efforts to change this mode of perception for him, and maintains this mode over a great variety of activities.

The basic assumption of the work of Rokeach[1] was that one of the characteristics of ethnocentric thinking is a rigidity and inflexibility of the thinking process. To Rokeach the main problem which suggested

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[1]Rokeach, Milton, "Generalized Mental Rigidity as a Factor in Ethnocentrism," The Journal of Abnormal and Social Psychology, 43:259-278, July 1948.

itself for investigation was whether this type of rigid thinking operates only in the solution of social problems or whether it is equally characteristic of the ethnocentric individual in his approach to other kinds of problems as well: social or non-social in nature. Rokeach took the position that the individual's social attitudes may be regarded as that individual's unique solution to the problem of how he will group people into classes and how he will react to these classes. A similar position is taken by Krech[1] who also regards attitudes as problem solving attempts. The hypothesis tested by Rokeach in his work was as follows:

> The rigidity inherent in the ethnocentric persons' solution of social problems is not an isolated phenomenon within the personality but is rather an aspect of a generally persistent personality characteristic which will also manifest itself in the solution of all kinds of problems, even though such problems are completely lacking in social content.[2]

Rokeach labeled this 'generally persistent personality characteristic' as a general rigidity factor. In order to test his hypothesis he categorized his subjects into two groups: (1) a grouping broken down into those scoring high and those scoring low on the California Ethnocentric Scale; and (2) a group broken down into those individuals manifesting an inability to change from one mental set to another previously followed in the solution of a series of arithmetic problems. The results indicated that those individuals who were high on the California Ethnocentric Scale were also, in a statistically significant ratio, unable to change their mental set in the solution of the arithmetic problems. In other words, those individuals who manifested a rigidity in ethnocentrism also

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[1]Krech, D., "Attitudes and Learning; A Methodological Note," Psychological Review, 53:290-293, November 1946.

[2]Rokeach, op. cit., p. 259.

manifested a rigidity in the solution of arithmetic problems, which may be described as a relatively non-social situation.

It was primarily on the basis of the confirmation of the hypothesis of Rokeach, that the rigid thinking characteristics of the ethnocentric individual were shown to be also characteristic of his approach to non-social problems. Upon further study of the literature there were found additional observations that strengthened these hypotheses. The book, The Authoritarian Personality, by Adorno, Frenkel-Brunswik, Levinson, Sanford,[1] proved to be a highly valuable source of information. In the chapter on "Personality Organizations Seen Through Interviews," written by Frenkel-Brunswik, the following observation is made:

> ... there is in the records of the low scorers a tendency to use a great deal of qualifying phrases and other devices characteristic of an approach that is judicious rather than prejudicious through dogma, convention or a fixed set.... There seems to be a general tendency on the part of the low scorers to expose themselves to broad experience -- emotional, cognitive, perceptual -- even at the risk of having to modify one's preconceived notion and of having to sustain conflicts. Thus all evidence seems to point toward a greater over-all rigidity in the high scorers.[2]

Frenkel-Brunswik continues with:

> The inability to "question" matters and the need for definite dogmatic answers, as frequently found in high scorers, leads either to an easy acceptance of stereotyped, pseudo-scientific answers, of which escape into ready-made hereditarian explanations is but one manifestation, or else to an explicitly anti-scientific attitude.... Its opposite is a scientific-naturalistic attitude, found predominantly in the low scorers.... The anti-scientific thinking of the typical high scorer is closely connected with his tendency toward superstition.... The fact that high scorers on ethnocentrism are more often given to stereotyping, prejudgments and ready generalizations, or else to over-concreteness,

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[1]Adorno, T. W., and others, The Authoritarian Personality (New York: Harper and Brothers, 1950), p. 990.

[2]Ibid., p. 464.

> should not blind us to the fact that there are also tendencies of this kind in low scorers.[1]

And, finally:

> ... point toward the relative prominance in ethnically prejudiced as compared with unprejudiced children of a tendency to impose, in a rigid manner certain preconceived sets upon ambiguous perceptual data or upon the solving of reasoning problems.[2]

Cattell and Tiner[3] state that the concept of rigidity has been used widely in psychology dealing with personality. It has also been used as a possible explanation, "with positively journalistic abandon and inconsequence,"[4] by the psychiatrists. "It should have been used," they say, "by the psychologists interested in learning theory, but with negligible exceptions it has not received any systematic examinations in that direction."[5]

Cattell and Tiner use the term 'rigidity' to mean, "stiffness, i.e., a resistance to forces attempting to produce change."[6] They have categorized rigidity into two classes: (1) the rigidity of processes -- the tendency of an activity to persist when once activated; and (2) structural rigidity -- resistance of a habit or personality trait to forces which might be expected to change it; that is, to cause learning. Their paper is concerned with structural rigidity. They state that structural

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[1] Ibid., p. 464.

[2] Ibid., p. 464.

[3] Cattell, R. B., and Tiner, L. G., "The Varieties of Structural Rigidity," Journal of Personality, 17:321, March 1949.

[4] Loc. cit.

[5] Loc. cit.

[6] Ibid., pp. 322-323.

rigidity may arise from three classes of causes: (1) rigidity through failure of a new behavior to appear; (2) rigidity through internal dynamic conflict and equilibrium; and (3) rigidity as a basic attribute of all dispositions. This latter may be another way of referring to generalized mental rigidity, for mention is made of "Other conceivable varieties of this inherent rigidity of ergic (innately preferred) patterns as contrasted with acquired actual habits; ..."[1]

Horowitz[2] discovered the same disposition and ideational inertia as Cattell and Tiner. The latter factor was found by him to be related to generalized rigidity function including perception, goal setting and motor behavior and was further connected to neurotic trends. In addition to these two factors, another significant grouping appeared which seemed to be a function of "effort." That is, individuals who apply great effort in their approach to various tasks show rigidity especially in goal setting.

Frenkel-Brunswik,[3] in a paper dealing with perception and personality, states that a prime concern of her work is to bring together a variety of aspects to study the generality or lack of generality of the personality patterns involved. That is, she states, the readiness to spread from one area of manifestation to another. She asks the question: Can basic formal attitudes such as subjectivity, rigidity, fear of ambivalence and of

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[1] Ibid., p. 321.

[2] Horowitz, E. L., "Race Attitudes," Characteristics of the American Negro, (New York: Harper Brothers, 1944), p. 409.

[3] Frenkel-Brunswik, E., "Intolerance of Ambiguity as an Emotional and Perceptual Personality Variable," Journal of Personality, 18:108-143, September 1949.

ambiguity be taken as unified traits of the organism, or are we to find a more differential distribution, varying from one area to another? It is interesting to note that in this paper mention is made of the work of Rokeach[1] in that Frenkel-Brunswik worked with the same children that he employed in part of his work. She found that the rigidity scores derived by the arithmetic technique tend to correlate with over-all clinical ratings of children's rigidity based on their attitudes toward parents, sex-roles, self, moral values, et cetera as revealed in clinical interviews. The evidence presented strongly suggests the generality of personality rigidity.

In a series of two papers by Cattell[2] on the subject of perseveration he came to the conclusion that disposition rigidity can be measured as a single general factor in batteries of tests covering a wide variety of motor performances. This factor of disposition rigidity, he states, at present best defined by motor tests, is definitely present also in some sensory, perceptual, and symbolic processes. Avoidance of confusion with perseveration, he continues, requires that the term "disposition rigidity" be preserved precisely for the general factor now known.

A review of two papers consisting of a critique of the work of Rokeach by Luchins[3] and a rejoinder to the critique by Rokeach[4] is

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[1]Rokeach, op. cit., pp. 259-278.

[2]Cattell, R., "The Riddle of Perseveration, I & II," Journal of Personality, 14:229-267, June 1946.

[3]Luchins, A. S., "Rigidity and Ethnocentrism: A Critique," Journal of Personality, 17:449-466, June 1949.

[4]Rokeach, Milton, "Rigidity and Ethnocentrism: A Rejoinder," Journal of Personality, 17:467-474, June 1949.

presented. It is felt that a presentation of these papers would clarify some of the points that might be considered debatable in the work of Rokeach (and of the work in this present report which stems from the research of Rokeach). It is also considered desirable to present a point of view opposed to the idea of generalized mental rigidity -- the viewpoint of Luchins.

Luchins holds that the work of Rokeach was invalid on the following points: (1) the study did not confirm the hypothesis and that it contained a number of methodological flaws; (2) that there was a possible lack of validity and reliability of the measuring devices that were used to measure ethnocentrism, rigidity, and concrete-minded responses; (3) the interpretation of the results in terms of responses being indicative of or due to something in the subject's personality and that this something was in the nature of a general factor; (4) that the study disregarded the possibility of the results stemming from the field conditions; and (5) that the investigation follows the class-oriented psychological approach rather than the field-theoretical approach.

Luchins[1] suggests that the responses on the California Ethnocentric Scale are not reliable due to the fact that relatively few items are utilized in the make-up of the scale. He also indicates that there is the possibility that the verbalized responses by the subjects to the items are not truthful, or may have been misinterpreted by the subjects, or that the responses were due to conditions that existed at the moment and were peculiar to that particular moment. Luchins further suggests that Rokeach arbitrarily cut the experimental groups of subjects into

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[1]Luchins, op. cit., pp. 448-449.

rigid and non-rigid categories using the median as a convenient point of demarcation. He contends that this arbitrary method could be characterized on the basis of the utilization of absolute values.

In reply to this portion of the critique Rokeach[1] states that the reliability of the California Ethnocentric Scale is not zero, but ranges from .7 - .9. Therefore, he concludes, the responses are not "accidental." He further states that while there is controversy over the validity of prejudice scales based on verbalized responses

> ... we preferred to get on with the research with the assurance that to the extent that responses to prejudice scales are hypothesized and found significantly related to other variables (e.g., rigidity and concreteness), to that extent at the least we may assume the scale to be both reliable and valid.[2]

In relation to the critique of the arbitrary dichotomization of the subjects into "High" and "Low" prejudice groups, Rokeach maintains that dichotomization does not necessarily impute the absolutes of complete prejudice or complete non-prejudice. He points out that throughout his paper such phrases as "ethnocentric person and variants thereof," and, "high in ethnocentrism and variants thereof" appeared frequently, thus belying the idea of an absolute conception.

Luchins, in referring to Rokeach's main hypothesis, "The rigidity inherent in the ethnocentric persons' solution of social problems ..."[3] asks the question as to why was it inherent in his solution? Rokeach replies that this is a premise -- and that the hypotheses presented are

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[1]Rokeach, op. cit., p. 468.

[2]Ibid., p. 467.

[3]Ibid., p. 259.

based on premises. He states, "It remains to be seen, of course, to what extent our basic assumption is confirmed. One way to determine this is by examining the outcome of ... research."[1]

Luchins felt that the use of the arithmetic problems to determine rigidity is not valid. He contends that this is not a completely non-social situation and that emotional and social factors biased the results. Rokeach indicates that such a thing as a purely non-social problem does not exist. He feels that the arithmetic technique provides as non-social a device as could be found.

Rokeach defined rigidity "as the inability to change one's set when the objective conditions demand it, as the inability to restructure a field in which there are alternative solutions to a problem in order to solve that problem more efficiently."[2] Luchins contended that the experimental conditions did not meet the needs of this definition of rigidity. He asserted that the experimental set-up did not show that the objective conditions demanded that the subject change his set and that, therefore, the complicated solution was just as simple as the uninvolved solution. Rokeach's reply was to the effect that if the complicated solution was just as efficient then one would expect the subjects to continue to use it all through the experiment. But, on the contrary, there is shown during the progress of the experiment a progressive decrease in intricate solutions on successive problems.

Luchins takes the stand "that rigidity is not a function of the personality per se but of particular field conditions."[3] On the other

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[1] Ibid., p. 468.

[2] Ibid., p. 260.

[3] Luchins, op. cit., p. 459.

hand, as Rokeach points out, Luchins seemingly contradicts himself for he speaks of the differences between feebleminded and normal children in terms of differences attributable to differences in the rigidity of personality structure.

Luchins bases his critique of the methodology used in the research on the grounds that Rokeach had used a class approach rather than a field approach in his procedure. He defined the class oriented method as: (1) based upon dichotomous classification in place of continuous grading; (2) categorization that is based upon end results rather than upon the nature of the processes involved in bringing about the end products; (3) concern is with statistical averages rather than with any particular case; (4) lack of concern with the exception to the rule; (5) "... consists in regarding an individual's behavior as determined by something in the individual's nature."[1] To persist that Rokeach dealt only in Aristotelian concepts belittles the context of his research, and denies his frame of reference for experimentation.

Rokeach in reply to the charge of using the class oriented approach states that both personality and environmental factors are determiners of behavior; he chose to emphasize the factors of the personality. He further states that:

> Luchins seems to hold the view, not shared by the writer, that since field conditions determine the behavior it follows that only specific factors are operative, i.e., there are no constants in behavior. If Luchins' view were correct, generalizations would be possible only between one situation and another precisely like it. Our conception of psychological fields leaves room for the operation of both constant and variable factors. The situations we set up represented different psychological fields for different

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[1] Ibid., p. 465.

