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THE ROLE OF PERSONALITY CHARACTERISTICS

IN WRITTEN BUSINESS COMMUNICATION:

A Study of the Personality Characteristics of Public  
Relations Letter Writers in the Finance Industry  
in Tulsa, Oklahoma

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

BY

TOM J. McROREY

Norman, Oklahoma

1977

THE ROLE OF PERSONALITY CHARACTERISTICS

IN WRITTEN BUSINESS COMMUNICATION:

A Study of the Personality Characteristics of Public  
Relations Letter Writers in the Finance Industry  
in Tulsa, Oklahoma

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## CHAPTER I

### THE PROBLEM

#### Introduction

A commonly held belief is that the personality of the writer affects the way in which a communication attempt is constructed. Little research has been conducted either to confirm or to deny this belief. One possible cause for this lack of research is the difficulty of analyzing a personality so that its traits can be quantified. Another major hindrance is that an evaluation of a communication attempt is highly subjective and varies among readers.

Verbal communication involves these three basic elements: (1) the writer who originates the message; (2) the conveying agent (words either spoken or written); and (3) the reader who must decode the message, assimilate its content, and respond.

Written communication, which is one form of verbal communication, involves the same three basic elements: (1) the writer who originates the message with some purpose in mind, (2) the instrument that is written to serve the purpose of the writer, and (3) the reader whose response is a measure of the effectiveness of the message.

Organization, grammar, word choice, neatness, tone, style, semantics, and many other less obvious variables may affect the response of a receiver. The variables can be isolated and judged as separate

elements inherent in the communication process. However, in a larger sense, the uniqueness of a communication depends on the manner in which the communicator mixes the variables.

Persons who have similar vocabularies and who live in similar environments may communicate quite differently in oral form. That is, each person chooses a slightly different mix of communication variables. Few would dispute that personality is an important factor in causing these choices to vary among individuals.

Written communication is also a form of expression that is unique to each writer, and the mix of elements is the evidence of this uniqueness. In other words, personality, which affects other forms of communication, may also affect the composition of a written instrument.

Research in business communication has traditionally been concerned with questions involving the communication instrument and the setting (environment) rather than the human beings who originate, receive, and react to messages.

Considerable research regarding various forms of communication has been conducted by social and clinical psychologists.<sup>1</sup> However, that research is difficult to apply to the field of business communication because the focus is usually on extremely narrow communication problems in controlled situations.

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<sup>1</sup>See Irving L. Janis and Seymour Feshbach, "Personality Differences Associated with Responsiveness to Fear-Arousing Communication," Journal of Personality 23 (December, 1954); Stanley Allen Muliak, "A Factor Analytic Investigation of the Equivalence of Personality Factors with Semantic Factors" (Ph.D. dissertation, University of Utah, 1963), cited by Dissertation Abstracts, vol. 24, no. 4 (Ann Arbor: University Microfilms, September, 1963), p. 1687; Robert Joseph Timms, "The Ability to Receive Emotional Communication in Medical and Psychiatric Patients" (Ph.D. Dissertation, Georgia State University, 1971), cited by Dissertation Abstracts International, vol. 32, no. 9 (Ann Arbor: University Microfilms, March, 1972), p. 5461-B.

The Research Committee of the American Business Communication Association recognized this problem in its 1970 Report.<sup>1</sup> The Committee suggested that research be conducted in the following areas: communicator authoritarianism and aggressiveness; writer source credibility; reader susceptibility to authority versus peer figures; logic versus emotion in persuasive writing; and contributions from the fields of psychology, sociology, anthropology, and other social sciences. All of these suggestions imply the desirability of combining business communication theory with psychological concepts.

Psychological researchers have also recognized the need for a broader research base in human behavior and human personality. Munns suggested that a lag in personality theory will continue until research becomes more human-oriented. He said, "A convincing criticism of both present-day theories and experimental research in personality is that man's purposive behavior is being ignored."<sup>2</sup>

The composition of a written instrument is an act of purposive behavior that is somewhat different from other behavior in that the act of composing generates a permanent record of itself. Regardless of the number of times that the communication instrument is rewritten, the end product is an acceptable instrument in the mind of the writer at least for the intended purpose. This written instrument can be examined long after the behavioral act of composition is completed.

In a 1971 study, Bruno found a relationship between the personality traits of readers and their responses to company-oriented versus

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<sup>1</sup>Research Committee of the American Business Communication Association, "Guidelines and Suggested Topics for Research in Business Communication," Urbana, Illinois, 1970. (Typewritten.)

<sup>2</sup>Meredith Munns, "The Nature of Personality Theory," Psychological Reports 27 (August 1970): 12.

customer-oriented advertising. Two of the eight conclusions drawn in his study were:

7. That certain personality traits, as measured by the 16 P.F. [Cattell's Sixteen Personality Factor Questionnaire], were associated with favorable reactions to reader viewpoint writing, while other identifiable personality traits were related to favorable responses to company-oriented writing.

8. That introverted individuals, as selected and measured by the instrument used in this study were more receptive to recruitment advertisement than either "average" or extroverted individuals.<sup>1</sup>

Only the receiver's personality and his responses were within the scope of Bruno's study. No attempt was made to study the effects of the communicator's personality on the communication process. Although Bruno made no recommendations for further study, a study of the effects of communicator personality traits on written correspondence would seem to be the next logical step.

#### Purpose of the Study

The purpose of this study was to determine the role of personality in the composition and reception of written communication. The specific factors investigated were: (1) the relationship between writer/reader personality similarities and the reader response to written communication, and (2) the relationship between certain personality traits and reader response to written communication.

#### Statement of the Problem

This study was undertaken to determine whether a relationship exists between writer/reader personality similarity and reader response

---

<sup>1</sup>Sam J. Bruno, "The Effects of Personality Traits on the Perception of Written Mass Communication" (Ph.D. Dissertation, Louisiana State University, 1971), pp. 190-91.

to written communication. The study was also an attempt to determine whether a relationship exists between certain personality traits and reader response to written communication.

Specifically, the following questions were investigated:

1. Does a relationship exist between (a) writer/reader personality similarity as measured by Cattell's 16 Personality Factor Questionnaire (16 P.F. Questionnaire)<sup>1</sup> and (b) the reader's evaluation of the message as measured by a semantic differential rating scale?
2. Does a relationship exist between (a) writer/reader personality similarity on the traits used to determine anxiety (ergic tension) as measured by the 16 P.F. Questionnaire and (b) the reader's evaluation of the writer's message as measured by a semantic differential rating scale?
3. Does a relationship exist between (a) writer/reader personality similarity on the traits used to determine introversion-extroversion as measured by the 16 P.F. Questionnaire and (b) the reader's evaluation of the writer's message as measured by a semantic differential rating scale?
4. Does a relationship exist between (a) specific factors contained in the personality profile of the writer as measured by the 16 P.F. Questionnaire and (b) the response of the reader to the writer's message as measured by a semantic differential rating scale?
5. Does a relationship exist between (a) "anxiety" as a personality characteristic of the writer as measured by the 16 P.F. Questionnaire and (b) the response of the reader to the writer's message as measured by a semantic differential rating scale?

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<sup>1</sup>Raymond B. Cattell and Herbert W. Eber, The Sixteen Personality Factor Questionnaire Profile Sheet, Form B (Champaign, Illinois: The Institute for Personality and Ability Testing, 1971), p. 1.

6. Does a relationship exist between (a) "introversion-extroversion" as a personality characteristic of the writer as measured by the 16 P.F. Questionnaire and (b) the response of the reader to the writer's message as measured by a semantic differential rating scale?

#### Significance of the Problem

If evidence shows that personality, as identified by Cattell's 16 P.F. Questionnaire, relates to writer effectiveness, then this evidence should be of value to all concerned with business communication. The evidence should also be of value in suggesting similar studies using different populations of writers and different types of letters as test instruments. Evidence regarding optimum personality profiles should assist one concerned with the selection of persons for occupations that require the composition of public relations letters.

Also, an analysis of the instruments composed by certain personality types and the responses received through these instruments could lead to a greater understanding of the variables that affect written communication by indicating personality to be a primary variable.

#### Hypotheses Tested

The following null hypotheses were tested:

- Ho<sub>1</sub>: There is no relationship between (a) the degree of writer/reader personality similarity for the personality profile as measured by the 16 P.F. Questionnaire and (b) the reader response to the writer's letter as measured by a semantic differential rating scale.
- Ho<sub>2</sub>: There is no relationship between (a) the degree of writer/reader personality similarity for the six "anxiety" factors

as measured by the 16 P.F. Questionnaire and (b) the reader response to the writer's letter as measured by a semantic differential rating scale.

Ho<sub>3</sub>: There is no relationship between (a) the degree of writer/reader personality similarity for the five "introversion-extroversion" factors as measured by the 16 P.F. Questionnaire and (b) the reader response to the writer's letter as measured by a semantic differential rating scale.

Ho<sub>4</sub>: There is no relationship between each of the writer personality traits, in turn, as measured by the 16 P.F. Questionnaire and (b) the readers' response to the writer's letter as measured by a semantic differential rating scale.

Ho<sub>5</sub>: There is no relationship between the writer's anxiety score as measured by the 16 P.F. Questionnaire and (b) the readers' response to the writer's letter as measured by a semantic differential rating scale.

Ho<sub>6</sub>: There is no relationship between the writer's introversion-extroversion score as measured by the 16 P.F. Questionnaire and (b) the readers' response to the writer's letter as measured by a semantic differential rating scale.

#### Limitations

The composition of written communication is a continuous and universal phenomenon. There are few areas of human endeavor that are not at some time and in some way, if only as a topic, affected by the written word. This study was limited to one kind of composition--the



composition of public relations letters written in the field of banking that are positive in their setting and that present appeals for increased business.

One limitation of this study is that this type of written instrument represents only a very small part of the area of business correspondence. The personality of those who write other types of letters effectively could be very different from that of writers of public relations letters in the field of banking.

Another possible limitation in any research project concerns the measuring instrument. There are several ways to judge correspondence. For example, the researchers may either use criteria based on present empirical data, construct a panel of professionals to judge the instrument, or use instruments that elicit overt response and then evaluate on the basis of whether or not the instruments obtain the desired response. These methods may achieve contradictory results. Messages that do not meet established standards may, nevertheless, achieve desired responses.

The method used in this study for measuring the effectiveness of the test letters was to require each receiver to complete a semantic differential. The semantic differential measures semantic space or connotative meaning that can be described as "feeling." Because the responses were to be correlated with personality factors, this approach seemed most appropriate.