> individuals. We tested the hypothesis that the variance of psychological fields between groups was greater than the variance of psychological fields within groups.[1]

And in relation to field theory, Rokeach states that:

> Luchins, furthermore, seems to hold the view that field theory is concerned only or primarily with different psychological processes underlying the same end product. Field theory is also concerned with the possibility that different phenotypes are expressions of similar genotypes. It is with the latter that our investigation was primarily concerned. Within a dynamic personality framework we set up hypotheses that different phenotypes (prejudices, rigidity in solving problems, ...) may be manifestations of a similar genotype. Our results, we feel, confirmed these hypotheses, and it is now necessary to specify more fully, by further research, the nature of this genotype.[2]

To summarize the findings in the literature it may be said that there is evident among the workers interested in the concept of rigidity two prevailing ideas: (1) rigidity as a general personality factor; and (2) rigidity as a specific factor which is manifested under a particular set of circumstances and for a specific action. The bulk of the evidence seems to point toward the concept of a generalized rigidity. The question is, however, still open for further research. There is evidently a considerable need for an understanding of: (1) the mental processes taking place when rigidity is manifested in problem solving situations; (2) a need for understanding the motor neurological processes involved in motor acts; and (3) a need for measuring instruments to detect, qualitatively and quantitatively, both rigid mental processes and rigid actions.

The concept of rigidity has been shown to manifest itself by a rigidity, an inflexibility, a stereotypy of thinking. This pattern of

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[1]Rokeach, op. cit., p. 472.

[2]Ibid., p. 473.

thinking is contrary to the mode of thinking utilized in the usual workings of experimental democracy. The work of Frenkel-Brunswik,[1] as reported above, shows that she finds that this may be true in that she apparently detects a relationship in the factors of ethnocentrism, rigidity of the thinking process, and scientific thinking. The work of Rokeach[2] also points out that rigidity of thinking is not confined to social situations alone, but rigid thinkers show an inflexibility of solution to other types of problems. The above indicates the possibility that individuals who are rigid in their patterns of thinking will not be able to utilize effectively the group process which is premised on the concept of experimental flexibility whereas rigid thinking is a manifestation of inflexibility.

Several studies bridge the gap between the general pervasive rigidity set and the functional aspects it presents to investigators under varying field conditions. The authors of The Authoritarian Personality have demonstrated in a more plausible manner than previous investigators that there is determinant relationship between particular attitudes towards public objects and symbols and deeper cognitive and emotional dispositions.

The phrase 'intolerance of ambiguity' can be easily misunderstood. Ambiguity seems to be standing for complexity and differentiation which is an essential aspect of the creative process, not intended to indicate undesirable aspects of cognition such as confusion or inarticulate vagueness. Block and Block[3] contributed additional evidence between association

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[1]Frenkel-Brunswik, op. cit., pp. 271-291.

[2]Rokeach, op. cit., pp. 259-278.

[3]Block, Jack and Block, Jean, "An Investigation of the Relationship Between Intolerance of Ambiguity and Ethnocentrism," Journal of Personality, 1951, 19, pp. 303-311.

of prejudice and intolerance of ambiguity when they discovered that highly ethnocentric subjects established a more personal norm in repeated trials of autokinetic phenomenon than did the unprejudiced. However they explained this as excessive ego control not a rigidity manifestation.

The existence of rigid sets and outlooks and of a predilection to use preconceived, dogmatic categorizations together with a certain inaccessibility to new experience can, on the basis of the interviews, be ascertained significantly more frequently in the highly prejudiced person. There is a tendency toward dichotomizing which extends from the conception of the parent-child relationship to that of moral values, and handling of social relations manifested by in-group - out-group cleavages. The highly ethnocentric persons concretize or reify abstract concepts and have less pronounced appreciation of the complexity of relationships.

Brown[1] finds the unprejudiced subjects more pliable, tending toward creative flexibility although there were complete blockages in solving of some tasks. He interprets the latter as a lack of interest in the aspects of reality involved in the particular set of tasks. He suggests further that anxiety over achievement must be aroused before rigid performance exists.

Pitcher and Stacey[2] feel that rigidity may be a "culturally induced factor." Ascendance-submission seems to them a higher order construct to which rigidity is related which brings about general results in one

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[1]Brown, Roger, "Rigidity and Authoritarianism," Journal of Abnormal and Social Psychology, Vol. 48, October 1953, No. 4, pp. 469-475.

[2]Pitcher, Barbara and Stacey, Chalmers, "Is Einstellung a General Trait?" Journal of Abnormal and Social Psychology, Vol. 49, January 1954, No. 1, pp. 3-5.

study and specific in another. Ego involvement as related to submissiveness may be the determining factor in whether or not rigid behavior is exhibited, when the factors of age and intelligence are held relatively constant.

Cowen and Hess[1] follow the belief that differing field conditions may produce different factors of rigidity. However they state that a generalized though not overpowering personality-related mode of problem-solving appears to be demonstrated. They advocate more fruitful investigations of problem-solving rigidity, personality variables and new and varying field conditions. Harris[2] discovered that stress conditions induced a stronger rigidity set and thus it was less readily given up in the face of infirming information.

Millon[3] studied the situational correlation of rigidity and the tendency to structure. He concluded that the ego-involved individual displayed greater consistency and congruence with regard to norms and values. The more involved the more vigilant is he in defense of stimuli that threaten him. Thus we note that the rigid person tends to structure more frequently and more intensively than the task oriented person.

Since this is also the thesis of modern educational methods relating these motivational aspects to a study of the creative process of the individual is desirable.

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[1]Unpublished paper. Address at American Psychological Association, Washington, D. C., September 1952.

[2]Harris, Robert A., "Effects of Stress on Rigidity of Mental Set in Problem Solution," Unpublished dissertation, Harvard University, 1950.

[3]Paper delivered at American Psychological Association, New York City, September 1954.

Comprehensiveness

As discussed previously, not only is the discussion method in groups valuable in its flexibility, but it is also a technique which allows for the discovering of possible alternatives to action. Upon this discovery of alternative actions some choice has to be made among them. Here value judgments are utilized.

This study proposes to deal with the comprehensiveness of individuals. Rokeach, who has proposed the ideas of this transposition from comprehensive propositions to comprehensive individuals, states:

> When one says, therefore, that one theory is more comprehensive than another there is the added psychological implication that persons embracing the more comprehensive theory will be more comprehending of phenomena falling within the subject matter of this theory than other persons embracing the alternative but less comprehensive theory.[1]

Rigidity of the thinking process, as heretofore discussed, indicates an inflexibility, a stereotypy of thought patterns. On the other hand, the comprehensiveness of an individual indicates the ability to comprehend many things, to have a wide scope of thought, to have the ability to see broad and general relationships. It would seem that relatively non-rigid individuals would be more comprehensive in their pattern of thought. This is one of the propositions with which this study deals.

There is in the literature a number of papers that sustain the idea of comprehensive cognitive structures, and the converse of the narrow-minded cognitive structure. Rokeach[2] in a paper dealing with a

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[1]Rokeach, Milton, "Toward the Scientific Evaluation of Social Attitudes and Ideologies," The Journal of Psychology, 31, p. 99, January 1951.

[2]Rokeach, Milton, "A Method for Studying Individual Differences in Narrow-Mindedness," Journal of Personality, Vol. 20, No. 2, December 1951, pp. 219-230.

method for studying individual differences in narrow-mindedness used a technique that was adapted in the present paper in Chapter III. Subjects were asked to describe in what way a group of concepts (previously determined to be related) were interrelated. He concluded that the descriptions could be ordered along a continuum ranging from a comprehensive to an isolated to a narrow organization. Rokeach defined a comprehensive organization as "... one in which all ten concepts are organized into a single whole...." The isolated organization is one in which the concepts are sub-structured into two or more divisions, but all concepts are included in the organization. The narrow organization is one in which one or more of the concepts are omitted from the subject's organization.

A second paper, stemming from the first one above, by Rokeach[1] dealt with narrow-mindedness and personality structure. An examination and analysis of the results from the first paper showed the existence of great differences in the organizational pattern of the concepts utilized. It was apparent that here was a means of examining the cognitive structure of the narrow-minded subjects as revealed by their cognitive organizations of the above concepts. It was seen that it was possible to study the organization of the parts entering into the whole -- that is, the organization of the definitions of the concepts which made up the study. The research was concerned with two major problems: (1) are the differences exhibited by the subjects in the organization of total structures a function of or related to individuals in the organization of sub-structures;

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[1]Rokeach, Milton, "Narrow-Mindedness and Personality," Journal of Personality, Vol. 20, No. 2, December 1951, pp. 234-251.

and (2) are the individual differences exhibited in the organization of both parts and wholes a function of or related to other personality factors? Rokeach concluded from his results that:

> Subjects scoring high, middle and low in ethnocentrism organize significant segments of their social world in a successfully more comprehensive manner. Furthermore, ... those scoring at the low extreme also organize the parts entering into the whole in a relatively more abstract manner than those scoring middle or high in ethnocentrism. Finally, while individual differences in the organization of the total structure do not seem to be related to individual differences in the organization of the more peripheral political-economic sub-structure, they are found to be significantly related to individual differences in the organization of the more central religious sub-structures.
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> ... While persons scoring at opposite extremes in ethnocentrism may perhaps be equally resistant to change, this resistance may be conceived as a function of differences in underlying cognitive structures. Low scorers more frequently organize their social world comprehensively and abstractly and this is why their social attitudes are resistant to change. They also organize non-social aspects of their world more comprehensively and abstractly....[1]

Rokeach found that the converse of the above is also true: that the group of individuals high in ethnocentrism are resistant to change due to the fact that they organize their social world more narrowly and concretely than those low in ethnocentrism.

These two papers indicate that it is possible to study the cognitive structure of individuals with a relative degree of ease by the use of the techniques here suggested.

In a more practical sense the previous review of literature could possibly be subsumed under one theory, that embracing the learning process. The writer does not presume to dismiss easily these varied frames of reference and accompanying experimentation to prove this point. One

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[1] Ibid., pp. 234-251.

striking similarity is that all approaches are like the learning process, not only do all theories lean to this thesis but lean moreover to the fact that learning is effected as the result of the reduction of some need, tension, or drive. One exponent emphasizes the historical elements, while another proposes to consider only the contemporaneous elements. Contemporary learning may be described in the realm of stimulus complex and the (co-satiation) data found on co-satiation phenomena fits in with results of stimulus generalization research. Experience or past learning can utilize the stronger proposals by the psychoanalytically oriented rigidity studies.

Reinforcement theory tied in with strong motivational elements may be set up to explain Frenkel-Brunswik and Rokeach's theory. An attempt to relate these approaches is a thesis underlying this study. If the rigidity contradictions were dropped in favor of more comprehensive approaches, a greater integration might result for the larger theory -- an explanation of this phenomena as it operates in different persons with varied results. That rigidity may be related to "resistance to extinction" may be a worthy concept for the writer to pursue.

A short time after the writer had formulated this integration concept among prevailing theories of rigidity (not alone since many foremost thinkers in the subject have verbalized the reaction), an article appeared exhibiting the same view. Applezweig[1] says:

> Further analysis of the concept of rigidity as it is understood by other investigators, reveals that there exists little agreement as to the specificity or generality of

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[1]Applezweig, Dee, "Some Determinants of Behavioral Rigidity," Journal of Abnormal and Social Psychology, Vol. 49, 1954, No. 2, pp. 224-228.

> rigidity of an individual. The Kounin-Werner controversy and, more recently, the Luchins-Rokeach controversy emphasize the differences of conceptualization. One of the striking deficiencies in this area of study has been the lack of agreed upon measurement techniques; investigators usually develop tests independently of each other.

Her final conclusions based on rigidity measures in a real-life threat situation at Submarine School was that no general factor appeared among varying conditions of security. Scores obtained by any individual are a function of the person but also the conditions of test administration.

It has been observed that there occurs in our culture a personality typology characterized by the "inability to change one's set when objective conditions demand it." This person is not brain-damaged, nor psychotic. He may or may not be neurotic in the classical sense -- but he is usually not considered so. His behavior is similar to the neurotic's in that it is uneconomical. He tends to conform to accepted protocol, but may erect his own standard behavioral patterns. He is blind to alternate forms of behavior which may be less complex, and rejects them when these alternates are made apparent to him. After reaching decisions, he is unyielding. Perhaps the need which motivates all this behavior could be termed the need to structure his environment and a concomitant need to adhere to that structure.

This construct of a rigid personality has some place in psychopathology. It would be useful to isolate etiological factors in the development of the personality syndrome if such exists. An idiographic approach to test results of, symptoms of and sources of such behavior would aid research.

While this rigid behavior may be a defense when observed it is primarily a learned mode of behavior which may be used as a defense. Its usefulness to the individual seems obvious when we see that basically rigid personalities develop disorders under stress in which rigidity is a paramount defense.

If we hypothesize this phenomenon as learned early in the development of a person; rigidity is learned in order to avoid anxiety when a child is punished for deviating from the norms set down by the parents. After repeated punishment or strong motivation to enforce one trial learning, the child develops a chronic behavior pattern which may lose its reward value as defense but will continue as a mode of behaving.

The early patterns seem not reversible in later life as exemplified by our social speech fright cases. The concept of resistance to extinction applies to this observation. Forms of therapy in which flexibility of behavior is strongly rewarded in the therapeutic situation thus changing the person's general behavioral set may be possible. Cited instances in this chapter indicate that it is not universally useful with these persons.

Rigidity may be seized upon as a defense by a basically flexible individual at the start of a conflict. It would then follow that such persons would have rigidity less ingrained in the ego structure and may be referred to by some of the experimenters as situational rigidity. The concept may be still viewed as an idiopathic explanation of the phenomenon even with these modifications.

Gaier[1] reviewed recorded protocols (with students) of their

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[1]Gaier, E. L., "Selected Personality Variables and the Learning Process," Psychological Monograms, No. 349, Vol. 66, No. 17, 1952.

preceding class discussions. Rorshach tests were given those students in the experiment. The recitations were broken into thought units. The amount of participation was related to achievement and thoughts of students were traced to classroom stimuli.