However, there are major limitations in using the semantic differential to measure response to a letter. One major limitation of the semantic differential is the lack of universal definitions for the describing adjectives. Agreement on a describing adjective is not necessarily agreement on the meaning of the adjective. For instance,

two readers may agree that a letter is "cold" rather than "hot" but disagree that "cold" is worse than "hot." The effects of this limitation are reduced by an appropriately designed questionnaire. A well-designed semantic differential questionnaire includes bipolar adjectives heavily weighted on the following three scales: evaluation, potency, and activity. The selection of weighted sets, the inclusion of sets from all three scales, and the combination of many sets in the construction of the questionnaire reduce the impact to total score of any one bipolar adjectival set. Osgood stated:

The relative weights of these factors [evaluation, potency, and activity] have been fairly consistent: evaluation accounting for approximately double the amount of variance due to either potency or activity, these two in turn being approximately double the weight of any subsequent factors.<sup>1</sup>

Theoretically, there are as many ways of evaluating personality as there are human beings. These ways range from face-to-face impressions, through hundreds of tests of varying objectivity, to extensive and intensive analysis by a psychiatrist. Although most researchers in the field of psychology would agree that personality can be described in terms of traits, there is little agreement on either what those traits are or what they should be called. To relate personality to performance in written communication, a researcher must be able to identify those characteristics that might affect behavior. The method of identifying these traits must be the same for all subjects, and the reliability of the test used must be high. Some personality inventories ". . . have

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<sup>1</sup>Charles E. Osgood, George J. Succi, and Percy H. Tannenbaum, The Measurement of Meaning (Urbana, Illinois: The University of Illinois Press, 1957), p. 325.

reasonable empirical validity with particular groups of individuals, but prove to be invalid when applied to others."<sup>1</sup> Best stated:

The development of instruments of personality description and measurement is relatively recent, and it is likely that continued research in this important area will yield better theories of personality and better instruments for describing and measuring its various aspects.<sup>2</sup>

The description of personality in this study is that profile of traits or factors obtained through the application of Cattell's 16 P.F. Questionnaire as described by Cattell.<sup>3</sup>

Sample size is a major limitation of this study. The communicator sample was a census sample of the bank executives who write public relations letters in Tulsa, Oklahoma. The selection of the subjects represented the culmination of the process of natural selection in that field and in that city. The nature of the subjects' positions and their ability to gain and hold these positions implied that, as a group, they could be considered as professional writers of public relations letters. Because the subjects had a demonstrated ability and represented a census sample, an analysis of their personality differences in relation to their effectiveness should be meaningful.

#### Definition of Terms

Clarification is appropriate at this point of several terms that are basic to this investigation.

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<sup>1</sup>John W. Best, Research in Education (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970), p. 191.

<sup>2</sup>Ibid.

<sup>3</sup>Raymond B. Cattell and Herbert W. Eber, Sixteen Personality Factor Questionnaire Manual for Forms A and B (Champaign, Illinois: The Institute for Personality and Ability Testing, 1962), pp. 12-22.

"Public relations letters" refers to the correspondence written by representatives of banks in response to the standard problem. These letters had as their goal immediate good will for the banks and eventual increased business. They do not request specific action, do not attempt to sell a specific service, and do not answer any letters previously received.

"Writers" refers to the bank officials in Tulsa, Oklahoma, who were charged with public relations correspondence and who originated the test letters used in this study.

"Readers" refers to the subjects chosen at random from the membership lists of all civic clubs throughout Bryan County, Oklahoma, who read and responded to the public relations correspondence.

"Personality" refers to that set of characteristics that can be measured and described by Cattell's Sixteen Personality Factor Questionnaire (16 P.F. Questionnaire).<sup>1</sup>

"Semantic Response" refers to the scored response of a receiver to a semantic differential questionnaire containing 12 bipolar adjectival sets.

#### Procedure

The first step in this study was a search of the literature relating to the role of personality traits in the process of communication, public relations correspondence, and the semantic differential. The sources searched included dissertation abstracts and computer search of Educational Research Information Center (ERIC), as well as books, periodicals, and research reports at the University of Oklahoma Bizzell

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<sup>1</sup>Cattell and Eber, The Sixteen Personality Factor Questionnaire Profile Sheet, Form B, p. 4.

Memorial Library, Norman, Oklahoma, and the Southeastern Oklahoma State University Library, Durant, Oklahoma.

The second step was the preparation of the following items:

- a. Semantic Differential Rating Scale.
- b. Standard procedure for administering the 16 P.F. Questionnaire.
- c. Standard letter problem.
- d. Letter thanking banks for agreeing to cooperate.
- e. Letter requesting cooperation of reader subjects.

The third step was to contact the banks in Tulsa, Oklahoma, requesting cooperation in the study. As the banks agreed to cooperate, a schedule was set up of personal appointments spread over ten consecutive working days during January, 1972.

The fourth step was the collection of the data to be provided by the writers. The writer for each bank wrote the public relations letter in accordance with the standard problem and then completed the personality questionnaire.

The fifth step was the most difficult one in the data collection process. During the spring and summer of 1972, the researcher asked to be scheduled as the luncheon speaker at individual meetings of six civic clubs throughout Bryan County, Oklahoma. A request was made of each club that its members vote to participate in this research as a club project and allow a sample to be drawn at random from their membership lists. The participation of those selected was made a club duty. In individual conferences with the investigator, each member of the sample of readers responded to the public relations letters on the semantic differential rating scale and completed Cattell's 16 P.F. Questionnaire.

The sixth step consisted of the statistical analysis and interpretation of the data.

The final step was the preparation of the formal report.

#### Organization of the Report

Chapter II consists of a comprehensive review of the literature relating to the role of personality in communication effectiveness, Cattell's 16 P.F. Questionnaire, and the semantic differential. Chapter III states the research design and methodology. Chapter IV presents an analysis of the data. Chapter V consists of the summary, the conclusions, and the recommendations.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

This chapter presents a review of the literature that is pertinent to this study in the following main subject areas: personality and devices for measuring personality characteristics, personality and communication, and the semantic differential. In each area, an attempt was made to discuss only those studies that relate directly to the scope of this study; i.e., the role of personality characteristics in written business communication.

#### Personality and Personality Measurement

Many theories of personality have found acceptance among different groups of psychologists. These theories vary quite widely. "One theory . . . emphasizes the instinctual aspect of man, another the social; one theory free will, another determinism; one simple and mechanistic relationships, another complex and dynamic relationships."<sup>1</sup> Two basically different rationales exist: one very "humanistic, man-centered, and phenomenological"; and the other very "scientific, pragmatic, and empirical."<sup>2</sup> One result of the empirical rationale is psychometry, the objective measurement of mental ability and, more recently, personality dimensions.<sup>3</sup>

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<sup>1</sup>Lawrence A. Pervin, Personality: Theory, Assessment, and Research (New York: John Wiley and Sons, Inc., 1970), p. 60.

<sup>2</sup>Ibid., p. 61.

<sup>3</sup>Ibid.

A great deal of research has been conducted in recent years in the field of personality measurement. Much of this research was clinical in nature and was designed to be helpful in treating and understanding emotional disorders. However, the measurement of personality in functionally normal persons has also been investigated, and several tests or questionnaires have been developed. Among the most widely known and widely used are the Minnesota Multiphasic Personality Inventory (MMPI), the Edwards Personal Preference Schedule (EPPS), and the Cattell Sixteen Personality Factor Questionnaire. All these devices describe the personality in terms of components. The MMPI uses 9 scales; Edwards, 15 subscales; and Cattell, 16 factors.

The nine clinical scales contained in the MMPI are (1) hypochondriasis, (2) depression, (3) hysteria, (4) psychopathic deviate, (5) masculinity-femininity, (6) paranoia, (7) psychastenia, (8) schizophrenia, and (9) hypomania. Social introversion and extroversion are sometimes coded into a tenth clinical scale.<sup>1</sup> These scales were deemed by the investigator to be of more value in clinical analysis and treatment than in a study like this one.

The Edwards Personal Preference Schedule describes the personality in terms of the following 15 main traits or subscales: achievement, deference, order, exhibition, autonomy, affiliation, intraception, succorance, dominance, abasement, nurturance, change, endurance, heterosexuality, and aggression.<sup>2</sup> The EPPS has been used widely in studies

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<sup>1</sup>Minnesota Multiphasic Personality Inventory, Revised Edition (New York: The Psychological Corporation, 1965).

<sup>2</sup>Allen L. Edwards, Personal Preference Schedule (New York: The Psychological Corporation, 1959).



concerning the prediction of achievement and the relationship of specific behavioral patterns to personality.<sup>1</sup>

Cattell's 16 P.F. Questionnaire, like the MMPI, is designed to be used primarily by clinicians. However, the 16 P.F. Questionnaire describes the personality factors in layman's terms, as well as the terms used by the psychometrists. The 16 P.F. Questionnaire attempts to give the fullest information in the shortest possible testing time about the most possible personality traits. "It is not merely concerned with some narrow concepts of neuroticism or 'adjustment' . . . but sets out to cover . . . all the main dimensions along which people can differ." (Table 1, p. 15, describes the factors that the 16 P.F. Questionnaire is designed to measure.)

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<sup>1</sup>For example, H. L. Cannon, "Personality Characteristics and Other Predictors of Achievement in College Elementary Accounting" (Ph.D. dissertation, University of Minnesota, 1965); and Jim C. Nunally and Ronald L. Flaugher, "Correlates of Semantic Habits," *Journal of Personality*, 21, no. 2 (June 1963): 192-201.

<sup>2</sup>Raymond B. Cattell and Herbert W. Eber, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Illinois: The Institute for Personality and Ability Testing, 1957, 1964 supplementation), p. 1.