A certain group of students spent class time concerned with concrete items: self, the teacher, cracks in the floor, non-threatening items and while they could recite specific knowledge they were unable to apply it to other situations. An outstanding characteristic of this group was tendency to continue thinking about these specific words long after the group had gone on to other matters. They were easily irritated with class work and especially bothered by the lack of clarity and definite answers to questions. These rigid persons follow the descriptions given heretofore in this review as unable to fully participate in problem-solving of the class because of preoccupation with self and the minutiae of the situation. Their greatest handicap proves to be comprehensive examinations requiring critical and flexible thinking and in behavior settings requiring alternate and interchangeable habits.

Summary of the Chapter

The last example is an illustration of how the concept of rigidity may be drawn from empirical data and used to explain distinctive differences among groups of people. This approach is utilized by the writer. Further evidence for continuing the initial plan of the study is gathered by observation of the similarity of behavior set exhibited by persons diagnosed as rigid from experimental proof and the students who were suffering from social speech fright now facing the writer with the practical problem of giving them appropriate assistance.

For these reasons an idiopathic approach following a methodology promising indication of similarity or dissimilarity among our groups was designed for this study. It follows logically that if an etiological development within a basic theoretical framework can be discovered this method would be chosen correctly.

CHAPTER III

METHODOLOGY AND PROCEDURE

Introduction

Search of the literature gives some evidence that the variables of social speech fright and rigidity share some relationship because of the function each performs for the person. The null hypothesis has been employed to study this interrelated function.

The problem of unearthing some systematic means of working with students exhibiting social speech fright is a practical one. Experience in working with the problem causes the writer to believe that the reactions exhibited with the onset of a social speech fright situation are learned responses. It is common knowledge that learning is modifiable. A further step to aid in the practical situation would be to determine means of identifying or discovering these learned reactions. Early discovery can prevent continual reinforcement of the learned reactions by administratively instituting changes to avoid creating the speech fright environment. Discovery of the problem at less traumatic stages might yield more results with appropriate treatment. More appropriate treatment or therapy could be planned through systematized measurement and discovery.

This time-saving factor in early identification could be illustrated by a study reported in Iowa in 1952.[1] This data was obtained from the

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[1]Greenleaf, Floyd, "Exploratory Study of Speech Fright," Quarterly Journal of Speech, October 1952, p. 329.

students early in the school year.

TABLE 1

DISTRIBUTIONS OF SELF-RATINGS OF DEGREE OF STAGE FRIGHT BY 789 COMMUNICATION SKILLS STUDENTS, UNIVERSITY OF IOWA

Degree of Speech Fright	Male N-664 Percentage	Female N-125 Percentage	Total N-789 Percentage
None	11	12	11
Mild	32	27	32
Moderate	47	51	47
Severe	10	10	10

Studies surveyed in Chapter II have suggested that self-ratings be discarded as the most reliable means of determining existence of stage-fright. But if an instrument sensitive to detection of social speech fright could be devised to give the same measure of knowledge as indicated in Table I in beginning class periods for new freshmen, several benefits mentioned previously would be attained. In the absence of such instruments attention must be given to the entire class, in the case above, 789 students, until such time as the social speech fright presents itself. During this interim both student and instructor proceed as if the possibility does exist that social speech fright could occur.

Each study of stagefright reported in the literature appears to be undertaken from the personal bias of its author and with little relationship indicated to other studies in the field. With an environmental setting such as this, research does not progress toward converging goals

very quickly.

To avoid falling into similar habit patterns of unconnected surveys, thought was given to the present group of concepts found in the literature regarding social speech fright. Additional investigation needs to delineate its place in this universe and be specific in purpose. An additional safeguard was employed before planning the formal design structure. Test material and information at hand regarding former students with speech fright was systematized to determine if the proposed study would add independent and new research knowledge to the current information.

No significant correlations were obtained between college students exhibiting social speech fright and their standings on the American Council of Education examinations administered to this group upon entrance to Michigan State College. No significant trends or signs were noted on comparisons between scores obtained on Rotter Incomplete Sentence Blank, Minnesota Multiphasic Personality Inventory (both the original scale and the modification by Harrison Gough and associates) or other tests frequently administered in the Counseling Center. These conclusions support the study by Holtzman[1] that structured personality tests do not yield group characteristics for stage frighted persons. Case histories did not yield a useable formula although they (as well as the test scores) gave relevant material for individual cases considered alone.

This study was initiated partly to search for common bases for examination, treatment or prevention of social speech fright. Neither

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[1]Holtzman, Paul Douglas, "An Experimental Study of Some Relationships Among Several Indices of Stage Fright and Personality," Unpublished doctoral dissertation, University of Southern California, August 1950, p. 97.

surveys of other experiments, as exemplified in Chapter II, nor information learned in the present situation brought satisfying conclusions. Consequently further study along new specific objectives is warranted.

The environmental setting is that of usual classroom in classes of Freshman Communications Skills, one of the required Basic Courses at Michigan State College. Built into the course of study were several speech assignments requiring a high level of communication and presentation before a group of peers. Students were of necessity ego-involved in these presentations since not completing these assignments required repetition until they succeeded, as well as public failure before their peers. The grading system was segmented; and passing in speech, as well as other areas, was one of the necessary requirements before averaging the total grade. In some few extreme cases of stagefright, completion of this requirement was waived if it was judged an unfair hardship on the student. This waiver, however, required special handling even after concurrence in the same judgment by the class instructor, department head, director of speech clinic and the writer as counselor. This fact was never announced publicly to the student body and to the writer's knowledge was never known except by those individuals to whom the waiver was given. Each student, when accepting it, was cognizant enough of his situation to prefer to accept it without further ado.

Selection of the Sample

The population for the study was composed of the students in Communications Skills classes at Michigan State College during the fall of 1952. The sample drawn from this group was composed of (1) an experimental

group, all of whom were diagnosed as exhibiting social speech fright and (2) a control group selected from those who were judged as not having social speech fright.

Experimental Group: Determination of group one, or the experimental group, was established through the judgment of several experts in the speech field. Previous to class registration each quarter all students in Freshman English classes were screened by clinicians for various speech disorders, one of which was social speech fright. Some students not diagnosed in this screening were later discovered by class instructors through class assignments. A third screening was produced when additional students indicated introspectively that they had problems and symptoms similar to speech fright. The confirmation of any one of these screening devices was given by the director of the speech clinic who worked closely with these students and who referred only those persons whom he judged were actively exhibiting social speech fright. Mild symptoms that appeared infrequently and inconsistently did not constitute a referral case. Referred students (from the Fall term sequence of classes) from September 1952 until March 1953 came to the counselor one at a time, preferring individual attention to their problem. The experimental group was thus formulated by totaling the number of referrals for counseling with this problem. Methods of both expert judgment and introspection were utilized to define the group for further study.

Control Group: The control group was drawn from the remaining number of students in their third quarter of Communications Skills classes. Whether or not the contagion phenomenon might operate in the presence of social speech fright was not known. However it was believed that if a

difference truly existed among students who do manifest speech fright from those who do not, exposure to the speech fright might influence the thinking of a non-speech frighted person. It was known that some persons included in the experimental group had been diagnosed while performing their assignment, thus "exposing" the entire class section. To avoid such influences any class section in which speech frighted students were enrolled was rejected for control group selection. From the remaining class sections, having no students with social speech fright enrolled; three classes were randomly chosen to accumulate a total sample equal to the experimental group.

Description of the Sample

A total of 157 subjects were studied. A sample of 33 females and 45 males composed the experimental group, making a total of 78 in this group. Nine additional members, 5 male and 4 female of the original sample refused to take part for reasons best known to themselves and held confidential to the writer.

The control group sample numbered 79; 42 male and 37 female. Certain factors were held constant by the characteristics of the population. As college freshmen at Michigan State College they were above average in intelligence measured by a College Placement battery or natural selectivity. The sex distribution was controlled by equal ratio in filling classes at registration time.

The Methodology

Problem Viewed Theoretically: The methodology selected for this

paper was derived first through logic. Predictions can be tested from theories, but establishing the validity of a construct and of the defining measures by conducting an experimental investigation is not used deliberately and extensively within psychological literature.

Certain aspects of the California studies of The Authoritarian Personality[1] utilized this logical frame of reference in clarifying their objectives. The basic theory of these studies was that such psychological processes as attitudes toward out-groups, toward authority figures, toward discipline and toward conventional morals are not independent ones; but that the nature of these attitudes in a person is a function of some characteristic mode of adjustment to conflict and hostility. This mode is observed as varying from relatively insightful, direct, and ego-integrated attack on problems to extremes of repression, projectivity, displacement and ego-alien mechanisms displayed in the place of useful activity.

It is predicted that the latter pattern of adjustment will produce ethnocentrism, conventionality and docility before authority and that the first will underlie attitudes of tolerance for out-groups, acceptance of the unconventional, and a more objective evaluation of authority. The evidence presented involves correlations between the phenotypic measures of these various processes. The correlations are roughly those that would be expected if the theory is true and the measurement relatively valid. Critics suggest that this study does not provide a wholly satisfactory test, either of the hypotheses or of the measures involved, since there is no attempt to test predictions under conditions that systematically

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[1]Adorno, T. W., and others, The Authoritarian Personality (New York: Harper Brothers, 1950).

control the variables. Lack of such controls may well be the limitations of correlational techniques applied to the study of dynamic organization.

On the other hand, Stevens[1] comments on the predicament of validating measures of any intervening variables in an experimental situation. He suggests that these variables are largely what he calls "indicants" and are related by unknown laws to these psychological dimensions in which the experimenter is really interested. From restlessness one infers drive, observing verbal statements permits logical inference of attitude. The writer discerns social speech fright and infers rigidity. Stevens states:

> The difference, then, between an indicant and a measure is just this: the indicant is a presumed effect or correlate having an unknown (but usually monotonic) relation to some underlying phenomenon, whereas a measure is a scaled value of the phenomenon itself. Indicants have the advantage of convenience. Measures have the advantage of validity.[2]

Obtaining measurement of an "indicant" and restricting it to the relationship between the measurement and the process measured is illustrative of validity. This goal is the desired objective of the present research and it would be convenient of ways could be found to discover this relation without recourse to the complicated procedures of prediction. The trouble is that there is no direct access to the underlying phenomena. Stevens implies that the indicants are always observed for one cannot get inside and watch attitudes at work. The hope is that one can approximate more and more closely the law which relates indicant and the thing one desires measured. A proof that the law has been discovered

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[1]Stevens, S. S., "Mathematics, Measurement and Psychophysics," in Stevens, S. S., (ed.), Handbook of Experimental Psychology (New York: Wiley and Sons, Inc., 1951), p. 47.

[2]Ibid., p. 47.

is upheld when one assumes a specific relationship of some process and its measure and by observation note that prediction of this event to others is more accurate than if some other relation were postulated. The final relation must be guessed at and tested by its fruits.

Problem Viewed Practically: Specific to the present study was the initial premise that social speech fright was an indicant. Rigidity might be immediately inferred by some proponents as the source of speech frighted behavior as noted by the reasoning set forth by Block and Block,[1] Brown[2] and Pitcher and Stacey.[3] A less risky and more sound approach is to accept the conditions of Rokeach[4] that rigidity was observed as occurring in varying degrees in the Freshman Communications Skills classes.

Empirical observations ascertained from experience with persons suffering from social speech fright suggest that these symptoms are related to behavior sets exhibited by persons having rigidity. Rigidity has been predetermined to exist in a similar population.[5] Stagefright has been reported to exist in varying degrees among a normal population.[6]

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[1]Block, Jack and Block, Jean, "An Investigation of the Relationship Between Intolerance of Ambiguity and Ethnocentrism," Journal of Personality, 1951, 19, pp. 303-305.

[2]Brown, Roger, "Rigidity and Authoritarianism," Journal of Abnormal and Social Psychology, Vol. 48, October 1953, No. 4, p. 469.

[3]Pitcher, Barbara and Stacey, Chalmers, "Is Einstellung a General Trait?" Journal of Abnormal and Social Psychology, Vol. 49, January 1954, No. 1, pp. 3-5.

[4]Rokeach, Milton, "Prejudice, Concreteness of Thinking, and Reification of Thinking," Journal of Abnormal and Social Psychology, Vol. 46, No. 1, January 1951, p. 3.

[5]Ibid., p. 83.

[6]Greenleaf, op. cit., p. 327.

Measurement of these two variables by scales appropriate to each is investigated to test judgment of our theoretical basis and test relationship of the variables.

Selection of Measures

Rigidity Scale:

Rigidity: The scale chosen for measuring rigidity was that used by Rokeach, "The E Scale."[1] It was composed of the following words: Atheism, Catholicism, Christianity, Protestantism, Judaism, Capitalism, Communism, Democracy, Fascism, and Socialism. This scale was selected because it dealt with sorting of abstract verbal symbols; the essence of difficulty among persons with speech disorders. It had furthermore yielded statistically significant results on experimentation of rigidity.

Social Speech Fright Scale: The Speech scale, S Scale,[2] was composed of the words: Audience, Confidence, English Class, Failure, Fear, Outline, Speech, Stagefright, Stuttering and Success. The scale was devised for purposes of this study.

Construction of Social Speech Fright Scale

No scale has been published to measure social speech fright that does not utilize self-evaluation or rating to determine either existence of or degree of speech fright. Since these criteria did not fit the conditions

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[1]Rokeach, Milton, "A Method for Studying Individual Differences in 'Narrow-Mindedness'," Journal of Personality, Vol. 20, No. 2, December 1951, pp. 259-278 (Copy of Scale in Appendix C).

[2]Copy in Appendix C.

of the present study a new scale was constructed.

Previous to the instant study, the E Scale had provoked comments from students with diagnosed speech fright symptoms similar to "What does this have to do with my speech?", "How can this tell anything about my speech problem?" These questions indicated some lack of face validity for the problem under study. The decision was made to construct a new scale attempting to measure the variable of speech fright, utilizing terms directly related to speech.

Several key words relating to the field of speech problems were chosen, defined and submitted for criticism to personnel of the Michigan State College Counseling Center.[1] These were reduced to ten final choices listed in alphabetical order.

This S Scale was administered to a seminar group of twenty-four graduate students in February of 1951. After completing the word definitions and directions they were asked to write on another slip of paper whether or not they had ever experienced social speech fright. Description of the symptoms were given them.

The means of first and fourth quartiles were compared between those who said they had speech fright and those who did not. A statistically significant difference was noted. Since the papers were identified this was possible. An interesting comment is that one person showed tendencies in the same direction as those who had speech fright, yet said he had not. Two days later he contacted the writer and said he'd been thinking about the study and he guessed he should change his paper. He related two previous instances of severe speech fright symptoms but never let on how nervous he

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[1]Copy of words in Appendix C.

still was in group situations.

These results, though not highly differentiating, encouraged the writer to submit both scales to an experimental procedure.

Administration of the Scales

Both experimental and control groups were administered the two scales. The procedures differed slightly between the two groups, as explained in the next paragraph, but the exercise became merely a part of the continued diversity of usual class techniques employed by instructors. The terminology employed in both scales was not unlike other reading material required in the class. There was little reason to question that students were not ego-involved in the task nor that they viewed it as anything other than necessary for their subject requirements.

The experimental group members were referred one at a time during two quarters from September 1952 to March 1953. The scales were administered to them in the small groups formed by these students for continued counseling after referral. For some speech frighted students attendance at these meetings was permitted in lieu of class attendance so all projects or discussion within these groups became extension of class work. Membership and participation was a voluntary process for each student.

Administration for the control group was completed during regular class meetings. Three complete class sections comprised a total sum equal to those in the experimental group so time was allowed by instructors to administer the scales in three groups.

Directions on the Scales

The task of the subject in taking Scales E and S is essentially one

of sorting these terms (previously known to be related) into a system most meaningful or one perceived by him as most common. More integrated sorting or organization in the expected direction for college students may occur if preliminary practice exercises of defining or making themselves at home with the individual terms are allowed before being asked to organize them into interrelated groups. This step was part of the administration. Subjects were asked to define each word first; upon completion of this task were given directions for taking the scale.[1]

Judging of the Scales

Two qualified judges known for their interest in and knowledge of the variables under study were selected: Dr. Stanford Glazer, Counselor in the Educational Counseling Center at Wayne University, and Miss Carrie Boyle, Counselor in the Nursing School at Harper Hospital. These persons were professionally ethical and had a broad general knowledge of the problems in rating within the field of psychology.

After administration of the two Scales E (ethnocentric scale) and S (speech scale) each paper was duplicated for judges to rate.[2] These two judges scored each definition independently as well as the total paragraph response embodying the entire ten concepts on each scale. Their ratings have been compared for consistency and reliability in Chapter IV.

Scoring System

The task of each of the 157 subjects was to sort ten concepts into

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[1]Directions are included with scales in Appendix C.

[2]Samples of respondent answer sheets are in Appendix C.

some form best suggested to him by the test directions. The lack of structuring allowed freedom of classification into any desired form by the respondent.

Sorting tasks are common for delineation of abstract versus concrete thinking processes. They are similar to word association tests and tend to have meaning to the subject in a consistent fashion. This consistency of one's usual thinking processes seems to pervade most mental tasks performed by a given person.

If learning can be differentiated into a continuum from narrow striplike maps or concreteness to broad, comprehensive ones or abstract thinking one supposes the level utilized in one task will most probably be repeated in other tasks. These illustrations of thought process are relatively stable and enduring. Field conditions may momentarily necessitate reorganization of the processes but the degree of modifiability still seems commanded by the integration of the basic personality of the individual and the accompanying mental processes. Concreteness of thinking has a non-scientific "me-ness" about it that lends less to interchangeable field conditions than the abstract process. A relatively valid description of a cognitive organization can be obtained because the subject is not aware of how his answers will be judged. Thus the written or verbal description can be one of the best indicants to the measure of the underlying process.

The following three levels of thought processes are postulated for the scoring system:

Comprehensiveness. The comprehensive category indicates that these subject felt all ten concepts were clearly related into a whole.[1] These

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[1]Samples of respondent answer sheets are included in Appendix C.

clearly designated abstract forms were assigned a weighting of 1 by the two judges when all words were described as interrelated.

Isolated. The isolated organization is composed of substructures broken down from the ten concepts. (Samples of these are also included in Appendix C.) As the number of substructures increased the closer they approached the narrow categorization. In the isolated pattern, each word was recognized as phenomenologically present and included with one of the divisions perceived by the subject. The score for this kind of sorting was 2.

Narrow. The narrow judgment revealed that only part of the items were included in the subjects' judgment. The "me-ness" appeared to a great enough degree that some words were indicated as not necessary to the composite paragraph. This narrow frame of reference was assigned a value of 3.

Summary

The experimental group consisted of one hundred percent of those persons adjudged having speech fright in the Freshman Class of Communications Skills at Michigan State College in 1952. The control group was composed of their peers randomly selected from among students judged not speech frighted. Both groups were administered two scales, the E and S Scales. The responses on these scales were categorized into three groups: comprehensive, isolated, and narrow by two competent judges. The ratings were compared for consistency and reliability and will be reported in the next chapter. Other statistical measures to explain the data were employed and also interpreted in Chapter IV.

CHAPTER IV

ANALYSIS OF THE DATA

The purpose of this chapter is to present an analysis of the results obtained in carrying out the study. Each section is related to the basic hypothesis under question that no relationship exists between two variables: rigidity and speech fright.

Two scales, E and S, have been selected, each determined to differentiate degrees of rigidity and speech fright, respectively. Both these variables have qualities about them that stimulate controversial discussion regarding recognition of their presence. It seems that each has to be tested by indirect measures. Inferences about rigidity and speech fright are made on the basis of observable behavior or a set of characteristics suggesting presence of the variable. The data in this chapter endeavor to show that the persons observed with greatest rigidity and speech fright also tend to think in narrow, concrete, non-scientific patterns. The absence of the two variables tends to yield abstract, flexible and comprehensive thought patterns.

One manner of testing validity of the two scales is illustrated by the degree to which categorization by trained judges relates favorably to those adjudged as having speech fright by teachers.

Judge Rating of the Scales

As explained in Chapter III, the judges were trained to categorize

the protocols into a three-fold schema: comprehensive - assigned a value of 1, isolated - assigned a value of 2, and narrow - assigned a value of 3. The two judges classified these responses independently.

The agreement of these judges' ratings is reported in Table 2. The reports were divided into eight sub-groups for further statistical measures, consequently Table 2 reflects this division.

TABLE 2

COMPARISON OF AGREEMENT BETWEEN JUDGES ON E AND S SCALES RESPONSES

Sub-groups Taking Scales	Per cent of Agreement
E SCALE	
Experimental Male	71.0
Experimental Female	85.1
Control Male	82.5
Control Female	91.6
S SCALE	
Experimental Male	81.3
Experimental Female	88.8
Control Male	92.5
Control Female	75.0
Total Average Agreement	83.5

The high correlation between judges allows acceptance of scale reliability and probability that a repeated experiment under the conditions of this study would yield the same results. This agreement also contributes to the validity of the theoretical assumptions underlying the scales. Judge rating consists of an outside independent criterion regarding the

variables under study. There is promise that the category of comprehensiveness may be so judged frequently and differentiate distinctly from isolated and narrow thought processes. Linking these categories to the variables under study it may be said that the comprehensive thinker is less rigid and less speech frighted. This is indicated by the fact that judges scored those items of the experimental group (the students exhibiting speech fright) with a value of 2 (isolated category) and 3 (narrow category) more frequently than in the comprehensive group with a value of 1. The frequency of the scores appear in Table 3, below.

Coefficient of Contingency for Scales

One of the first concerns regarding summarization of data is the reliability and evaluation of the scoring system. Rokeach derives a coefficient of contingency between two judges for the scoring of the E scale and obtained .83 verifying satisfactory reliability. To determine the efficacy of classification for Scale S a coefficient of contingency was computed on judges' ratings. The result obtained was a value of .57. With this high a coefficient the provision of three categories on Scale S would also be accepted. The result of high contingency coefficients on both scales and the degree of agreement between judges regarding the categories would seem to indicate that the judges' ratings are reliable.

The number of responses occurring in each scoring category appears in Table 3, below.

Inspection of the table indicates that a greater number of the control group tend toward comprehensive or flexible sorting procedures than do the experimental subjects. The latter group appears to be more rigid.

TABLE 3

CHART OF FREQUENCY OF VARYING COGNITIVE STRUCTURES

Total Responses Male and Female Combined

Scoring Category	E Scale		S Scale	
	Experimental Group	Control Group	Experimental Group	Control Group
Comprehensive (10 items inter-related into a single whole)	N = 20	N = 22	N = 34	N = 58
Isolated (items broken into substructures but including all words)	N = 28	N = 39	N = 15	N = 6
Narrow	N = 17	N = 5	N = 16	N = 12

Some "omits" or refusals to complete part II of each scale were noted among the papers. The total number of these refusals for all the subjects on both scales was 4.7% of the total number of responses and was found not to influence the results nor to reduce the strength of the statistical tests used. Omits could be tabulated with a weighting of 4 and became a score for a more rigid and concrete centered reply. Such an interpretation agrees with the theory that avoidance reaction is frequently termed a response of rigidity and inflexibility. A "t" test was computed for responses of the two groups on the E Scale scoring the "omits" as 4 on one trial (not reported), and as "o" or neutral on the second trial. No significant difference was obtained between the two trials. Since these

responses were not tabulated by the judges they were dropped from further consideration in the analysis. The total number of papers scored with a weighted response was thus used as the total N or sample for statistical computation.

Investigation of the Hypothesis

The results of the complete investigation are presented in several sections, the first being examination of the null position. Having established a degree of validity for the categories on each scale the next logical concern is to study relationship of measures on one scale to the other scale. The commonly accepted approach for comparing degree of relationship between two variables for which we have a single value is the product-moment correlation coefficient. Consequently a Pearson product moment correlation was computed to test linear relationship between responses on scales E and S. The resulting correlation was + .36.

Under circumstances of precise measurements, when compared to a perfect correlation of + 1.00, this would indicate little association of speech fright and rigidity other than a chance association in a few cases. But the significance of a correlation is one which when taken in conjunction with the corresponding value of Z indicateswith reasonable certainty that the direction of the correlation in the universe is the same as the measure obtained in the sample. A Z was computed for the correlation .36. The standard error for Z was .115. Three times the standard error (.345) is less than the Z (.38) of a correlation of .36.[1] On the basis of this

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[1] Waugh, Albert E., Elements of Statistical Method (New York: McGraw-Hill Book Co., 1943), p. 514, Appendix 6.

one can be reasonably sure that there is a correlation in the universe and that it is positive, but the linear relationship is too small to be of practical value when one wishes to estimate values of Y from values of X. The correlation is low, but significant in this case.

Statisticians state that theoretically it is not possible to prove a universal negative; for the discovery of a single positive destroys the universality of the rule. An hypothesis may be accepted if no proof refutes it. It also may be refuted with varying degrees of assurance although its correctness cannot be established. In this case, the significance of the obtained Pearsonian r reveals only that the relationship between scales measuring rigidity and speech fright is positive and in the proper direction. It does not signify a close agreement but on such a basis, the null hypothesis can be rejected; a relationship between rigidity and social speech fright does exist.

Simple rejection of the null hypothesis is not adequate to explain fully the data in the study. A question remaining to be answered is: how much confidence may be attached to the finding?

Divergence of Fact from Hypothesis

A non-parametric measure was employed to check degree of assurance to which the relationship of rigidity and speech fright might exist. Computation of chi squares was deemed essential to make appropriate comparisons with the results of an earlier study of rigidity on a similar population[1] and to determine significance of differences within the

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[1] Rokeach, Milton, "A Method for Studying Individual Differences for Narrow-Mindedness," Journal of Personality, Vol. 20, No. 2, December 1951.

sub-groups formed by scoring categories. These scored categories order themselves roughly along a continuum. All comprehensive scorers from the experimental and control groups were totaled for both scales E and S as well as those falling within the groups of isolated and narrow scorings. Reference to Table 3 above, page 94, will point out the numbers involved. An over-all chi square of 19.85 was obtained which for 6 degrees of freedom is interpreted as being significant at the 1% level of confidence. This would indicate that both speech fright and rigidity scales reveal differences in the underlying cognitive structures of the experimental and control groups. This difference lends support to rejection of the original hypothesis that the relationship of speech fright and rigidity as measured by these scales is not due to chance. Paradoxical as it may seem a measure of difference is at the same time an indication of relationship.[1] For example, if rigidity decreases with intelligence than one may likewise expect to note decrease in speech fright. Table 4 illustrates this more effectively. The various sub-groups were compared by the chi-square technique.

TABLE 4

CHI SQUARE MEASURES AMONG COMBINATIONS OF PAIRINGS FOR BOTH SCALES

Comparison by Categories	Chi-squares
Comprehensive vs. Isolated	4.97 *
Comprehensive vs. Narrow	18.70 **
Comprehensive vs. Narrow and Isolated	12.36 **
Comprehensive and Isolated vs. Narrow	18.70 **

* 5% level ** 1% level d.f. = 1

[1]Goodenough, Florence, Mental Testing (New York: Rinehart & Co., 1949), p. 78.

The preceeding chart reveals that each of the three categories differs significantly from the other two groups. Categorical definitions that are independent are made on both scales and these definitions array themselves systematically on a continuum. All chi-squares were found to be statistically significant at or beyond the five per cent confidence level but the greater significance obtained at the 1% level of confidence on all comparisons except the comprehensive versus isolated group suggests the distinction is less clear-cut at this boundary.