TABLE 1  
SIXTEEN FIRST-ORDER PERSONALITY FACTORS MEASURED BY THE  
SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE

Low Score Description	Factor	High Score Description
RESERVED, Detached critical, Aloof (Sizothymia)	A	OUTGOING, Warmhearted, Easygoing, Participating (Affectothymia)
LESS INTELLIGENT, Concrete-thinking (Lower Scholastic Mental Capacity)	B	MORE INTELLIGENT, Abstract-thinking (Higher Scholastic Mental Capacity)
AFFECTED BY FEELINGS, Emotionally less stable, Easily upset (Lower ego strength)	C	EMOTIONALLY STABLE, Faces reality, Calm, Mature (Higher ego strength)
HUMBLE, Mild, Accommodating, Conforming (Submissiveness)	E	ASSERTIVE, Aggressive, Stubborn, Competitive (Dominance)
SOBER, Prudent, Serious, Taciturn (Desurgency)	F	HAPPY-GO-LUCKY, Impulsively lively, Gay, Enthusiastic (Surgency)
EXPEDIENT, Disregards rules, Feels few obligations (Weaker superego strength)	G	CONSCIENTIOUS, Persevering, Staid, Moralistic (Stronger superego strength)
SHY, Restrained, Timid, Threat-sensitive (Threctia)	H	VENTURESOME, Socially bold, Uninhibited, Spontaneous (Parmia)
TOUGH-MINDED, Self-reliant, Realistic, No-nonsense (Harría)	I	TENDER-MINDED, Clinging, Over-protected, Sensitive (Premia)
TRUSTING, Adaptable, Free of jealousy, Easy to get along with (Alaxia)	L	SUSPICIOUS, Self-opinionated, Hard to fool (Protension)
PRACTICAL, Careful conventional, Regulated by external realities, Proper (Praxernia)	M	IMAGINATIVE, Wrapped up in inner urgencies, Careless of practical matter, Bohemian (Autia)
FORTHRIGHT, Natural, Artless, Unpretentious (Artlessness)	N	SHREWD, Calculating, Worldly, Penetrating (Shrowdness)
SELF-ASSURED, Confident, Serene (Untroubled adequacy)	O	APPREHENSIVE, Self reproaching, Worrying, Troubled (Guilt proneness)
CONSERVATIVE, Respecting established ideas, Tolerant of traditional difficulties (Conservatism)	Q <sub>1</sub>	EXPERIMENTING, Liberal, Analytical, Free thinking (Radicalism)
GROUP-DEPENDENT, A "joiner" and sound follower (Group adherence)	Q <sub>2</sub>	SELF-SUFFICIENT, Prefers own decisions, Resourceful (Self-sufficiency)
UNDISCIPLINED SELF-CONFLICT, Follows own urges, Careless of protocol (Low integration)	Q <sub>3</sub>	CONTROLLED, Socially precise, Following self- image (High self-concept control)
RELAXED, Tranquil, Unfrustrated (Low ergic tension)	Q <sub>4</sub>	TENSE, Frustrated, Drive, Overwrought (High ergic tension)

SOURCE: Raymond B. Cattell and Herbert W. Eber, The Sixteen Personality Factor Questionnaire Profile Sheet, (Champaign, Illinois: The Institute for Personality and Ability Testing, 1970): 12-18, Form B.

There are three forms of the 16 P.F. Questionnaire that can be administered either as separate tests or in any combination. Form A consists of 187 questions; Form B, 187 questions; and Form C, 106 questions. When time is a vital factor in the administration of the test, Form C should be used. However, if time is not an urgent factor, either one of the longer forms may be used or all three may be used concurrently.<sup>1</sup>

The 16 P.F. Questionnaire test booklet begins with a complete set of instructions regarding the procedure to be followed by the subject being tested. Sample questions are given with an explanation of the answering procedure. Although no time limit for the completing of the questionnaire is imposed, Cattell suggests that the test administrator announce the time at three points. At the ten-, twenty-, and thirty-minute intervals, the test administrator is advised to state the elapsed time, give an approximate number of items that should be completed, and remind the subjects to give the first answer that comes into their minds.<sup>2</sup>

The following three methods of scoring the 16 P.F. Questionnaire answer sheet are available: (1) hand scoring, (2) machine scoring (I.B.M. board key or computer scoring by National Computer Systems), and (3) stencil-key-on-answer-sheet scoring. Cost and time considerations make alternative (3) the most efficient for use with fewer than 200 test forms.<sup>3</sup>

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<sup>1</sup>Cattell and Eber, Handbook for the Sixteen Personality Factor Questionnaire, p. 1.

<sup>2</sup>Ibid., p. 5.

<sup>3</sup>Ibid., pp. 5-7.

The raw scores by factor are converted into sten scores by referring to the standardization tables for age and sex of respondent. These tables convert raw scores to what are called stens providing a good but not unrealistically refined degree of accuracy in expression of results.<sup>1</sup> Cattell and Eber stated:

Sten scores (the term comes from "standard ten") are distributed over ten equal-interval standard score points (assuming normal distribution) from 1 through 10, with the population average (or mean) fixed at sten 5.5. Stens 5 and 6 extend, respectively, a half standard deviation below and above the mean, constituting the solid center of the population, while the outer limits for stens 1 and 10 are 2 1/2 standard deviations above and below the mean.<sup>2</sup>

Two main second-order scores and two minor second-order scores are derivable from the sten scores on the 16 P.F. Questionnaire.<sup>3</sup> The main second-order scores are anxiety and introversion-extroversion. The minor second-order scores are tough-poise and independence.<sup>4</sup>

The reported reliability of the 16 P.F. Questionnaire is quite high. Consistency coefficients and reported validities by factor are shown in Table 2.

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<sup>1</sup> Cattell and Eber, Sixteen Personality Factor Questionnaire Manual for Forms A and B, p. 11.

<sup>2</sup> Ibid., p. 11.

<sup>3</sup> Cattell and Eber, Handbook for the Sixteen Personality Factor Questionnaire, p. 46.

<sup>4</sup> Ibid., p. 48.

TABLE 2

CATTELL'S 16 PERSONALITY FACTOR QUESTIONNAIRE  
CONSISTENCY COEFFICIENTS AND VALIDITY

Factor	Consistency Coefficient A and B*	Consistency Coefficient A or B**	Validity *
A	.90	.82	.88
B	.86	.75	.80
C	.91	.87	.76
D	.91	.83	.82
F	.84	.72	.91
G	.85	.74	.85
H	.83	.71	.96
I	.76	.61	.84
L	.77	.63	.89
M	.88	.79	.74
N	.79	.65	.73
O	.85	.74	.91
Q1	.71	.55	.74
Q2	.79	.65	.81
Q3	.76	.61	.92
Q4	.88	.79	.96

SOURCE: Raymond B. Cattell and Herbert W. Eber, The Sixteen Personality Factor Questionnaire Profile Sheet, (Champaign, Illinois: The Institute for Personality and Ability Testing, 1970): 12-18, Form B.

\* As reported in the 16 P.F. Questionnaire Handbook.

\*\* Computed by the application of the Spearman-Brown Reduction  
Formula: 
$$R_{kk} = \frac{K(R_{ii})}{1 + (K-1)(R_{ii})}$$

Because Cattell reports the consistency coefficients for Forms A and B together, the Spearman-Brown reduction formula was applied to the consistency coefficients for Forms A and B combined to arrive at the coefficients for Form A or Form B separately. (See Table 2.) Also, as can be noted in Table 2, the reported validities exceed the reported consistency coefficients on nine of the sixteen factors. In those cases, the validity can be considered to be no greater than the reliability (consistency coefficient).

Personality and Communication

Considerable research has been done concerning the effects of personality upon the reception of communication. Most of this research has been in areas other than written communication.

For example, Timms studied the ability of certain patients to receive emotional communication.<sup>1</sup> Specifically, the study investigated the relationship between personality traits and the ability to receive emotional communication.

The communication devices were the Touch Communication Index (TCI), a film of TCI, the Metaphor Test of Emotional Responsivity, and the Body Sensation Test of Emotional Communication. The MMPI and the Rokeach Value Survey were used to determine personality characteristics and values.

Timms' four groups of subjects included 20 with physical disability, 20 with psychosomatic illness, 20 suffering from anxiety neurosis, and 20 being treated for alcoholism.

Significant personality differences were found between subjects who could accurately receive and interpret emotional communication and those who were inaccurate in such reception. The inaccurate receivers were more suspicious of others, withdrawn, depressed, dissatisfied, worried, and unduly concerned with their physical condition.

The value survey also showed differences between the accurate and the inaccurate receivers. The accurate receivers were more "inner directed" and the inaccurate receivers were more "outer directed." The better receivers had a greater degree of ego-strength.

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<sup>1</sup>Robert Joseph Timms, "The Ability to Receive Emotional Communication in Medical and Psychiatric Patients" (Ph.D. dissertation, Georgia State University, 1971), cited by Dissertation Abstracts International, vol. 32, no. 9 (Ann Arbor: University Microfilms, March, 1972), p. 5461-B.

A comparison of the personality descriptions used by Timms with the terminology used by Cattell to describe personality traits showed the inaccurate receivers to be A-, L+, O+, Q<sub>1</sub>-, and Q<sub>3</sub>-.<sup>1</sup>

Although little research has been done on the effect of personality on written communication, a study by Bruno investigated one aspect of the problem, viz., the role of reader personality in the perception of written advertising.<sup>2</sup>

Bruno also developed a general approach for investigating personality traits and written communication. In this approach, personality traits are compared with responses on a semantic differential rating scale that utilizes Osgood's weighted bipolar adjectives. Cattell's 16 P.F. Questionnaire, Form C, was the instrument used to ascertain personality data. The study also considered the function of such nomographic data as age, sex, and college classification.

The subjects were three hundred ninety-four students who had responded on the semantic differential rating scale to reader-oriented and company-oriented college recruitment advertisements. The subjects then completed Form C of the 16 P.F. Questionnaire.

The following findings were related to personality: (1) subjects favorable to reader-oriented advertisements were humble, trusting, self-assured, and relaxed; (2) subjects favorable to company-oriented advertisements were practical, forthright, shy, and conservative. Although

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<sup>1</sup>An older study dealing with emotional communication is Irving L. Janis and Seymour Feshbach, "Personality Differences Associated with Responsiveness to Fear-Arousing Communication," Journal of Personality, 23 No. 2 (December 1954).

<sup>2</sup>Sam J. Bruno, "The Effects of Personality Traits on Written Mass Communication" (Ph.D. dissertation, Louisiana State University, 1971).

introverts did not favor either company-oriented or reader-oriented advertisements, introverts were more sensitive than extroverts to both types of advertisements.

In conclusion, both studies indicated that personality characteristics affect the communication process, as far as either the reader or the receiver of the communication is concerned. The findings of the two studies were consistent even though Timms' subjects were either suffering from emotional stress or being treated for emotional disturbance whereas Bruno's subjects were college students.

#### Semantic Differential

This section will focus on the semantic differential technique as a tool for measuring "meaning." Considerable research, with the semantic differential as a measuring device, has been completed since 1960.

The typical study involves requiring subjects to rate various concepts such as "myself" or "father" on a series of bipolar adjectival scales such as "hot-cold" or "active-passive." Used in this manner, the semantic differential allows for a quantification of opinion regarding either its presence or absence, as well as its degree of intensity.<sup>1</sup>

Other studies have used the semantic differential as the instrument by which subjects evaluate certain stimuli so that the evaluation

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<sup>1</sup>Osgood, et. al., The Measurement of Meaning, p. 26.



can be compared with other variables.<sup>1</sup> The basic work describing the semantic differential is The Measurement of Meaning.<sup>2</sup>

#### Logic of the Semantic Differential

A discussion of the logic of the semantic differential must begin by postulating that there exists a "semantic space," a region of unknown dimensionality and Euclidian in character.<sup>3</sup> This space consists of components that can be described by sets of bipolar adjectives.

The bipolar nature of the adjectival sets assumes that, within the meaning continuum proscribed by a set, one can find all possible degrees of meaning intensity contained in that set. This set then describes the "meaning" of a concept along one continuum of an infinite number of possible continuums that could be used to describe the concept.

Another assumption is that all continuums, whose extreme limits are defined by bipolar adjectives, pass through a common origin and that "a sample of such scales then represents a multidimensional space."<sup>4</sup> Obviously, the larger the sample size, the better the description of the represented space.

A discussion of the mechanics of the semantic differential can serve to clarify and amplify this statement of logic.

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<sup>1</sup>Helen E. Erkkila, "Semantic Differential Response Patterns as a Function of Adjustment Response" (Ph.D. dissertation, Adelphi University, 1968); Sam J. Bruno, "The Effects of Personality Traits on Written Mass Communication" (Ph. D. dissertation, Louisiana State University, 1971); and, Mary Jane Nelson, "An Analysis of Factors Contributing to the Intra-group Communication Effectiveness of Small Work Group Supervisors in Selected Oklahoma Business, Manufacturing, and Government Service Situations" (Ph.D. dissertation, University of Oklahoma, 1972).

<sup>2</sup>Osgood, et al., The Measurement of Meaning, p. 27.

<sup>3</sup>Ibid., p. 25.

<sup>4</sup>Ibid.

Instead of using a true continuum that would allow for responses to occur at any point, the semantic differential divides the continuum into a seven-point, equal-interval, ordinal scale. This procedure allows the researcher to designate a number for each interval and, by combining the numbered responses, arrive at a number value for the concept. An example of three such seven-point scales used to measure a concept is given below:

Happy \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_ Sad  
Hard \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_ Soft  
Slow \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_ Fast

The authors of the semantic differential decided on the seven-point scale on the assumption that the terms "extremely," "quite," and "slightly" represent fairly equal degrees of likeness and lend themselves

<sup>2</sup>Harold Gulliksen, "How To Make Meaning More Meaningful" Contemporary Psychology 3 (1958), p. 116.

to easy understanding and consistent responses. The use of these terms tends toward the development of a seven-point scale.<sup>1</sup> For example:

(Concept)

X \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ Y  
 extremely quite slightly neither slightly quite extremely

For the purposes of this investigation in which subjects were to use the semantic differential to codify their response either favorable or unfavorable, the seven-point scale seemed appropriate.

#### Selection of the Bipolar Adjectival Sets

Osgood, et al., in The Measurement of Meaning, report in depth the method of selecting the bipolar adjective that will make up their list of 50 sets.<sup>2</sup> Through factor analysis, a well-defined group of scales, along with loadings, was developed. The application of several statistical approaches, a discussion of which would be beyond the scope of this study, resulted in heavy loadings in several areas. The three main and most persistently loaded factors were "evaluation," "potency," and "activity." Five other factors (stability, tautness, novelty, receptivity, and aggressiveness) showed lower and less consistent loading. However, the three main factors noted above always occurred regardless of the concept that was being measured.<sup>3</sup>

The evaluative dimension, concerned with whether a concept is "good" or "bad," is most heavily loaded with such scales as good-bad,

<sup>1</sup>Osgood, et. al., The Measurement of Meaning, p. 29.

<sup>2</sup>Ibid., pp. 50-52.

<sup>3</sup>"Novelty" was found to be consistently significant with elementary school children as subjects by Roy Sherman Lilly, "A Developmental Study of the Semantic Differential" (Ph.D. dissertation, Princeton University, 1965).

beautiful-ugly, kind-cruel, important-unimportant, and so forth. The potency dimension is concerned with the degree of "goodness" or "badness" and the most highly loaded scales are hard-soft, masculine-feminine, strong-weak, and so forth. The third dimension, activity, is presumed to be independent of the first two and is heavily loaded on such scales as active-passive, fast-slow, hot-cold, and so forth.<sup>1</sup>

In summary, the semantic differential is operationally quite simple and behaviorally quite complex.<sup>2</sup> The procedure of simply marking an "X" in one of the spaces between bipolar adjectives is easy to describe and easy to perform. However, the process that takes place in the organism is quite complex. That is, the concept being rated evokes a set of mediating reactions. The direction on the scale is related to what reactions are evoked, and the distance from the origin is related to how intensely these are evoked.

#### Semantic Differential Technique in Research Application

As reported by Snider and Osgood, many studies pertaining to the semantic differential technique have been completed.<sup>3</sup> The studies cover a wide range of topics and disciplines such as: methodological studies, validity studies that can be termed developmental; linguistic studies that look at cross-cultural aspects of the semantic differential; studies in the varied disciplines of experimental psychology, social psychology, personality, and clinical psychology; and studies in communication research.

<sup>1</sup>Osgood, et al., Measurement of Meaning, p. 30.

<sup>2</sup>Ibid.

<sup>3</sup>James G. Snider and Charles E. Osgood, Eds., Semantic Differential Technique: A Sourcebook (Chicago: Aldine Publishing Co., 1969).

The following is a discussion of studies that were deemed to be directly related to the scope of this study. A discussion of these studies further amplifies the understanding of the semantic differential technique and shows its wide applicability.

Mulaik investigated the equivalence of personality factors with semantic factors.<sup>1</sup> The purpose of that investigation was to challenge the belief that factor-analyzed trait ratings related to psychological structures or processes in the people rated.

The hypothesis tested was that personality factors are equivalent to synonymy factors found by analyzing trait-words as they are judged similar in meaning to another select set of trait words.

First, a rating form was constructed on a set of trait words using 76 seven-step, bipolar adjectives typically used in describing the traits of people.

Second, three groups of raters were chosen from a beginning psychology class. All groups of raters used the same rating form but rated a different class of concepts. Group I rated 20 real persons, Group II rated 20 stereotype personalities, and Group III rated a select set of 20 trait words.

When factors were compared across studies, results showed that three factors in the study of ratings of trait words were linked with four factors in both the ratings of persons and the rating of stereotypes.

When factors were compared within studies, three common factors accounted for the similarity among factors. Mulaik named these

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<sup>1</sup>Mulaik, "Factor Analytic Investigation," p. 1687.

"evaluation," "power," and "surgency" and concluded that they were equivalent to Osgood's "evaluation," "potency," and "activity" factors.

Mulaik suggests that personality factors based upon trait rating by observers be reinterpreted because they may be linked in the minds of the raters by linguistic convention rather than by the internal processes of the persons being rated.

The relationship of semantic behavior to personality appears relevant to the present study. An investigation by Quevillon at the University of Minnesota is one example of research in that area.<sup>1</sup>

Quevillon investigated the semantic differences contributed to the same verbal stimuli by three groups of subjects. Each group differed from the other groups on certain personality dimensions as measured by the Minnesota Multiphasic Personality Inventory (MMPI). The three groups represented each of three common profiles. Subjects were undergraduate, white males attending the University of Minnesota.

The measurement devices used were the MMPI and Osgood's semantic differential. The semantic differential consisted of 20 scales to rate 26 concepts. Twenty of these concepts were "discriminatory" in that they were expected to discriminate among subject groups, and six concepts were "non-discriminatory" used to ascertain the checking style of subjects on the differential. Although five general categories of concepts were contained within the discriminating factors, only the evaluation, potency, and activity factors were used throughout the study.

The results of the study can be classified into four categories. First, the analysis of the responses to the non-discriminatory concepts

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<sup>1</sup>Naomi M. Quevillon, "Semantic Behavior of Three Different Personality Groups" (Ph.D. dissertation, University of Minnesota, 1960), cited by Dissertation Abstracts, vol. 21, no. 1 (Ann Arbor: University Microfilms, July, 1960), p. 242.

showed no significant difference in style of checking among the three personality groups.

Second, of the five general concept categories, significant differences in responses were found only in the "self" category. When these responses were compared to the predicted responses, the predictions were no better than those that could have been achieved by chance.

Third, the analysis of the responses to the twenty discriminatory concepts on each of the evaluation, potency, and activity factors showed several significant differentializations. Eight of the twenty were significantly differentiated on the evaluation factor, three on the potency factor, and seven on the activity factor.

Fourth, clinicians familiar with the MMPI attempted to predict the mean response for each personality group on the semantic differential. The range of their predictions (3.0 scale positions) was no better than could be achieved by chance.

Quevillon concluded that, although the style of checking was consistent across the three personality groups, certain significant differences existed in the response to the "self" category of concepts. There were also significant differences on several scale items on all three of Osgood's factors--evaluative, potency, and activity.

Even though differences in response patterns among the groups did occur, clinicians were unable to predict these patterns better than they could have been predicted by chance.

In conclusion, both Muliak and Quevillon investigated the relationship of personality to semantic behavior. Muliak found that psychological trait-rating by observers may be more closely related to linguistic convention than to the internal processes of the person observed.

Quevillon also found significant differences among the responses of personality groups on all three of Osgood's semantic factors.

### Conclusion

This chapter included a discussion of personality testing, several personality tests with emphasis on the 16 P.F. Questionnaire, studies on personality and communication, and the semantic differential and studies that utilized this technique.

Although personality theories differ somewhat from one another, these theories can be classified into two major categories. One group is humanistic and phenomenological; the other, more pragmatic and empirical. The humanistic group finds its philosophical base in German philosophy and can be said to be more existential whereas the empirical group of theories finds its philosophical base in the Anglo-Saxon tradition of scientific method and empiricism. This latter group of theories has led to the development of objective instruments to measure personality in terms of elements, dimensions, traits, and factors.

A review of the Minnesota Multiphasic Personality Inventory, Edward's Personal Preference Schedule, and Cattell's Sixteen Personality Factor Questionnaire showed that each is based on theories that describe personality in terms of traits. The MMPI describes personality in terms of 9 clinical scales; the EPPS, 15 subscales; and the 16 P.F. Questionnaire, 16 factors.

The 16 P.F. Questionnaire Handbook provided the researcher with explanations of each of the 16 factors measured, alternate scoring methods, reliability and validity tables, and a choice of three test forms. Table 1 shows the 16 factors measured by the 16 P.F. Questionnaire and includes both the clinical description and the layman's description



of each factor. Table 2 contains the factor-by-factor reliability and validity coefficients for each factor.

Two studies concerned with determining the relationship between personality and communication indicated that such a relationship does exist. Timms studied the ability of subjects being treated for emotional disorders and alcoholism to receive emotional communication. Timms found that there were significant personality differences between good and poor receivers of emotional communication. Inaccurate receivers were suspicious, withdrawn, depressed, dissatisfied, worried, and unduly concerned with their physical condition. The accurate receivers were more outer-directed and had a greater degree of ego-strength.