Returning to the chi-square measure of the complete table a check was made regarding the size of the sample and the cell groupings. Since all samples on either scale or group number greater than 50 and no cell is less than 10, little evidence is indicated that the large chi-squares obtained will be equaled or exceeded. Besides the chi-square for both scales, an additional chi-square was calculated for distributions of the E scale and the result was 12.19 or significant for two degrees of freedom at a 1% level of confidence. A similar calculation for the S scale yielded a chi-square value of 36.76, also significant at the 1% level of confidence for two degrees of freedom. These figures indicate that both scales together permit related continuity of scoring categories. Each scale retains the same property when used alone. These variables, rigidity and speech fright, approach discrete entities when classified by these two scales. A phi coefficient is known as a product-moment computation and not only measures the degree of association of two variables but can be computed from chi-squares. When computed from significant chi-squares such a correlation has the same implied association of a

Pearsonian correlation. The formula $C = \sqrt{\frac{x^2}{n + x^2}}$ was used for computing the contingency coefficient between the two scales. This value was .334 yielding the $r_{\varphi} = \sqrt{\frac{x^2}{n}} = .55$. This suggests the relationship between speech fright and rigidity to be higher than the previous correlation (Pearson r of .36), and may be more descriptive of the present data if these variables tend to be related in a non-linear fashion.

Analysis of Variance Applied to Null Hypothesis

The rationale of the analysis of variance is that the total sum of squares of a set of measurements composed of several groups can be analyzed into specific parts, each part identifiable with a given source of variation. On this basis one can analyze the results of the parallel or duplicated experiments under homogeneous conditions that characterize the present investigation. The F variance ratio, tabled by Snedecor, indicates the values (related to 5% and 1% points) that cannot be equaled or exceeded if the samples in the study are similar to the population from which they were drawn. Table 5, below, illustrates the results of the variance analysis.

The table would indicate that differences do exist between the groups tested on the variables of speech fright and rigidity. To determine whether these same differences would repeat more frequently than by chance variation reference is made to tables of F variance.

Reading from the F ratios obtained one is able to summarize certain statements about the results. Ninety-five times out of a 100 times one may expect to find real differences in a similar experiment conducted on successive samples comparable to the one drawn for the present study.

TABLE 5

ANALYSIS OF VARIANCE FROM DATA OF TABLE 3

Source of Variation	F Ratio	Sum of Squares	Degrees of Freedom	Mean Squares
Total for Experiment		159.89	277	.5772
Between Groups (Total)		13.82	7	1.974
Within Groups (Total)		143.22	270	.531
Between Scales E & S		3.27	1	3.27
Between Experimental and Control (Method)		10.54	1	10.54
Interaction (Between Scales and Method)		.01	2	.005
Interaction (Between Males and Females)		26.47	3	8.82
Between Groups / Within Groups 1.974/.531	3.717 *			
Between Scales / Within Groups 3.27/.531	6.089 *			
Between Methods / Within Groups 10.54/.531	19.886 **			
Interaction Between Groups / Within Groups .005/.531	.0094			
Between Males and Females / Within Groups 8.82/.531	16.642 **			

* Significance at 5% level of confidence
** Significance at 1% level of confidence

The F ratio (3.717) derived from variations between the groups, versus variations about the groups, Experimental and Control, would support this. The F ratio of 6.089 indicates real differences 95/100 times between the two scales, E and S, when compared to variances within the groups. However no significance (F of .0094) is noted among variations of the interaction of the two variables, speech fright and rigidity, and the distinction of experimental versus control groups. This observation supports the statement that rigidity and speech fright are connected response patterns. The difference between responses of males and females in this experiment, when compared to other differences within groups, does not occur by chance.

This variance method not only permits a more effective use of small samples but also permits continuing comparisons within the data to gain more precision in measurement.[1] The total variance of the given population in this experiment can be divided into its component parts with a high degree of assurance; yet one may be woefully in error in attempting to ascribe either the variance between groups or within groups to some particular circumstance or condition. Product-moment correlations were calculated between variables showing significant differences in Table 5 to explore further the extent of these relationships. The responses of males of the experimental group on the two scales correlate .44 and females .24 on such a calculation. The greater propensity for males to respond alike would be expected from review of the literature. The female sex has been known to respond in an unpredictive manner in other studies.[2]

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[1] Ibid., p. 274.

[2] Holtzman, Paul Douglas, "An Experimental Study of Some Relationships Among Several Indices of Stage Fright and Personality," Unpublished doctoral dissertation, University of Southern California, August 1950.

Other correlations were calculated. Experimental groups on both scales correlate .28 while control groups on the S and E Scales vary together .12. Combining both control and experimental samples yields a correlation of .10. The experimental subjects tend to agree more consistently than the students in the control groups, with the greatest consistency shown among males of the experimental group. Inspection of data indicates the direction of these responses to be toward the narrow category inferring greater rigidity and speech fright.[1]

Comparison of Differences Between Experimental and Control Groups

To determine whether each scale considered independently indicated a distinct difference between experimental and control groups, "t" tests were computed for each scale. Table 6 shows these results.

TABLE 6

MEAN SCORES OF SUB-GROUPS ON SCALES E AND S

	E Scale		S Scale	
	Experimental	Control	Experimental	Control
N	65	77	69	77
Mean	1.8405	1.493	1.623	1.377
Standard Deviation	.8619	.8927	.903	.0866
t	2.38		1.77	

A "t" ratio indicates that there is a real difference between groups on the E scale; the difference being due to chance only 2 times out of 100. The "t" ratio computed for the S scale shows that a real difference

[1] These correlations were purely exploratory and not an integral

would be found 90 out of 100 times.

The E Scale distinguishes more sharply than the S Scale on the two groups. It should be noted further that homogeneity of the group restricts the spread of behavior and probably limits differences occuring. The discreteness of the scoring categories also permit spuriousness in data.

Another factor influencing the tests of the data could be due to the possible lack of normal distribution for the experimental group. While the variable of speech fright is observed and described as a normally distributed one no cases of mild speech fright were referred for this study. A judgment of moderate or severe degree was given by the methods of expert judge and introspection of subject.[1] A "t" test computed from the E Scale responses and the degree of speech fright yielded a value of .069. This is not considered significant. A "t" test derived between S Scale responses and degree of speech fright was 4.19. This is a very significant difference and reveals that though the E Scale is more discriminating regarding the rigidity or flexibility of the subject it does not reliably nor validly distinguish degree of involvement with speech fright. Greater discussion on this point will be treated in Chapter V.

Cross-Validation of Previous Experimentation

In the interest of furthering knowledge of good tests, part of this experiment was a deliberate attempt to recheck the findings of Rokeach[2]

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[1]Explained in greater detail in Chapter I.

[2]Rokeach, Milton, "Prejudice, Concreteness of Thinking, and Reification of Thinking," Journal of Abnormal and Social Psychology, Vol. 46, No. 1, January 1951.

on a scale of rigidity, the E scale, administered to a population of 144 subjects who were members of a freshman class in Communications Skills at Michigan State College. Conditions of administration were similar: groups of 15-20 subjects took the scale at a time in 1949; and in the present experiment 157 subjects were administered this test first and the S Scale secondly in small groups approximating 10-15. A replication of Rokeach's study was attempted; but because of the small n observed in the sub-groups in Table 2 above, and the desire to determine relationship of variables on both E and S Scale separately, further breakdown of the data as successive samples would probably destroy significance gained by retaining the total n in the over-all statistics. While rigidity is assumed to be a variable normally distributed less is known of the speech fright characteristic until further experimentation has been carried on and consequently a larger sample lends strength to the findings in this study.

The samples of the Rokeach work in 1949 and the present one in 1952 are determined as relevant ones occurring in the same population of a universe of annual communications skills classes of freshman college years. The assumption of normal distribution of speech fright permits the justification that the samples in both studies were randomly selected. If the rigorous reader denies this procedure to be cross-validation, then the closely related variant, validity generalization, is most assuredly illustrated by this picture. The process, aside from the name attached to it, is to extend the validity of the instrument, Scale E, for more predictive use.

Weightings of scoring, reliability of these scorings and consistency

of statistics were computed and reported in the present study. These were confirming evidence to those statistics reported earlier by Rokeach.[1]

A methodological weakness in the earlier study was announced by Rokeach; failure to request the degree of differentiation as well as interrelatedness of the 10 items for sorting from the subjects. This suggestion could not be incorporated into the present study for two reasons: (1) attempt to extend validity of a rigidity scale to that of speech frighted population requires repetition of same experimental procedure; (2) the E Scale, measuring rigidity, was chosen because of its previous standardization for comparison with S Scale; therefore could not be changed without destroying the experimental significance. The same weakness is indicated in this study but further discussion of the problem will be treated in Chapter V.

Summary

The null hypothesis of no relationship between rigidity and speech fright as measured by Scales E and S is rejected. Several statistical tests: a product-moment correlation, chi-square and analysis of variance support this conclusion.

Scoring systems on both scales are accepted by agreement of judge rating and computed contingency coefficients.

The separation of E Scale and S Scales yields less significance of difference between the experimental and control group when tested by Fisher t's. The E Scale has discrimination at the 2% level of confidence and the S Scale at 10% level of confidence.

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[1]Rokeach, Milton, op. cit., p. 226-227.

Despite the finer discriminatory power of the E Scale on abstract versus concrete thought processes, the S Scale differentiated degrees of speech fright to a very significant degree while the E Scale did not do so with any degree of confidence greater than chance.

CHAPTER V

SUMMARY, CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

Statement of the Problem

This study was designed to investigate the relationship of two variables: rigidity and speech fright. A null hypothesis was applied to test this general quest. Several subsidiary questions were asked and are discussed in juxtaposition with the findings applicable to each.

The basic inspiration for this study was suggested by the practical necessity of alleviating or meeting social speech fright problems among college students and the theoretical implications of the California studies written in "The Authoritarian Personality." It is observed that their approach is to utilize a typology or syndrome and deduce specific modes of behavior from it. The empirical grounding of the studies postulate that the same conditions exist in overt behavior as well as in subjective or implicit conditions. Brunswik[1] looks for forms of perceiving which hold true in both areas, emotional and social. She illustrates evidence of premature reduction of ambiguous cognitive patterns to certainty in the prejudiced subjects. This is revealed by the clinging to the familiar or by a superimposition of one or many distorting cliches upon stimuli which are not manageable in a more simple and stereotyped

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[1]Brunswik, Else Frenkel, D. J. Levinson, and R. N. Sanford, "The Anti-Democratic Personality," in Newcomb, T. H., Readings in Social Psychology (New York: Henry Holt and Company, 1947), p. 86.

problem. Cognitive and non-cognitive elements are inextricably interwoven in the individual's performance on all types of tests, but much more work will need to be done before we can draw definite conclusions as to the basic variables.

The writer believes that one of the most important steps in building a systematic approach to any field of knowledge is the establishment of such hypotheses derived from theory or empirical evidence and the testing of these hypotheses to determine their validity. In evaluating the results of this experimentation, the evidence that might tend to disprove the hypotheses can hardly be considered less important to science than the confirming evidence. Actually, the negative findings usually cause the basic modifications of the original theory into a more mature form.

In the case at hand empirical observations were both fostered and contradicted by studies already reported and supposedly validated. From reports published regarding the problem of stagefright one learns that much concern, extensive discussion and some experimentation is in evidence. Progress in treatment or prevention of the wide-spread phenomenon is not reported.

One of the chief motives of the present experiment is to extend knowledge and produce understanding regarding the characteristics of speech fright. Observed facts were formulated into a theory which was checked against accepted knowledge and refined. From this basis the technical approach of utilizing and producing instruments with item validity to test the theory and validate rational hypotheses was followed. Speech fright seems to be present over a long period of time, or to have longitudinal qualities, and takes place in a social atmosphere. Investigation of the

problem on a college level is similar to treating a disease in final stages. However in view of the theoretical concern proposed experimentation at this phase may yield meaningful conclusions and workable hypotheses for use in earlier stages.

The concept of rigidity in the present body of knowledge is subject to many variations. Kounin[1] states that rigidity in behavior may be due to any number of factors other than rigidity in personality structure hence suggests that it must be a hypothetical construct. However, Brunswik[2] says separation of social and cognitive tolerance is not possible. Luchins[3] states rigidity is inherent in the ethnocentric person with an aspect of this general factor noted in social or non-social situations. Rokeach[4] says a pure non-social problem does not exist in view of a non-dualistic approach. He relates the personality factors to thinking processes as illustrated in our introduction to Chapter IV. The ethnocentric person is more concrete in thought and a non-ethnocentric individual is more abstract. He has contributed research on the social dynamics of ethnocentrism and has indicated a factorial relationship between that phenomenon and the general characteristics of mental rigidity in the thinking processes of affected individuals.

In the absence of agreement of these constructs the operational

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[1] Kounin, J. S., "Experimental Studies of Rigidity," Character and Personality, 9:251-272; 273-282, June 1941.

[2] Frenkel-Brunswik, E., "Intolerance of Ambiguity as an Emotional and Perceptual Personality Variable," Journal of Personality, 18:108-143, September 1949.

[3] Luchins, A. S., "Rigidity and Ethnocentrism; A Critique," Journal of Personality, 17:449-466, June 1949.

[4] Rokeach, Milton, "Rigidity and Ethnocentrism: A Rejoinder," Journal of Personality, 17:467-474, June 1949.

definition of Rokeach was selected to compare with the observed characteristics of speech fright. The California studies indicated that fortified by a better knowledge of individual dynamics we can achieve a better understanding of group dynamics. We recognize that the individual "in vacuo" is but an artifact. The questions of: why one person behaves in a "tolerant" manner in one situation and "rigid" in another; or to what extent certain forms of intergroup conflict which appear on the surface to be based on ethnic differences may be based on other factors using these ethnic differences as content are more difficult to answer than the trend of this study. The writer's approach was to survey the phenomena of rigidity and speech fright by total group evidence and via statistical measures ascertain if it is utilizable in individual instances. This trend is more acceptable by both scientific purists and educational theorists. Generalization to specific is more methodical than the reverse based on few individual samples.