Bruno investigated the relationship of personality to the perception of written advertising. His study utilized the semantic differential technique to determine responses to advertising copy. Responses were then analyzed in terms of the personalities of the subjects as measured by Form C of Cattell's Sixteen Personality Factor Questionnaire. Bruno found that the humble, trusting, self-assured, and relaxed subjects preferred reader-oriented advertising copy and that the shy, practical, forthright, and conservative subjects preferred company-oriented advertising copy. Introverts, although more sensitive to written advertising than the extroverts, favored neither the reader-oriented nor the company-oriented advertising copy.

The personality characteristics of the receivers affected the communication process in both the Timms and Bruno studies.

The semantic differential technique for the measurement of connotative meaning utilizes pairs of adjectives opposite in meaning. A group of these pairs, called bipolar adjectival sets, is used to evaluate a

particular concept. The two adjectives that compose a set are divided by a seven-step, equal-interval, ordinal scale.

In evaluating a concept, the subject places a check mark in the space between the adjectives that best represents his or her meaning for that concept on the scale proscribed by the adjectives. This process is repeated for every adjective set that makes up the differential. The result of evaluating a concept is the "semantic space" that represents the meaning that the subject holds for that concept.

The semantic differential technique has been used in studies representing a wide range of topics and disciplines. Two of these studies investigated the relationship between personality and semantic behavior and appeared relevant to the current investigation.

Muliak investigated the equivalent of personality factors with semantic factors. Subjects were asked to rate both actual persons and stereotypes on a semantic differential composed of adjectives normally used to describe personality. Muliak found that the three personality factors "evaluation," "power," and "surgency" were equivalent to the three semantic factors "evaluation," "potency," and "activity."

A panel of clinicians familiar with the personality of each subject were asked to predict the semantic response of each subject to the verbal stimuli. Quevillon found that significant differences in the response patterns of the personality groups did occur; specifically the responses to the "self" category of concepts and in some of the scale items on all three of Osgood's factors.

Both of these studies found that a relationship existed between personality and semantic behavior.

### CHAPTER III

#### METHOD AND PROCEDURE

This chapter explains the design of this investigation. Attention is given to the rationale of the selection of the test instruments, the development of the writer's problem, the design of the experimental procedure, and the statistical tests used to ascertain any significant relationships among the experimental variables.

The task consisted of selecting (1) a sample of professional public relations writers in the banking industry; (2) a corresponding group of readers who would normally receive public relations letters from banks; and (3) two types of measuring devices, one to measure personality characteristics and the other to measure the response of the reader to the letter.

#### Sample

The population in this investigation consisted of the public relations writers in the banking industry in Tulsa, Oklahoma. Because seventeen commercial banks were listed in the Directory of Southwest Banks,<sup>1</sup> the decision was made to use a census sample. Three of the listed banks did not wish to participate in the study; consequently, the sample consisted of fourteen writers representing the remaining fourteen banks.

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<sup>1</sup>Directory of Southwest Banks (William L. Mosley, Fort Worth, Texas, 1971), pp. 112-20.

The composition of each writer was read and evaluated by thirty readers. Thirty readers were selected by random sampling techniques from the membership lists of the civic clubs in Bryan County, Oklahoma.

#### Data Gathering Instrument

The instruments used to gather data were selected after considerable bibliographical research in the field of personality testing and evaluation. Close attention was given to the actual application of various test devices in research that appeared to be related to this study.

The Mental Measurements Yearbook<sup>1</sup> was the initial input on personality testing. This work is supplemented annually in an attempt to give concise, working, up-to-date descriptions of test devices designed to measure mental ability, personal interests, and personality. In the bibliographical review, these three tests emerged as strong possibilities: the Minnesota Multiphasic Personality Inventory (MMPI), the Edward's Personal Preference Schedule (EPPS), and Cattell's Sixteen Personality Factor Questionnaire (16 P.F. Questionnaire). A discussion of these tests was included in Chapter II.

Several considerations contributed to the final selection of the 16 P.F. Questionnaire as the personality test to be used in this investigation.

First, the length of the device was considered to be important. The MMPI consists of 550 test items; Form B of the 16 P.F. Questionnaire, 187 test items; and the EPPS, 225 test items.

Second, major consideration was given to the ease with which the scales tested can be related in layman's language while dealing with

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<sup>1</sup>Oscar K. Buros, ed., Seventh Mental Measurement Yearbook (Highland Park, New Jersey: Gryphon Press, 1972).

universally recognized personality traits. All sixteen of the factors tested by the 16 P.F. Questionnaire, though determined initially through factor analysis, correspond to universal index factors. Although the factors are clinical factors and are related in terms of universal index numbers, a very clear and concise description in layman's language of each factor is provided. The nine scales of the MMPI are not related in layman's terms so concisely as those of the 16 P.F. Questionnaire, and the fifteen subscales of the EPPS are not so clearly related to universal index factors as those of the 16 P.F. Questionnaire.

Third, the reliability and the validity of the test must be high. Table 2, Chapter II, page 18, shows the reliability and the validity coefficients reported by Cattell. These were considered to be sufficiently high to warrant the acceptance of the 16 P.F. Questionnaire as a valid and reliable test device.

Fourth, the personality profiles resulting from the application of the device must be susceptible to quantification in terms of profile comparison. Factor-by-factor comparison with an established norm alone is not sufficient because comparisons of actual profiles must be subject to quantification. The 16 P.F. Questionnaire provides a graph for the computation of a profile similarity coefficient.<sup>1</sup> The result of this computation is an estimate of the factor-by-factor correlation of two profiles. In this study, profile similarity coefficients (Appendix D, pp. 88-91) were computed directly for a more accurate coefficient than that obtained through the estimate method.

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<sup>1</sup>Cattell and Eber, Handbook for the Sixteen Personality Factor Questionnaire, p. 54.

On the basis of the above consideration, as well as the availability of interpretational exposition and scoring devices, the 16 P.F. Questionnaire was chosen as the personality test for this investigation.

#### Semantic Differential

Inasmuch as this study is concerned with a reader's evaluation of a writer's composition, an objective instrument for such an evaluation was required. Neither content analysis, style evaluation, nor comparison with a set of criteria was within the scope of this investigation. The evaluative concern was with the psychological or connotative reaction of a reader to a written instrument. To this researcher's knowledge, only one instrument deals directly with connotation and attempts to measure and quantify objectively the meaning for a particular concept held by an individual. This instrument is the semantic differential rating scale.

The discussion of the logic and the mechanics of the semantic differential in Chapter II suggests that a "concept" is anything that can be either thought of or reacted to by a human mind. A concept, whether well-defined or not, requires that the human mind hold some meaning for that concept. Unless some meaning exists, the concept does not exist for that mind.

One could say that the quality (that is, the correctness) of the meaning held for a concept is the most important consideration. However, for this study, the major concern was the objective measurement of the meaning held, regardless of its quality as viewed by another person. No matter how ill-formed or inaccurate, the meaning held by a person for a concept does control the response of that person to that concept.

The device used in this investigation to measure the reactions of the readers to written composition had to be less concerned with the basis of meaning held than with obtaining the truest possible version of the meaning so that comparisons among readers could be made.

The semantic differential rating scale selected for use in this study was first developed by Bruno for measuring responses to advertising copy.<sup>1</sup> (See Appendix F.) In a pilot study in which 21 scales were used, Bruno found that the 12 shown in Table 3 best differentiated the concepts being tested. Six of these scales are most heavily loaded on the evaluation factor; three, on the potency factor; and, three, on the activity factor.

TABLE 3  
FACTORIAL LOADING OF THE SEMANTIC SCALES

Scales <sup>a</sup>	Evaluation <sup>b</sup>	Potency <sup>b</sup>	Activity <sup>b</sup>
Good--Bad	1.00	.00	.00
Kind--Cruel	.52	-.28	.00
Believing--Skeptical	.38	-.06	.00
Progressive--Regressive	.43	.08	.24
Positive--Negative	.48	.00	.07
Reputable--Disreputable	.68	-.02	.05
Masculine--Feminine	-.14	.47	.03
Hard--Soft	-.24	.97	.00
Serious--Humorous	.01	.23	.09
Active--Passive	.17	.12	.98
Excitable--Calm	-.15	.03	.26
Complex--Simple	.17	.05	.25

<sup>a</sup>Bruno, "The Effects of Personality Traits on Written Mass Communication," p. 38.

<sup>b</sup>Osgood, et al., Measurement of Meaning, pp. 53-61.

<sup>1</sup>Bruno, "Effects of Personality Traits," p. 82.

One advantage of the semantic differential is that the scoring methods allow quantification of the meaning held by an individual for a concept. Without such quantification, any comparison among individuals would be entirely subjective.

There are two alternative methods for assigning values to the rating scales in the differential.

The first method considers the midpoint to be zero and to be unrelated to the concept. Variations from the midpoint or origin are expressed in number for distance and either (+) or (-) for direction. For example:

Good +3 +2 +1 0 -2 -3 Bad

A second method uses positive numbers 1 through 7 to indicate the meaning position between the bipolar adjectives. The progression of 1 through 7 must be consistently used to indicate direction; that is, if a low score on one scale is a favorable evaluation, then all other scales must be numbered so that a low score is a positive evaluation regardless of the placement of the bipolar adjectives. In this study, the progression of 1 through 7 is from good to bad, active to passive, and potent to less potent. For example:

Good 1 2 3 4 5 6 7 Bad

Soft 7 6 5 4 3 2 1 Hard

Active 1 2 3 4 5 6 7 Passive

The scale scores are added to ascertain the total score for a concept. In this investigation, the average response was used; that is, the total score was divided by the number of scales in the differential.



### Writer Problem

Because the letter composed by the bank executive was to serve as the link between the writer and the reader and, inasmuch as the evaluation of the letter was to be the experimental situation around which this study revolved, the following criteria were developed to control the construction of the standard problem:

1. The problem must direct the letters along a central theme to prohibit any subject variance from affecting response to an unacceptable degree.
2. The problem must express limits that are distinct about the subject matter but that do not limit the approach that a writer might take.
3. The problem must make clear reference to the writer's freedom of expression without appearing to require unusual innovation.
4. The problem must be stated in clear, concise sentences that reduce the possibility of misunderstanding.
5. The problem should be designed to be heard by the subject rather than read by him because the sentence structure and tone could affect the composition of the letter.

Based on these criteria, the following guidelines were used for the development of the standard problem:

1. Do not use the term "public relations" but allow the problem to result in a public relations letter.
2. Decide on a type of customer to whom the letter will be directed that will place general but unstated limits on the letter's content.
3. State in both positions of emphasis (beginning and end) the freedom of the writer to express himself.
4. Place no more than two stated requirements on the letter--one positive and the other negative.
5. Read the problem to all writers twice in conversational tone. Control voice inflection so that each writer will receive the same input as the other writers.