Since it will be granted that opinions, attitudes, and values depend upon human needs, and since personality is essentially an organization of need, then personality may be regarded as a determinant of ideological preferences. Personality is not, however, to be hypostatized as an ultimate determinant. Far from being something which is given in the beginning, which remains fixed and acts upon the surrounding world, personality evolves under the impact of the social environment and can never be isolated from the social totality within which it occurs. According to the present theory the effects of environmental forces in moulding the personality are the more profound the earlier in life history of the individual they are brought to bear. These field conditions may then have

great bearing on both the appearance of and the duration of the two phenomenon under study, social speech fright and rigidity.

If clinical material can be conceptualized in such a way as to permit quantification in group studies then areas of response ordinarily separate between experiment and clinical treatment can be compared.

If the dynamic structure of an individual becomes a determinant in the mode in which he experiences the world via his perception, cognition and learning; if perception is defined as awareness of fact with conditions dependent upon sensory stimuli; and if cognition is a similar awareness independent of sensory stimuli, then learning then is cognitive reorganization. There is logic between what a person says and thinks and what he does but the correlation between the two is not expected to be large.

Methodology and Sampling

In this study it was predicted that a person becomes speech frighted or rigid in the same manner. The persistence of either response when the situation demands another approach suggested the possibility of a causal relationship between them. The null hypothesis was applied to an experimental design to test this postulate.

The samples were selected from a population of freshman college students in Communications Skills classes in 1952. The experimental group, 77 persons, was self-selected by presence of speech fright in a moderate or severe form in each case. The control group, 78 persons, was randomly selected from the remainder of the population. Speech fright and rigidity are assumed to be normally and randomly distributed in the population. Approximately even distribution of male and female cases occurred by

initial enrollment in the classes. Education and intelligence has previously shown little correlation (in some reports negative) with the variables. It was expected that college students' educational and intellectual rank is far above the general population and therefore may subject the experiment to a more rigorous examination.

In its final form the California F scale given to 14 groups had an average reliability of .90. The correlation between this scale and the E Scale in the present study was .77. The E Scale was shown to be more clearly related to personality forces measured. A correlation between this scale and intelligence was -.13 to -.48. Rokeach corroborated this finding in additional studies with the E Scale on college freshmen. Attempted replication of his study justified use of the scale without matching on intelligence factors.

Several persons who refused to take the experimental scale may by clinical judgment (ascertained by working with them and their problem) be described as having a severe form of speech fright. Their refusal to participate can legitimately be construed as placing them on the extreme limits of our experimental data and thus more thoroughly emphasizing the statistical results in a more significant direction.

A teleological concept is inferred in the experimental procedure. The entire population exhibiting one experimental variable is given two scales to differentiate and define the population on two variables. With statistical significance one may then replicate the experiment and when enough precision is ascertained use the scales for prediction of individual as well as group diagnosis.

Both phenomena are postulated as seemingly continuous variables but

are numerically quantified as discrete phenomena for purposes of experimentation. One objective is to determine relationship of speech fright and rigidity; another is to determine if scales to measure such will discriminate significantly between two groups, one known to possess the variable and another judged as not possessing it.

Two scales, E and S, selected to measure rigidity and speech fright respectively, were given to a group of speech frighted students and an equal group not stagefrighted. Statistical computations on the ratings of these scales by two judges were analyzed.

Findings

From the findings to be enlarged upon in the next section of this chapter one can safely say that there is a relationship between rigidity and speech fright. Consideration is given to the cautions aroused by the investigation as well as the positive aspects.

Conclusions and Implications for Future Research

From the results of this investigation, the following conclusions seem justified and tenable. One question posed regarding the methodology employed is: (1) Will this experimental data yield reliable results for future studies? Ratings of trained judges agree 83.5% of the time regarding the responses given by the subjects in the study. Judges may well have a common bias in this or other studies. The writer believes that the level of training exhibited by each judge allows him to be aware of distinctions required by limits of the scales. Reliability is also strengthened by chi-square techniques and analysis of variance computation

reported further on in this chapter.

Because the experimental group was known to exhibit symptoms of speech fright at the outset of the experiment, the classification of responses of these students as more frequently narrow and therefore rigid and speech frighted would tend to indicate that all viewed the phenomena in the same way. Table 2 above illustrates this frequency.

(2) Would the results of the E Scale with this sample confirm the results of previous use of the instrument? In general all results tended to agree with former findings. Previously a chi-square of 19.82 was obtained for the sorting task. A chi-square of 12.19 significant at a 1% level of confidence was obtained for the E Scale in this study. Since the population was identical to the one used by Rokeach a tenable conclusion is to view these results as cross validation of his study.

(3) If the E Scale results are conclusive will the S Scale yield a second measure of rigidity? A contingency coefficient of .95 was computed and found to be significant for the scoring system used. This is compared to a value of .83 found by Rokeach. A chi-square of great significance 30.86 was computed for this scale. The E and S Scale combine to produce significance in over-all chi-squares and analysis of variance. Some relationship to rigidity is implied and accepted. The ten-item scale seems loose knit because three times the standard deviation takes in more cases than the n. This was observed to happen on the Rokeach study also.

(4) How do results found bear on the original hypothesis? In general, all measures used in the study tend to reject the null position and indicate that a relationship of rigidity and speech fright exist. A Pearson correlation turns out to be .36, low but significant. From

chi-square comparisons which indicate predictive measures within the data under study a computed phi coefficient raises the product-moment correlation to .55. If the reader is willing to accept conclusions based on small samples then for all practical purposes the two variables are related.

(5) Will either scale detect the presence of either variable? Both scales together discriminate better than either alone. If each is measuring a complex variable then both scales probably tap various segments of the same generalized disposition. Two separate variables do not exist but different facets of a speech fright-rigid pattern are touched by each scale. The E Scale discriminates between rigidity and non-rigidity at a 2% level of confidence but the S Scale does so only at a 10% level of confidence.

The S Scale may well be considered as a better test of speech fright than rigidity since it discriminates highly between degrees of speech fright. A caution is injected here. Both scales may test the same variable up to a certain point and then the S Scale only will differentiate which degrees of speech frighted rigidity are present.

The E Scale utilized materials deliberately divorced in content from the main social attitude under consideration. When this was administered to speech frighted students they responded by negative reaction. The strong motivation to answer was obtained when the S Scale was introduced. This was construed as facilitation by introduction of face validity. This face validity then contributed to discrimination of degree of the phenomena. Before this fact is accepted further thinking may be injected. The judgment of speech fright was determined partially

by introspection, a method not accepted as reliable at the outset of this study. Application of an outside criterion or the expert judge was incorporated to offset the unreliable introspective aspects. Cannot this criterion also be questioned?

External judgment is based on frequency of severity of, and persistence of the symptoms outlined in Chapter I. Since each individual reacts differently to common stimuli might not some "seem sicker" or more suffering than others without this being the exact response to severity of speech fright. In light of these statements the discrimination of S Scale for severity may be questioned since the severity may not be validly derived. It is true that the present method is still accepted as the best.

Tentative acceptance of the S Scale as a discriminator is made if used in conjunction with the E Scale until cross validation of new samples can be accomplished. A consideration could be made of the truncated distribution of the experimental group because no mild cases of stagefright were reported. This fact may explain the diversity of the "t" tests.

(6) Were the factors of time and ego involvement reported by others controlled in this study? Time as affecting rigidity has been mentioned by Rokeach.[1] His results suggest that behavioral rigidity results unless time is available to think through the problem. If time sequence were affecting speech fright, enough time allowance could eliminate its symptoms. However, this does not happen. The same symptoms appear with no time pressure although time has a tendency to increase the onset of symptoms.

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[1] Rokeach, Milton, "The Effect of Perception Time Upon Rigidity and Concreteness of Thinking," Journal of Experimental Psychology, Vol. 46, No. 1, January 1951.

A delay of need satisfaction in cases of speech fright is observed to be stimulating to the underlying stubborn phenomena but not causation of it. Thus we may be sure that we are testing not just behavioral rigidity but a more underlying problem.

Non-ego involving material is learned more slowly than ego-acceptable material but faster than ego-alien material. Ego-involvement may also be related to submissiveness and be the determining factor in those conditions where rigid behavior is exhibited. Millon in an unpublished paper reported the tendency to structure with greater consistency and congruence with a greater degree of ego-involvement. The greater a degree of personal involvement the more vigilant became the subject in defense of threatening stimuli. The more rigid a person then the more defensive he becomes where there are no clear-cut norms for behavior. Perhaps the determination of stagefright by symptoms descriptive of rigidity fails to allow discrimination in this instance.

The subjects in this study faced ego-involvement or suffered the consequences. The rigid individuals did seem to react differently to a speech situation. The less rigid persons were able to react more comprehensively. The irrational nature of speech fright may be akin to prejudice. Subception or reactions at lower levels than verbal reactions appear among students with either rigid or speech fright problems. The introduction of face validity should contribute to greater discrimination on the S Scale if ego-involvement were affecting either the rigidity or speech fright syndrome. This it did not do. This study would seem to contribute information that neither time nor ego-involvement can account for the results obtained in the study.

The conceptual form taken by both variables and traced to underlying causations is not completely laid out in terms of this experiment. Three variables that affect our data were observed needing isolation: the individual, conditions of the task or environment and nature of the task. The indicants within behavior of the individual were described, validated and tended to show predictive possibilities. Conditions of the task or field conditions seem to have less bearing on these two variables than former studies would support. The field conditions may now be studied for further affect on similar experiments. The present field conditions postulated to be ego-involving yielded the similar information to the study by Rokeach. Under these conditions and with pertinent variables still controlled a generalized, though not overpowering personality, related mode of rigidity appears to have been demonstrated. The nature of the task may be extended into fruitful investigations of the same and other variables.

(7) What contributions does the study make to the main goal -- application to treatment of social speech fright?

The definition of stagefright as it is accepted by most laymen as well as workers in the field of speech could be more descriptively organized. Survey of the literature verifies that the phenomenon no longer takes place on the stage so a newer term suggested in Chapter I should be adopted. An operational definition is suggested to explain the term. Social speech fright: When an individual's pattern of responses are inadequate to meet a speech situation previously learned patterns reappear rather than any modification of behavior to meet the current situation.

The avoidance behavior of a speaking situation may be regarded as a

single solution which is regularly reinforced by preventing the reoccurrence of some trauma, thus providing the conditions making for single solution learning. The tendency to lump stimuli together as if they were similar and the tendency to respond to them as if they were similar invites rigidity.

Study, treatment and prevention of the problem in the light of rigidity concepts is urged. Rigidity cannot be inferred as the sole cause of speech fright but with knowledge of one variable prediction to the magnitude of the correlations one expects the second event will follow.

Implications for Further Study

Speech fright may be a described entity and can be scientifically, and objectively subjected to experiment and thus give attention in preventive stages to the problem. Because of its multiformed existence results are skewed in this study. Larger population, repetition of experiment to increase norm groups could yield more positive results. The population is selective and limited to college students. Cross validating and replications are suggested to determine its use with a younger population. The relative rarity with which social-psychological investigations have been replicated may account for the differing conclusions noted in review of the literature regarding the concept of rigidity. Repeating the experiment without dichotomy of control groups and treating speech fright as a continuing variable may include those who are infrequently stricken with the symptoms and yield a greater spread of cases.

The methodological weakness noted in an earlier study indicated that differentiation as well as interrelatedness should be requested of

test subjects in order to get a greater spread of scoring and greater knowledge of the phenomena. Refining the scoring categories to include judging of tendencies toward 1-2-3 as well as forcing a three-way distribution could accomplish similar results. The relationship of the word definitions for each item to the total sorting concept might yield further information.

Accepting the fact that indicants cropping out in behavior (social speech fright per se) are related to underlying thought reactions (rigidity in this experiment) the assumption is necessary that emotional problems can be intellectualized. In fact, without acceptance of the cross-hatching of intellect and behavior there is no need for the psychiatrist and less need for the "non-rational" aspects of education that teachers are trained to attend to. Rigid and non-rigid personality structure and comprehensive-isolated thought patterns are operative in the normal classroom procedure.

Cognitive and non-cognitive elements are inextricably interwoven in the individual's performance on all types of tests. This experiment lends weight to the fact but not to the extent or degree. Whether the speaking situation first appeared as a cognitive or emotional reaction seems to have some relation to the later appearance of rigid or social speech fright symptoms.

As elusive and devious a variable as speech fright might seem to be, it is measured daily by teachers, lay audiences and paper and pencil tests. These rulers are marked off in identical terms but very different calibrations. A dichotomy is related to sex differences and by looking to our cultural training we note an explanation. Girls (at an earlier age)

are exposed to success pressures in verbal areas more than boys. Thus in some speech fright cases, similar field conditions become ego-alien or threatening at an earlier age. This may account for the demonstration of a speech fright situation but more than rigidity factors may account for the unpredictable direction of its frequence, persistence or similarity to other grcups exposed to less traumatic conditions. This cultural emphasis that girls be successful in verbal areas at an earlier age than boys can be influencing or causing the artifact among experimental females in this study.

Progress in studying the group phenomenon along steps outlined here may ultimately give quantification of rigidity and speech fright. For individual prediction, greater spread in scoring categories and replication of this experiment could wisely be attempted. Motivation cannot be tied down for experimental testing as yet. Therefore some loopholes remain in completely controlling operational and clinical effects of rigidity.

Prediction for individual cases in order to foster prevention is hoped for. In psychotherapy, it has now been generally recognized that the therapist, in effect, sets up a hypothesis to be either confirmed or denied on each of his cases. That is, he proposes that if he treats his patient in a certain way the patient will most likely show improvement. For the therapist, the outcome of the case will cause him either to accept or reject his original hypothesis, and will affect the next hypothesis he constructs in order to handle similar cases in the future. It is a comparative rarity, however, to find in the literature objective analyses of unsuccessful handling of cases. But to admit failure is a

sign of intellectual and emotional maturity. Hypothesizing the stubborn persistance of speech fright rather than viewing it as a symptom easily dismissed by order of the client or therapist may lead to therapeutic failure but become closer to facing the real problem. Less underestimating of the intensity and deep-seated basis of the phenomenon may draw closer attention to the reinforcement aspects of the environment and yield accurate recognition of the causative factors. Persons progress from parental expectations to demanding school and social environment in continuous procession. Each demand increases response tendencies.

Returning to implications contained in the discoveries of this study it may be observed that stagefright is a systematic variable that can be studied and measured. Furthermore it is known to be not hereditary and closely linked with a known variable stemming from social learning in an ego-involving environment.

This latter point has realistic meaning if we emphasize the prevention of and not treatment of the problem. It would certainly emphasize the dictum that intelligent planning on the part of educators and parents could modify and possibly eliminate this syndrome of uncomfortable symptoms.

The study strengthens our initial hypotheses that speech fright and rigidity are related in a systematically associated fashion. However we reject the precise measure that they are one and the same thing. The comparisons indicated in review of the literature bear out the contention that speech fright may be measured and perhaps erased by prevention and treatment in light of known and accepted psychological knowledge regarding rigidity. Our statistical measures foster the same belief.

The relation of the variables of social speech fright and rigidity

suggests that either speech clinicians working with the variable familiarize themselves with the field of psychology or refer such persons exhibiting it to the psychologist to better treat the underlying phenomena and not the symptoms.

Complete understanding of both variables and the theories of learning suggest that the phenomena of speech fright is a modifiable characteristic lending itself to elimination if approached favorably by school personnel.

BIBLIOGRAPHY

BOOKS

Adorno, T. W., and others. The Authoritarian Personality. New York: Harper Brothers. 1950. 990 pp.

Einstein, Albert E. Out of My Later Years. New York: Philosophical Library. 1950. 282 pp.

Frenkel-Brunswik, Else, D. J. Levinson, and R. N. Sanford, "The Anti-Democratic Personality," in Newcomb, T. H. Readings in Social Psychology. New York: Henry Holt and Company. 1947. 683 pp.

Glaser, E. M. An Experiment in the Development of Critical Thinking. New York: Bureau of Publications, Teachers College, Columbia University. 1941. 212 pp. #843.

Goodenough, Florence. Mental Testing. Rinehart and Company. New York. 1949. 609 pp.

Harvard Committee. General Education in a Free Society. Cambridge: Harvard University Press. 1945. 267 pp.

Hollingsworth, H. L. The Psychology of the Audience. New York: American Book Company. 1935.

Horowitz, E. L. "Race Attitudes." Characteristics of the American Negro. New York: Harper Brothers. 1944. 409 pp.

Hull, Clark L., and others. Mathematico-Deductive Theory of Rote Learning. New Haven: Yale University Press. 1940. 329 pp.

Johnson, Palmer O. Statistical Methods in Research. New York: Prentice Hall, Inc. 1949.

Lewin, K. A Dynamic Theory of Personality: Selected Papers. Trans. by D. K. Adams and K. E. Zener. New York: McGraw-Hill Book Company. 1935. 286 pp.

McKinney, Fred. Psychology of Personal Adjustment. Second Edition. New York: John Wiley and Sons, Inc. 1949. Chap. 14, "Emotional Stability"; Chap. 15, "Self Confidence."

Murray, Elwood. The Speech Personality. Rev. ed. Chicago: J. B. Lippincott. 1944.

Reid, Loren D. Teaching Speech in the High School. Columbia, Missouri: Artcraft Press. 1952.

Rothlisberger, Fritz J., and Dixon, W. J. Management and the Worker. Cambridge: Harvard University Press. 1939.

Spearman, C. E. Abilities of Man: Their Nature and Measurement. New York: The Macmillan Company. 1927. 415 pp.

Stevens, S. S. "Mathematics, Measurement, and Psychophysics," in Stevens, S. S. (ed.) Handbook of Experimental Psychology. New York: Wiley and Sons, Inc. 1951. p. 47.

Van Riper, Charles. Speech Correction. New York: Prentice Hall. 1942.

Waugh, Albert E. Elements of Statistical Method. New York: McGraw-Hill Book Company. 1943. 532 pp.

Winans, James A. Speech Making. New York: Appleton-Century Company. 1938. p. 1.

ARTICLES

Applezweig, Dee. "Some Determinants of Behavioral Rigidity." Journal of Abnormal and Social Psychology. Vol. 49. 1954. No. 2.

Block, Jack and Block, Jean. "An Investigation of the Relationship Between Intolerance of Ambiguity and Ethnocentrism." Journal of Personality. 1951. 19. pp. 303-311.

Brown, Roger. "Rigidity and Authoritarianism." Journal of Abnormal and Social Psychology. Vol. 48. October 1953. No. 4.

Cameron, N. "Cerebral Destruction in Its Relation to Maze Learning." Psychological Monographs. 39. #1. 1928.

Cattell, R. B. "The Riddle of Perseveration: I 'Creative Effort' and Disposition Rigidity." Journal of Personality. 14: 229-238. June 1949.

Cattell, R. B. "The Riddle of Perseveration: II Solution in Terms of Personality Structure." Journal of Personality. 14: 239-267. June 1949.

Cattell, R. B., and L. Ghose Tiner. "The Varieties of Structural Rigidity." Journal of Personality. 17: 321-341. March 1949.

Cotton, C. B. "A Study of the Reactions of Spastic Children to Certain Test Situations." Journal of Genetic Psychology. 58: 27-40. March 1941.

Dickens, Milton, Gibson, Francis, and Prall, Caleb. "An Experimental Study of the Overt Manifestations of Stage Fright." Speech Monographs. March 1950.

Dickens, Milton and Parker, William R. "An Experimental Study of Certain Physiological, Introspective and Rating-Scale Techniques for the Measurement of Stage Fright." Speech Monographs. November 1951.

Farber, I. E. "Response Fixation in Anxiety and Non-Anxiety Situation." Journal Experimental Psychology. 1948-38. pp. 111-131.

Fisher, S. "Patterns of Personality Rigidity and Some of Their Determinants." Psychological Monographs. 64: 1-48. 1950.

Frenkel-Brunswik, Else, and R. W. Sanford. "Some Personality Correlates of Anti-Semitism." The Journal of Psychology. 20: 271-291. November 1945.

Frenkel-Brunswik, Else. "Intolerance of Ambiguity as an Emotional Perceptual Personality Variable." Journal of Personality. 18: 108-143. September 1949.

Gaier, E. L. "Selected Personality Variables and the Learning Process." Psychological Monographs. No. 349. Vol. 66. No. 17. 1952.

Gilkinson, Howard. "A Questionnaire Study of the Causes of Social Fears Among College Speech Students." Speech Monographs. 1943.

Goldstein, K. "Concerning Rigidity." Character and Personality. 11: 209-226. May 1943.

Greenleaf, Floyd. "Exploratory Study of Speech Fright." Quarterly Journal of Speech. October 1952. pp. 327-8.

Hamilton, J. A., and W. Ellis. "Behavior Constancy in Rats." Journal of Genetic Psychology. 42: 120-139. March 1933.

Henrikson, Ernest H. "A Study of Stage Fright and the Judgment of Speaking Time." Journal of Applied Psychology. October 1938. Vol. 32. No. 5.

Henrikson, Ernest H. "Some Effects on Stage Fright of a Course in Speech." Quarterly Journal of Speech. 1943. Vol. 29. pp. 490-1.

Husband, R. H. "A Study of Emotion in Excitement." Journal of General Psychology. XLVI. 1935. pp. 465-7.

Kasanin, J., and R. Hanfman. "An Experimental Study of Concept Formation in Schizophrenia." American Journal of Psychiatry. 95: 35-52. July 1936.

Knower, Franklin H. "A Study of Speech Attitudes and Adjustments." Speech Monographs. November 1938. pp. 130-203.

Kounin, J. S. "The Meaning of Rigidity: A Reply to Heinz Werner." Psychological Review. Vol. 55. No. 3. May 1948.

Kounin, J. S. "Experimental Studies of Rigidity." I and II. Character and Personality. 9: 251-272; 273-282. June 1941.

Krech, I., and Hamilton, J. A. "Studies in the Effect of Shock Upon Behavior Plasticity in the Rat." Journal Comparative Psychology. 1933. 16. 237-253.

Krech, D. "Attitudes and Learning: A Methodological Note." Psychological Review. 53: 290-293. November 1946.

Krechevsky, I. "Brain Mechanisms and Variability." Journal of Comparative Psychology. 23: 121-138; 139-163; 351-364. August 1937.

Krechevsky, I., and C. H. Honzik, "Fixation in the Rat." University of California Publications in Psychology. 6: 13-26. 1932.

Levinson, D. J. "An Approach to the Theory and Measurement of Ethnocentric Ideology." The Journal of Psychology. 28: 19-39. January 1949.

Levinson, D. J., and R. N. Sanford. "A Scale for the Measurement of Anti-Semitism." Journal of Psychology. 17: 339-370. December 1944.

Lomas, Charles. "Stage Fright." Quarterly Journal of Speech. December 1944.

Lomas, Charles. "The Psychology of Stage Fright." Quarterly Journal of Speech. February 1937.

Low, Gordon M., and Sheets, Boyd V. "The Relation of Psychometric Factors to Stage Fright." Speech Monographs. November 1951.

Luchins, A. S. "Mechanization in Problem Solving: the Effect of Einstellung." Psychological Monographs. 54. #6. 1942.

Luchins, A. S. "Rigidity and Ethnocentrism: A Critique." Journal of Personality. 17: 449-466. June 1949.

Maier, N. R. F. "The Effect of Cerebral Destruction on Reasoning and Learning." Journal of Comparative Neurology. 54: 45-75. January 1932.

Moore, Glen. "Personality Changes Resulting from Training in Fundamentals of Speech." Speech Monographs. II. 1935. pp. 56-9.

Murphy, G., and Murphy, L. B., and Newcomb, T. M. Experimental Social Psychology. New York: Harper Brothers. 1937. 1121 pp.

Paulson, Stanley F. "Changes in Confidence During a Period of Speech Training." Speech Monographs. November, 1951.

Pinard, J. W. "Tests of Perseveration." British Journal of Psychology. 23: 114-126. July 1932.

Pitcher, Barbara and Stacey, Chalmers. "Is Einstellung a General Trait?" Journal of Abnormal and Social Psychology. Vol. 49. January 1954. No. 1.

"Program of Speech Education: The Recommendations of the Contest Committee of the North Central Association with Respect to Speech as Submitted by the Speech Association of America." Quarterly Journal of Speech. October 1951.

Rokeach, Milton. "Prejudice, Concreteness of Thinking, and Reification of Thinking." Journal of Abnormal and Social Psychology. Vol. 46. No. 1. January 1951.

Rokeach, Milton. "The Effect of Perception Time Upon Rigidity and Concreteness of Thinking." Journal of Experimental Psychology. 40: 206-216. April 1950.

Rokeach, Milton. "A Method for Studying Individual Differences in 'Narrow-Mindedness'." Journal of Personality. Vol. 20. No. 2. December 1951. pp. 219-230.

Rokeach, Milton. "Toward the Scientific Evaluation of Social Attitudes and Ideology." The Journal of Psychology. 31: 97-104. April 1951.

Rokeach, Milton. "Rigidity and Ethnocentrism: A Rejoinder." Journal of Personality. 17: 467-474. June 1949.

Rokeach, Milton. "Generalized Mental Rigidity as a Factor in Ethnocentrism." The Journal of Abnormal and Social Psychology. 43: 259-278. July 1948.

Rokeach, Milton. "Narrow-Mindedness and Personality." Journal of Personality. Vol. 20. No. 2. December 1951. pp. 234-251.

Rose, Forrest A. "Training in Speech and Changes in Personality." Quarterly Journal of Speech. 26. (1940). pp. 193-6.

Strauss, A. A. "Experimental Analysis of the Clinical Symptom 'Perseveration' in Mentally Retarded Children." American Journal Mentally Deficient. 47: 185-188. 1942.

Strauss, A. A., and Werner, H. "Comparative Psycho-Pathology of the Brain Injured Child and the Traumatic Brain-Injured Adult." American Journal of Psychiatry. 54: 1-41. July 1943.

Tolman, E. C. "Cognitive Maps in Rats and Men." Psychological Review. 1948. 55. pp. 189-208.

Werner, H. "Abnormal and Subnormal Rigidity." Journal of Abnormal and Social Psychology. 41: 15-24. January 1946.

Werner, H. "The Concept of Rigidity: A Critical Evaluation." Psychological Review. 53: 43-52. January 1946.

Werner, H., and Strauss, A. A. "Causal Factors in Low Performance." American Journal Mentally Defective. 45: 213-218. 1940.

UNPUBLISHED MATERIAL

Brady, William, M. D. "Examination Jitters and Stage Fright." Pamphlet obtained November 1951.

Christie, J. R. "The Effects of Frustration on Rigidity in Problem Solution." Unpublished doctoral dissertation. University of California. 1949.

Cowen, E. L. "A Study of the Influence of Varying Degrees of Psychological Stress on Problem-Solving Rigidity." Unpublished doctoral dissertation. Syracuse University. 1950.

Harris, Robert A. "Effects of Stress on Rigidity of Mental Set in Problem Solution." Unpublished dissertation. Harvard University. 1950.