Bank customers can best be classified into groups along the lines of the types of bank services that they utilize. The content of public relations letters to these different groups should vary. The customer classification to which the problem letter was directed was "installment loan customers in good standing." As a result of the application of the guidelines and the selection of installment loan customers as receivers, the letter problem shown in Figure 1 was developed.

#### LETTER PROBLEM

Write a short letter to be mailed to all your installment loan customers who are in good standing. You may say anything that you feel is appropriate with only two stipulations. These stipulations are:

1. You are to express your appreciation for their patronage.
2. Do not make special offers for increased business in the short term.

Except for the above conditions, you are free to say anything you wish to say in the manner you wish.

Fig. 1. The standard problem on which the writers based their public relations letters.

In the first sentence, "short letter" attempts to eliminate the length of the letter as a variable, and "to your installment loan customers in good standing" provides a receiver for the letter and indirectly focuses on the subject matter. Stipulation (1), as the first limitation of the content, is an attempt to set the letter within the general framework of public relations. Stipulation (2) is the second limitation of content and attempts to direct the letter away from a sales emphasis toward a purely public relations emphasis. The last sentence reverses the order of sentence 2 so that reference is made first

to the stipulations and then to the freedom of the writer to express himself.

#### Procedure

The number of variables that can affect the perception of written communication is infinite. The total environment, past as well as present, affects all perception. However, to treat all possible variables that make up environment (the variables would differ among subjects), a sample size of immense proportion would be required.

The procedure followed in this investigation was kept as simple and direct as possible. The design attempted to reduce the number of variables that could have a noticeable effect on the reactions of readers by assigning a common problem to the writers which allowed freedom for personality expression and by selecting a homogeneous group of writers and readers.

The public relations letters written by the members of the writer sample were subsequently retyped to eliminate such variables as type size and style, neatness, letterhead design, color, paper quality, bank name, writer's title, letter style, and other less obvious variables. Although most of these variables could be considered as evidence of the writer's personality to some degree, within most organizations decisions regarding these variables are not under the control of the writer. Sentence structure, punctuation, and grammar were not changed. In fact, nothing about the linguistic structure of the messages was changed even slightly.

The method for selecting the writer sample also was designed to eliminate variables that could not otherwise be treated. Obvious variables

such as age, sex, and education could have been handled. However, variables such as years of experience as a writer, size of educational institution attended, geographical area of domicile during formative years, sibling relationships, degree of acceptance within the work group, and an infinite number of others could not be treated because of the sample size that would have been required. To eliminate or to reduce the effect of these variables as much as possible, the census sample of professional public relations writers was used. These variables were assumed to affect personality as measured by the application of the 16 P.F. Questionnaire.

The next step after the preparation of the standard problem and the selection of the 16 P.F. Questionnaire was to contact by telephone all the banks in Tulsa, Oklahoma, listed in the Directory of Southwest Banks.<sup>1</sup> The chief operational officer, the president in some cases, and the chairman of the board in other cases, was contacted to request the participation in this study of the person charged with the composition of the bank's public relations letters.

The third step was to administer the 16 P.F. Questionnaire to the members of the writer sample and to obtain a written instrument from each. The writers were given the standard problem first because the length of the 16 P.F. Questionnaire might have tired them so much that their composition would have been affected. The standard problem was read to each member, who then dictated a letter in response to the problem using the dictation procedure customary for each subject. Then, each writer completed Form B of the 16 P.F. Questionnaire.

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<sup>1</sup>Directory of Southwest Banks.

In step four, the reader sample members completed a semantic differential rating scale for each of the 14 public relations letters. The first subject began with Letter A; the second, with Letter B; the third, with Letter C; and so forth, so that all letters had equal positions and so that the effect of rating-order bias would be reduced. After completing the semantic differential rating scales, each reader completed Form B of the 16 P.F. Questionnaire.

Step five consisted of the statistical analysis of the data gathered in steps three and four.

#### Statistical Procedure

The initial treatment of the data involved scoring the 16 P.F. Questionnaires and the semantic differential rating scales. Data were then grouped into data tables, totaled, and, in the case of the semantic differential scores, averaged for each reader.

Following the method suggested in the 16 P.F. Questionnaire Handbook, profile similarity coefficients were computed. Each writer's profile served as a criterion profile and was matched with each of the 30 readers. The result of this treatment was a set of coefficients for each writer that indicated the degree of profile similarity between the writer and each reader.

This same matching procedure was followed to determine the similarity coefficients on the two major second-order scores of anxiety and introversion-extroversion.

The next statistical treatment of the data ascertained whether the personality similarity between the writer and the reader was related to the response of the reader. To make this statistical determination a Spearman's rank-difference correlation was computed for each writer.

The writer/reader profile similarity coefficients based on the 16 factors were compared with the corresponding semantic differential scores.

Writer/reader personality similarity coefficients based on the six "anxiety" factors were compared with the corresponding semantic differential scores using a Spearman's rank-difference correlation. The purpose of this statistical treatment was to determine whether personality similarity on the "anxiety" factors was related to reader response.

Writer/reader personality similarity coefficients based on the five "introversion-extroversion" factors were compared with the corresponding semantic differential scores using a Spearman's rank-difference correlation. The purpose of this statistical treatment was to ascertain whether personality similarity on the "introversion-extroversion" factors was related to reader response.

A Pearson product-moment correlation ( $r$ ) was computed for each of the sixteen personality factors. Sixteen separate correlations were computed, and each correlation consisted of fourteen paired scores. The paired scores were the writer's factor sten scores and the average responses that the writer received from the reader sample. This statistical procedure was followed to ascertain whether the degree of strength of each of the personality factors as evidenced by the sten score on the 16 P.F. Questionnaire was significantly related to the degree of either favorableness or unfavorableness of the reader sample toward the letter.

Next, a Pearson product-moment correlation ( $r$ ) was computed to compare the anxiety score for each writer with the response score given his letter by the reader sample. This statistical procedure was

followed to ascertain whether anxiety as a personality factor was related to the effectiveness of the writer.

Last, a Pearson product-moment correlation ( $r$ ) was computed to compare the introversion-extroversion score for each writer with the response scores given his letter by the reader sample. This statistical procedure was followed to ascertain whether introversion-extroversion as a personality factor was related to the effectiveness of the letter.

#### Conclusion

Design considerations for this study began with a review of test instruments that could have been used to measure the variable of personality in the subject groups. The 16 P.F. Questionnaire was selected because of the following attributes: clear definitions of the factors measured; comparability of the factors with universal index factors; high reliability and validity; and provision for the computation of similarity coefficients.

The semantic differential was selected to measure the effectiveness of the public relations letters because this device provides an objective measure of the subjective quality of meaning. Because the feeling toward the letter was the evaluative variable under question, a device was needed to measure in quantifiable terms the connotation or subjective "feeling" about a concept.

The writer's problem was designed to allow maximum freedom of expression within a well-defined subject area. The development of the problem involved these three stages: stage one, the development of a list of criteria; stage two, the development of guidelines based on the criteria; and stage three, the composition of the problem statement.

The problem statement contained three limitations--a general statement, a positive directional statement, and a negative directional statement. Two references to freedom of expression were included in the problem statement, one at the beginning and the other at the end.

The procedure for gathering the data used in this study was as follows. First, a writer sample was selected that consisted of fourteen public relations letter writers employed by banks in Tulsa, Oklahoma. Second, a sample of thirty readers was selected at random from the membership lists of the civic clubs in Bryan County, Oklahoma. Third, the subjects in the writer sample wrote a public relations letter based on a standard problem and then completed the 16 P.F. Questionnaire. Fourth, subjects in the reader sample rated each of the fourteen letters on a semantic differential rating scale and then completed the 16 P.F. Questionnaire.

After the 16 P.F. Questionnaires and the semantic differential rating scales were scored, the data were grouped into data tables. Profile similarity coefficients were computed to show the degree of profile similarity between each writer and each reader.

The average ratings received by the writers were correlated with the sten scores of the writers on each of the sixteen personality factors. Product-moment correlation ( $r$ ) was the correlation technique used.

A Spearman's rank-difference correlation was computed for each writer to determine whether the degree of personality similarity between the writer and the reader was significantly related to the semantic differential scores.



## CHAPTER IV

### ANALYSIS OF FINDINGS

In this study, the investigator analyzed the responses of 30 reader subjects to 14 public relations letters composed for use in this investigation by bank public relations writers.

Reader responses were analyzed to determine whether a significant relationship existed between (a) their responses and the personality traits of the writers and (b) their responses and reader-writer personality similarity.

#### Analysis Procedure

The first step in testing the hypotheses stated in Chapter I was to compute personality profile similarities between each writer and each of the 30 readers. In all, 420 separate similarity coefficients were computed based on the complete 16-factor profile. Secondly, similarity coefficients for each of the major second-order factors of anxiety and introversion-extroversion were computed. This computation resulted in 420 scores for anxiety and 420 scores for introversion-extroversion.

The Sixteen Personality Factor Handbook provided the formula for the above computations. Although a nomograph was provided for quick profile comparisons, a more accurate method is to use the formula

$$r_p = \frac{122.7 - \sum d^2}{122.7 + \sum d^2}$$

The  $\Sigma d^2$  is the sum of the squared differences between the profile factors and 122.7 is  $8(\text{median } \chi^2 \text{ for 16 factors})$  as provided by Table C of the Handbook.

The above formula can be adapted to any number of factors by using the median  $\chi^2$  for that number as also given in Table C of the Handbook. Appendix D shows the resulting similarities computed for this investigation.

The statistical measures then used were the Spearman Rank Difference correlation to compare reader responses with similarity coefficients and the Pearson product-moment correlation to compare individual personality factors of the writer to the reader responses.

#### Results of Testing Hypothesis One

The hypotheses considered was "There is no relationship between (a) the degree of writer/reader personality similarity for the personality profile as measured by the 16 P.F. Questionnaire and (b) the reader response to the writer's letter as measured by a semantic differential rating scale.

Personality similarity coefficients computed from the complete 16 factor profile were compared with the ratings given each message by the thirty readers. The results of the testing are shown in Table 4.

TABLE 4  
COMPARISON OF SIMILARITY COEFFICIENTS TO  
READER RESPONSE

Writer	Ho <sup>1</sup> 16 Factors
A	-.010
B	+.235
C	+.092
D	+.150
E	-.085
F	-.097
G	-.277
H	-.132
I	+.034
J	+.227
K	-.065
L	+.191
M	+.264
N	-.215

\*Significance at the .1 level.

None of the fourteen correlations computed were significant at the .1 level. Therefore, the null hypothesis was accepted. Also, no pattern of either negative or positive correlation developed. Therefore, the research concluded that the degree of personality similarity between readers and writers is not a satisfactory predictor of reader response.

#### Results of Testing Hypothesis Two

The hypothesis considered was "There is no relationship between (a) the degree of writer/reader personality similarity for the six "anxiety" factors as measured by the 16 P.F. Questionnaire and (b) the reader response to the writer's letter as measured by a semantic differential rating scale.

Personality similarity coefficients were computed for six factors from the subjects' personality profiles. The personality factors comprising the anxiety score were ergic tension ( $Q_4$ ), guilt proneness (O), threectia (H-), self-sentiment development ( $Q_3$ -), ego weakness (C-), and protension (L+). Each reader was compared to the writer of the message to which he had responded.

Correlations were then computed between personality similarity coefficients and reader responses. The results of these computations are shown in Table 5.

TABLE 5  
COMPARISON OF ANXIETY SIMILARITY COEFFICIENTS  
TO READER RESPONSE

Writer	$H_o^2$ Anxiety
A	-.065
B	+.046
C	+.058
D	+.297
E	+.032
F	+.123
G	-.238
H	+.098
I	+.040
J	+.195
K	-.163
L	-.017
M	+.264
N	-.019

\*Significance at .1 level.

None of the fourteen correlations were significant at the .1 level. Therefore, the null hypothesis was accepted. The researcher

concluded that personal similarity on the major second-order factor of anxiety (ergic tension) was not a sufficient predictor of reader response.

#### Results of Testing Hypothesis Three

The hypothesis considered was "There is no relationship between (a) the degree of writer/reader personality similarity for the five "introversion-extroversion" factors as measured by the 16 P.F. Questionnaire and (b) the reader response to the writer's letter as measured by a semantic differential rating scale.

Personality coefficients were computed for five factors of the sixteen factor profile. The factors comprising the introversion-extroversion score were reserved-outgoing (A), humble-assertive (E), sober-impulsively lively (F), shy-venturesome (H), and group dependent-self-sufficient ( $Q_2$ ). Each reader was compared with the writer to which he had responded.

Correlations were then computed between the personality similarity coefficients and the reader responses. The results of these computations are shown in Table 6.

TABLE 6

COMPARISON OF INTROVERSION-EXTROVERSION SIMILARITY  
COEFFICIENTS TO READER RESPONSE

Writer	Ho <sup>3</sup>
	Introversion-Extroversion
A	-.266
B	+.057
C	-.004
D	+.220
E	-.166
F	-.007
G	+.103
H	+.045
I	+.319
J	+.088
K	+.103
L	+.089
M	+.295
N	+.115

\* Significance at .1 level.

None of the fourteen correlations were significant at the .1 level of significance. Therefore, the null hypothesis was accepted. The researcher concluded that similarity between the reader and the writer on the major second-order factor of introversion-extroversion was not a satisfactory predictor of reader response.

Results of Testing Hypothesis Four

The hypothesis considered was "There is no relationship between each of the writer personality traits, in turn, as measured by the 16 P.F. Questionnaire and (b) the readers' response to the writer's letter as measured by a semantic differential rating scale.

Individual personality-factor scores of each writer were compared to reader responses as reflected by mean, equal weight, evaluation, potency, and activity scores. The results of testing hypothesis 4 are shown in Table 7.

TABLE 7  
COMPARISON OF WRITER PERSONALITY FACTORS TO  
READER RESPONSE

Personality Factor	Mean Response	Equal Weight Response	Evaluation Factor Response	Potency Factor Response	Activity Factor Response
A	+0.004	-.113	+0.228	-.002	-.401
B	+0.092	-.091	+0.096	-.068	-.188
C	-.289	-.566 <sup>b</sup>	+0.031	-.678 <sup>d</sup>	-.438
E	+0.202	+0.116	+0.096	+0.147	-.011
F	+0.094	-.178	+0.138	-.015	+0.288
G	-.348	-.299	-.458 <sup>a</sup>	+0.162	-.249
H	+0.391	+0.187	+0.464 <sup>a</sup>	-.152	+0.083
I	-.575 <sup>b</sup>	-.671 <sup>d</sup>	-.372	-.203	-.619 <sup>c</sup>
L	+0.213	+0.232	-.527 <sup>a</sup>	+0.554 <sup>b</sup>	-.690 <sup>d</sup>
M	-.064	.000	-.004	+0.492 <sup>a</sup>	-.099
N	+0.034	+0.143	-.114	+0.176	+0.223
O	+0.066	+0.181	-.058	+0.162	+0.223
Q <sub>1</sub>	+0.510 <sup>a</sup>	+0.516 <sup>a</sup>	+0.327	+0.403	+0.251
Q <sub>2</sub>	+0.312	+0.226	+0.145	+0.385	+0.029
Q <sub>3</sub>	-.199	-.185	-.089	-.086	-.168
Q <sub>4</sub>	-.161	-.004	-.326	+0.174	-.071

<sup>a</sup>.1 level of significance

<sup>b</sup>.05 level of significance

<sup>c</sup>.02 level of significance

<sup>d</sup>.01 level of significance

Factor I (tough-minded vs. tender-minded) scores correlated significantly with the mean response score ( $p < .05$ ) and the equally weighted response score ( $p < .01$ ). The correlations of  $-.575$  and  $-.671$  indicated that response to a writer's message correlated with the personality trait "premsia" (tender-minded, clinging, over-protected, sensitive).

Factor  $Q_1$  (conservative vs. experimenting) scores correlated significantly with mean response score ( $p < .1$ ) and the equally weighted response score ( $p < .1$ ). The correlations of  $+.510$  and  $+.516$  indicate that favorable response to a writer's message correlates with the personality trait "conservatism" (conservative, respecting established ideas, tolerant of traditional difficulties).

Factor C (affected by feelings vs. emotionally stable) scores correlated significantly with equally weighted response scores ( $p < .05$ ). The correlation of  $-.566$  indicates that a favorable response to a writer's message correlated with the personality trait "emotionally stable" (higher ego strength).

Four other personality traits correlated significantly with at least one element of the semantic differential score. Factor G (expedient vs. conscientious) scores correlated significantly ( $p < .1$ ) with the evaluation scores. The correlation of  $-.458$  indicates that the evaluation score correlates with "conscientious" (strong super-ego strength).

Factor H (shy vs. venturesome) scores correlated significantly ( $p < .1$ ) with the evaluation scores. The correlation of  $+.464$  indicates that the evaluation score correlates with the personality trait "shy" (threctia).



Factor L (trusting vs. suspicious) scores correlated significantly with evaluative ( $p < .1$ ), potency ( $p < .05$ ), and activity ( $p < .01$ ) scores. The correlations of  $-.527$  and  $-.690$  indicate that evaluative and activity scores correlated with "suspicious" (protension) and the correlation of  $+.554$  indicates that the potency scores correlate with "trusting" (alaxia).

Factor M (practical vs. imaginative) scores correlated significantly ( $p < .1$ ) with the potency scores. The correlation of  $+.492$  indicates that potency scores correlate with "practical" (praxernia).

These findings indicate that certain personality traits of a writer are significantly related to the response given to his composition by readers. Therefore, the null hypothesis was rejected. The factors of premisia, conservatism, and high ego strength, as measured by Cattell's 16 P.F. Questionnaire, appeared to be the most significant. Other writer personality traits that significantly relate to elements of a reader's evaluation are strong superego strength, threctia, alaxia, and praxernia.

#### Results of Testing Hypothesis Five

The hypothesis considered was "There is no relationship between the writer's anxiety score as measured by the 16 P.F. Questionnaire and (b) the readers' response to the writer's letter as measured by a semantic differential rating scale.

Anxiety scores were computed for each writer using the method given in the 16 P.F. Questionnaire Handbook. The factors comprising the anxiety score and their weights are given in Figure 2, p. 57. These scores were then compared with the mean response given each message by the reader sample. The results of this test are shown in Table 8. The correlation of  $+.003$  was not significant. Therefore, the null

hypothesis was accepted. The researcher concluded that the major second-order factor of anxiety as a characteristic of the writer was not significantly related to the reader's response.

<u>Primary Factor</u>	<u>Sten Score</u>	<u>X</u>	<u>Weight</u>	<u>=</u>	<u>Contribution</u>
C			-.18		
H			-.17		
L			+.19		
O			+.30		
Q <sub>3</sub>			-.20		
Q <sub>4</sub>			+.38		
Total					
Plus Constant					3.74
Total Anxiety Score					

Fig. 2 Factor score combination for estimating the second-order anxiety factor.

TABLE 8

COMPARISON OF ANXIETY SCORES OF WRITERS TO MEAN  
SEMANTIC DIFFERENTIAL RESPONSE SCORE\*

<u>Writer</u>	<u>Anxiety Score</u>	<u>Effectiveness Score</u>
A	3.00	2.758
B	4.11	3.197
C	2.76	3.675
D	3.51	3.789
E	4.22	2.897
F	5.95	3.397
G	4.47	3.744
H	4.54	3.300
I	3.50	3.314
J	1.75	3.636
K	7.62	3.128
L	7.02	3.517
M	2.98	2.970
N	5.18	3.870

\*  
r = +.003

Results of Testing Hypothesis Six

The hypothesis considered was "There is no relationship between the writer's introversion-extroversion score as measured by the 16 P.F. Questionnaire and (b) the readers' response to the writer's letter as measured by a semantic differential rating scale.

Introversion-extroversion scores were computed for each writer using the method given in the 16 P.F. Questionnaire Handbook. The factors comprising the introversion-extroversion score and their weights are given in Figure 3.

<u>Primary Factor</u>	<u>Sten Score</u>	X	<u>Weight</u>	=	<u>Contribution</u>
A			+ .17		
E			+ .33		
F			+ .41		
H			+ .48		
Q <sub>2</sub>			- .16		
Total					
Plus Constant					<u>-1.26</u>
Total Introversion-Extroversion Score					<u><u>          </u></u>

Fig. 3 Factor score combination for estimating the second-order introversion-extroversion factor.

These scores were then compared with the mean response given each writer by the reader sample. The results of this test are shown in Table 9.

TABLE 9

COMPARISON OF INTROVERSION-EXTROVERSION SCORES OF  
WRITERS TO MEAN SEMANTIC DIFFERENTIAL RESPONSE  
SCORE\*

Writer	Introversion-Extroversion Score	Mean Semantic Differential Response Score
A	7.66	2.758
B	6.20	3.197
C	7.90	3.675
D	7.90	3.789
E	6.68	2.897
F	7.48	3.397
G	7.53	3.744
H	7.60	3.300
I	9.06	3.314
J	6.92	3.636
K	7.78	3.128
L	10.05	3.517
M	9.06	2.970
N	8.48	3.810

\* $r = +.042$

The correlation of .042 was not significant. Therefore, the null hypothesis was accepted. The researcher concluded that introversion-extroversion as a personality characteristic of the writer was not significantly related to the response of the reader to the writer's composition.