Horwitz, Leonard. "An Investigation of the Nature of Rigidity." Unpublished doctoral dissertation, New York University. 1951.

Holtzman, Paul Douglas. "An Experimental Study of Some Relationships Among Several Indices of Stage Fright and Personality." Unpublished doctoral dissertation. University of Southern California. August 1950.

Knisley, Wade Allen. "An Investigation of Phenomenon of Stage Fright in Certain Prominent Speakers." Unpublished study. University of Southern California.

Lomas, Charles. "Study of Stage Fright Measured by Student Reactions." M.A. thesis. Northwestern University. 1934.

Platt, James E. "Report of Basic College Speech Clinic." Mimeographed. 1948.

Prall, Caleb. "An Experimental Study of the Measurement of Certain Aspects of Stage Fright by Means of Rating Scale and Motion Picture Technique." Unpublished doctoral dissertation. University of Southern California. L. A. 1950.

Utzinger, Vernon A. "An Experimental Study to Develop an Improved Technique for Measuring Subjective Feelings During Stage Fright." Unpublished study completed at University of Southern California. L. A. 1949.

APPENDIX A

(Letter sent to teachers in Communications Skills to explain the study being undertaken with students they had referred to the Basic College Speech Clinic with stagefright.)

TO : MEMBERS OF THE COMMUNICATIONS SKILLS STAFF

FROM : J. T. AUSTON

SUBJECT: STAGEFRIGHT PROBLEMS FOR A SPECIAL STUDY

Dear Staff Member:

Mrs. Gertrude Montgomery of the Student Counseling Center is making a concentrated study in an effort to isolate special characteristics of stagefright. It is my understanding that the material being gathered for the study will serve as the basic data for a doctoral dissertation to test the hypothesis of emotional rigidity in stagefright. Mrs. Montgomery is depending on the judgment of the Communications Skills faculty to ascertain whether or not our students are suffering from stagefright. Through the Speech Improvement Service, Mrs. Montgomery is asking for further screening for stagefright during the long informative oral report in 112. The purpose of this letter is to relay this request for cooperation to you.

If any student seems to suffer from excess or involuntary nervousness, nausea, visible tremors of the body or parts of the body, twitching or tics in facial or throat muscles, blocking of thought and words, or verbalized inability to do their best work in an oral situation without a reasonably legitimate or normal explanation for the behavior will you please refer that student to me in Room 13, Bldg. A-3.

Such students referred will have the benefit of any special help they may need as far as their stagefright is concerned, and they will also be asked to participate in a word test the results of which will be incorporated in Mrs. Montgomery's dissertation.

I would appreciate your cooperation in this matter. Thank you.

s/ J. T. Auston
J. T. Auston
Acting Director
Speech Improvement Service

APPENDIX A

(An additional letter sent to instructors in Communications Skills Classes.)

11-20-52

Dear Staff Member:

The Speech Improvement Service has cooperated for some time with the Counseling Service in referring to that service for special help, all types of stagefright problems from moderate to severe. The Counseling Service is particularly interested in a careful study of background and other factors which contribute to stagefright. The results of this study should prove useful to the members of this department in a better understanding of the problems of the beginning speaker at the college level. As you know the large majority of the stagefright cases reported come to the attention of the Counseling Service via this department and the Speech Improvement Service.

To do justice to the study of stagefright factors the Counseling Service will need cases of freshmen students with moderate to severe stagefright. If you have any such cases in your classes now (not enrolled in the Speech Improvement Service) will you please refer them to me in Bldg. A-3, Rm. 13, at your earliest convenience? Thank you.

s/ J. T. Auston
J. T. Auston

APPENDIX B

COPY OF E SCALE ITEMS

Atheism

Catholicism

Christianity

Protestantism

Judaism

Capitalism

Communism

Democracy

Fascism

Socialism

(Test directions for Step 1, subject is asked to define each of the above words.)

APPENDIX B

COPY OF S SCALE ITEMS

Audience

Confidence

English class

Failure

Fear

Outline

Speech

Stagefright

Stuttering

Success

(Test directions for Step 1, subject is asked to define each of the above words.)

APPENDIX B

STEP 2, INSTRUCTIONS FOR E SCALE AND S SCALE

On each of the preceding sheets you will find a different list of terms arranged in alphabetical order. To some extent, most, if not all, of these terms are related to each other. Moreover, most, if not all, of these terms are different from each other. Write a short essay in the blank space provided under each list of terms in which you describe in what way any or all of these terms are inter-related and also different from each other. Do not worry about how well organized your descriptions are, because it isn't important for the purposes of this test. Just describe in what way any or all of these terms are related and also different from each other. If you do not think that all of these terms are very much related to each other then just write about the terms which you think are related and skip the rest.

APPENDIX B

FIRST COPY OF S SCALE ITEMS
(Later reduced to 10 items
by judgment of counsellors)

Assignment

Audience

Block

Confidence

English class

Failure

Fear

High School

Lisping

Outline

Recital

Speech

Stagefright

Stuttering

Success

APPENDIX C

SAMPLE OF RESPONDENT ANSWER SHEETS

Scoring

- 1	Atheism	not believing in God, Christ, holy trinity, or in any supream power.
- 1	Catholicism	a form of worship in which cermonity & latin is used. Believing in God & Christ.
- 1	Christianity	believing that Jesus Christ is Gods Son and believing in God.
- 1	Protestantism	a form of worship that is comparivily simple - believing in God & Christ.
0	Judaism	a form of worship that doesn't believe that Christ is Gods Son but believes in God & Christ as a phiopi - -
- 1	Capitalism	an economic system between the exective & worker - involving free enterprise.
- 1	Communism	government ownership of everything & supposed equal shares for all people.
- 1	Democracy	a form of government established on a Constitution & the bill of rights - run by the people.
0	Fascism	a form of government with a dictator heading the people.
0	Socialism	government ownership of many public utilities.
2		The first five of these words have to do with religion. The difference is in the manner of worship. The last five words have to do with governments. The difference is the type of government and how each one is run.

E Scale
Control Group, Female

APPENDIX C

SAMPLE OF RESPONDENT ANSWER SHEETS

Scoring

+1	Atheism	No religion or belief in God.
- 1	Catholicism	A religion in which the people are told what & how to believe & act as the Pope says.
+1	Christianity	A religion which believes Christ is the savior of the world.
- 1	Protestantism	Religious belief - more liberal - the people believe in the principles of the Bible.
- 1	Judaism	religious belief different from Christianity that doesn't believe Christ as the son of God.
- 1	Capitalism	using money to make money - people own big business.
0	Communism	All working together for the benefit of the whole.
0	Democracy	Government of the people, for the people, by the people.
0	Fascism	Government with a dictator.
+1	Socialism	government control of large industries.
2		These are definate types of religious beliefs and governments. Just exactly which of these types is best for humanity has been great controversy for centuries. It has been found that civilizations with atheism and dictatorships don't last. The lust for power & greed get the best of man and he can think of nothing but himself leaving the brotherhood of man to himself - usually revolt.

E Scale
Experimental Group, Female

APPENDIX C

SAMPLE OF RESPONDENT ANSWER SHEETS

Scoring

0	Atheism	no religious beliefs.
+ 1	Catholicism	the doctrines of the Catholic religion.
+ 1	Christianity	belief and faith in Jesus Christ as the Son of God.
+ 1	Protestantism	the doctrines of the Protestant religions.
+ 1	Judaism	the doctrines of the Jewish religion.
+ 1	Capitalism	business run on a free enterprize system.
- 1	Communism	where the government controls practically everything.
- 1	Democracy	where the government is controlled by the majority of the people.
0	Fascism	a dictatorship.
0	Socialism	where the government controls much of the business of the state, but not all of it.
1		Atheism, Catholicism, Christianity, Protestantism, and Judaism are all forms of religion. Capitalism, Communism, Democracy, Fascism, and Socialism are forms of government. All ten are alike in that they constitute the beliefs of different groups of people. Each of the types of religion and government are different because each stresses different items as being more important.

E Scale
Control Group, Female

APPENDIX C

SAMPLE OF RESPONDENT ANSWER SHEETS

Scoring

+1	Audience	a group of people listening or watching a performer or a group of performers.
+1	Success	to make good ones dreams and ambition.
+1	English class	a class where the english language is studyed along with writing, reading, and speaking.
+1	Confidence	to have faith in oneself or someone else.
+1	Speech	a talk on a particular Subject given to a particular group of people.
+1	Stagefright	fear of performing or speaking to an audience.
0	Fear	to be afraid of completeing a tast.
+1	Stuttering	being so nervous ones shakes from the fear.
+1	Failure	not accomplishing some task, dream, or hope.
1		These words all have to do with speaking in an english class. Most of the words are feelings of the speaker or the audiences.

S Scale
Control Group, Female

APPENDIX C

SAMPLE OF RESPONDENT ANSWER SHEETS

Scoring

0	Audience	A grop of people
0	Success	to do something will
- 1	English class	a place where you have to write thems and give speechs
0	Confidence	to believe that you can do something
- 1	Speech	one person talks to a grop
- 1	Stagefright	is when you are afrad
omit	Fear	
- 1	Outline	is the form you go by to give a speech
- 1	Stuttering	saying part of a word a number of times quickly
0	Failure	Not doing what you set out to do.

Audience is the rest of the English class when you are giving a Spech. Success is if you get an A on the speech.

2

If you have Stagefright and Fear you don't follow the Outline, then you start Stuttering, loose your Confidence and are a Failure.

S Scale
Experimental Group, Male

APPENDIX C

SAMPLE OF RESPONDENT ANSWER SHEETS

Scoring

+1	Audience	A person or group of persons listening to someone who is speaking or acting.
-1	Success	when you have done something that you have set out to do.
+1	English class	a group of students in a class for the purpose of learning the fundamentals of the English language.
-1	Confidence	a feeling that you can do something.
0	Speech	a form of communication between human beings.
-1	Stagefright	frightened when you have to appear in front of a group of people to make a speech or do some act.
+1	Fear	a feeling that you are very much afraid of something.
0	Outline	the more important points of a speech or theme or any other written matter.
-1	Stuttering	when a person has difficulty speaking.
-1	Failure	if you do not succeed in doing something you set out to do.
1		These terms are related because they all deal with my main problem, which is fear of speaking before an audience. They are different from each other because they all deal with a different phase of my problem except stuttering, with which I am not concerned.

S Scale
Control Group, Male

APPENDIX C

SAMPLE OF RESPONDENT ANSWER SHEETS

Scoring

+1	Audience	People who are listening to a speech or watching something.
0	Success	Have completed or succeeded in doing something.
- 1	English class	A class where grammar is taught & also English literature.
+1	Confidence	Sure of success or being able to do something.
+1	Speech	A talk on a subject.
0	Stagefright	Fear of not succeeding. Scared.
0	Fear	Dread.
+1	Outline	Brief scetch of what is in a report, speech etc.
+1	Stuttering	Saying part of a word more than once.
0	Failure	Not succeeding.
3		A speech in school is usually given in front of an English class which would be the audience. The person either has confidence or stagefright. The person either succeeds or fails. Person probably has a feeling of failure more or less or feels a feeling of confidence. Use Outline used as guide or refresher when giving the speech. Some people studder when giving a speech. You can have some without the other - all aren't necessary.

S Scale
Experimental Group, Male

APPENDIX C

SAMPLE OF RESPONDENT ANSWER SHEETS

Scoring

+ 1	Audience	a group of people who will act as listeners to either, speeches, movies, lectures, etc. and can participate if asked.
0	Success	a pleasure you gain through hard work, conscious effort, & a will to do this thing. This success, however, can come by luck.
- 1	English class	A class where you are taught various writing prossess & speaking prossess in the hopes you will apply these in life after college.
0	Confidence	A feeling that you need not be scared or in doubt. One that can be gained through effort.
+ 1	Speech	A verbal spoken talk generally given in front of an audience with a specific purpose in mind be it entertainment, informative, etc.
+ 1	Stagefright	A fear that comes to you when you are asked to speak in front of an audience. You usually lack confidence in yourself.
+1	Fear	An act of being frightened. Not having the courage to face what is before you.
+ 1	Outline	A skelton of a speech, story, or whatever, that tells you on a bird-eye view what the topic deals with.
0	Stuttering	A habit that can generally be broken with time & effort. An act of not being able to form your words quick enough.
0	Failure	The feeling that can come from lack of self confidence, trouble in your environment, or general disatisfaction sp. The act of being at the bottom or behind the rest.
3		Fear, stagefright, failure, stuttering are all related to one another. In all of these there is a feeling that you have not the confidence needed or you are not as good as the next fellow. However, opportunity plays a big part here. If you have not had the opportunity to learn, or become accepted you have fear and fail. If you are speaking a you have stage fright you stutter & your speech is not a success.

S Scale
Experimental Group, Female

APPENDIX D

TABULATION SHEET OF JUDGE I RESPONSES

E Scale Experimental Group Male	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Total Paragraph of Concepts
Case 1	0	+1	-1	-1	+1	+1	+1	+1	+1	+1	3
Case 2	0	0	0	+1	0	-1	-1	-1	-1	+1	3
Case 3	+1	-1	0	-1	0	+1	+1	-1	0	-1	3
Case 4	+1	-1	+1	-1	0	-1	+1	0	-1	-1	1
Case 5	+1	+1	+1	+1	+1	0	-1	-1	+1	0	1
Case 6	+1	+1	+1	+1	0	-1	-1	omit	-1	-1	2
Case 7	0	0	-1	0	-1	0	0	0	0	-1	2
N up to 40											
Item Totals	23+	0	11+	10+	2-	3-	0	5+	3-	0	65

Complete sheets were tabulated for each judge on each group. Experimental, control groups for both E and S scale with separation of Male and Female in each of the four groups. Eight sub-groups were tabulated for interrelationship.