#### Summary

This chapter has presented the results of testing six hypotheses concerning the relationships between personality and communication effectiveness. Each of fourteen writer personality profiles was compared with a reader sample of thirty subjects selected randomly from Bryan County, Oklahoma, civic clubs. The result was 1,260 personality

similarity coefficients. The first three hypotheses considered the relationship of this similarity to the reader's response to the letter. Hypotheses 4, 5, and 6 compared individual factors in the reader's profile to reader response. A semantic differential rating scale, using Osgood's weights adapted by Bruno for evaluating reader response to advertising, was used to measure reader response to the letters.

The statistical test used for data analysis of Hypotheses 1, 2, and 3 was the Spearman rank-difference correlation. The statistical test used for data analysis of Hypotheses 4, 5, and 6 was the Pearson product-moment coefficient.

In no case was the similarity between reader and writer personality profiles found to be significantly related to reader response. The range of correlations using the similarity between complete profiles was  $-.277$  to  $+.264$  (Table 4, p. 50). The range of correlations using the similarity between factors comprising the anxiety score was  $-.238$  to  $+.297$  (Table 5, p. 51). The range of correlations using the similarity between factors comprising the introversion-extroversion score was  $-.266$  to  $+.319$  (Table 6, p. 53). Therefore, the investigator concluded that, in this study, personality similarity between reader and writer was not a satisfactory predictor of reader response.

Comparisons between writer personality characteristics and reader response showed several significant relationships (Table 7, p. 54). When the weighted semantic differential responses were compared with personality factor scores, three factors appeared to be significantly related. Factor  $C^+$  (emotionally stable) correlated ( $p < .05$ ) with favorable reader response. Factor  $I^+$  (tender-minded, "premsia") correlated

( $p < .01$ ) with favorable reader response. Factor  $Q_1^-$  (conservatism) correlated ( $p < .1$ ) with favorable reader response.

Because the semantic differential score consisted of three elements (evaluation, potency, and activity), each of these was compared with individual personality factor scores. In addition to the factors that showed a significant relationship to the weighted score, four other factors were shown to be significantly related to at least one of the components of the semantic differential score (Table 7, p. 54). Factors  $G^+$ , "conscientious," ( $p < .1$ );  $H^-$ , "shy," ( $p < .1$ );  $L^+$ , "suspicious," ( $p < .1$ ); correlated with the evaluation scores. Factors  $L^-$ , "trusting," ( $p < .05$ ) and  $M^-$ , "practical," ( $p < .1$ ) correlate with potency scores. Factor  $L^+$ , "suspicious," ( $p < .01$ ) correlates significantly with activity scores.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study was undertaken to ascertain whether writer personality or the degree of similarity between the personalities of a writer and a reader is related to the response of the reader of the letter.

The literature was reviewed in three basic areas: (1) personality and personality measurement, (2) personality and communication, and (3) the semantic differential. Analysis and synthesis of the literature produced data concerning the current status of research in this area and provided a basis for the selection and/or development of the instruments used in this study.

Actual testing involved two main phases. First, the sample of 14 bank public relations writers composed a letter in response to a common problem, and then completed Form B of Cattell's 16 P.F. Questionnaire.

Second, the reader sample of 30 members of civic clubs in Bryan County, Oklahoma, evaluated these messages in terms of a semantic differential rating scale and then completed Form B of Cattell's 16 P.F. Questionnaire.

The first step in the treatment of the data consisted of the computation of personality similarity coefficients. A Spearman's rank difference correlation for the 16 personality factors was computed for each writer and each of the 30 readers. Next, personality similarity

coefficients were computed using only the six factors that determine the anxiety score. Last, personality similarity coefficients were computed using the five factors that determine the introversion-extroversion score. The result of this step was 1260 personality similarity coefficients that compared each of the writers with each of the 30 readers on three separate bases.

After the readers' semantic differential responses were scored and tabulated, correlations utilizing the Pearson product-moment formula were computed between these responses and each of the three personality similarity coefficients.

Next, individual personality factor scores of writers were correlated with average semantic differential responses. The statistical procedure used was the Spearman's rank-difference correlation.

Last, both anxiety and introversion-extroversion scores were computed for each writer and these scores were compared to their average response using the Spearman rank-difference correlation.

#### Summary of Findings

An analysis of the data collected in this investigation provided the basis for the following answers to the six research question posed in Chapter I.

1. There appeared to be no relationship between (1) the writer/reader personality profile similarities and (2) the response of the reader. None of the correlations computed were significant at the .1 level. Correlations, equally divided between positive and negative, indicated that no pattern existed. The range of correlations was

$$r = -.277 \text{ to } r = +.264$$



2. There appeared to be no relationship between (1) the writer/reader personality similarity on the factors used to determine anxiety and (2) the response of the reader. No pattern was evident that indicated a tendency toward either positive or negative correlations. None of the correlations were significant at the .1 level. The range of correlations was

$$r = -.238 \text{ to } r = +.297$$

3. There appeared to be no relationship between (1) the writer/reader personality similarity on the factors used to determine introversion-extroversion and (2) the response of the reader. None of the correlations were significant at the .1 level. The range of correlations was

$$r = -.266 \text{ to } r = +.319$$

4. Three writer personality factors correlated significantly with mean and/or equally weighted reader semantic differential scores. Factor  $C^+$  (emotionally stable) correlated ( $p < .05$ ) with favorable reader response. Factor  $I^+$  (tender-minded) correlated ( $p < .01$ ) with favorable reader response. Factor  $Q_1^-$  (conservatism) correlated ( $p < .1$ ) with favorable reader response.

Several factors appeared to be significantly related to one or more of the three adjectival categories of the semantic differential. Factors  $G^+$  (conscientious) ( $p < .1$ ) correlated with evaluative scores. Factors  $L^-$  (trusting) ( $p < .05$ ) and  $M^-$  (practical) ( $p < .1$ ) correlated with potency scores. Factor  $L^+$  (suspicious) correlated significantly with activity scores.

5. There appeared to be no relationship between writer anxiety scores and the response to the message by the reader sample. The correlation between anxiety scores and reader response was  $r = +.003$ .

6. There appeared to be no relationship between the introversion-extroversion scores of the writer and the responses to his message by the reader sample. The correlation between introversion-extroversion scores and reader response scores was  $r = +.042$ .

#### Conclusions

The basic aim of this investigation was to determine whether writer and/or reader personality affects the response of receivers of bank public relations correspondence. The findings of this investigation have led to the following conclusions:

1. Personality similarity between the writer and the reader, whether computed from the total personality profile or from those factors used to determine anxiety and introversion-extroversion, appeared to have no relationship to the reader's response.

The commonly held belief that personality similarity between a sender and a receiver has an effect on the quality of their communication appears to have no validity in written communication with this sample of writers and readers.

The personality profiles obtained by the application of the 16 P.F. Questionnaire allowed personality to be computed in three ways: first, similarities between total profiles; second, similarities between those traits which indicate introversion-extroversion; and third, similarities between those traits which indicate anxiety. When each of these sets of coefficients was compared with corresponding reader evaluation scores, no significant correlations were found. Neither like profiles nor unlike profiles showed a significant pattern of either positive or negative response.

2. Some writer personality characteristics appeared to be strongly related to reader semantic differential response. Significant correlations occurred between reader response and high ego strength ( $C^+$ ), premsia ( $I^+$ ), and conservatism ( $Q_1^-$ ).

The potency dimension of the semantic differential score contributed most of the significance on factor  $C^+$ , high ego strength. The activity dimension contributed most of the significance on factor  $I^+$ , premsia. For factor  $Q_1^-$ , conservatism, the semantic differential response was balanced across all three dimensions: evaluation, potency, and activity.

According to Cattell, a person having personality characteristics of high ego strength, premsia, and conservatism could be described as emotionally mature, calm, stable, kindly, gentle, imaginative, intuitive, and conservative.

3. When personality traits were compared with each of the dimensions of the semantic differential score, several other correlations emerged. This comparison was especially interesting for Factor L (trusting, suspicious). Factor L, which describes protension or paranoid tendencies, achieved significant correlations with all three dimensions but the correlations offset one another so that the equally weighted total score did not correlated with Factor L score.

Factor  $G^+$ , superego strength (character), and  $H^-$ , threctia (shy, timid), appeared to be related to the evaluation dimension response.

Factor  $M^-$ , praxernia (practical), appeared to be related to the potency dimension response.

These findings indicate that, although the total response score did not correlate significantly on these factors, the composition of the scores was affected by writer personality.

In other words, the various dimensions of the reader response score (evaluation, potency, and activity) appeared to act independently when correlated with some of the personality factors. For example, the evaluation and the activity scores might both correlate negatively with a personality factor while the potency score correlated positively. When combined into a total response score, no significant correlation appeared.

4. The two major second-order scores of writer anxiety and introversion-extroversion appeared to have no relationship to reader response.

#### Recommendations for Further Study

During the course of this investigation, several possible alternate approaches to the problem became apparent. The following major recommendations (arising from these alternatives) concern the samples and the population:

1. The writer sample should be much larger to allow for more sophisticated, comprehensive statistical analyses.
2. The writer/reader sample should be drawn from a broader population so that any generalizations would have wider applicability.
3. This investigation, with appropriate variations, should be replicated with several different writer/reader populations.

Other suggestions of a more general nature are:

1. A computer program should be developed to handle the large number of variables inherent in this problem.
2. Other test instruments should be utilized to validate the results obtained in this study.

3. Several possible variations in design could contribute to the study of personality and written communication.

4. This investigation should be replicated using compositions other than public relations in the field of banking for reader evaluation.

This study intentionally excluded such variables as letterhead design, writer's title, company name, paper quality, and signature style. Inasmuch as these variables could be cues to writer personality, studies are needed that selectively include these variables.

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## APPENDICES

**APPENDIX A**  
**LETTERS TO SUBJECTS**

## EXHIBIT 1

## LETTER TO READER SUBJECTS

Date

Addressee

Last fall the \_\_\_\_\_ agreed to help in a doctoral research project being conducted through the University of Oklahoma and Southeastern State College. The representative group was to be selected randomly from the current membership. The selection has been completed and those chosen were:

Would it be possible for you to meet with this group from 6:30 p.m. to 8:30 p.m. on \_\_\_\_\_ at Southeastern State College, Morrison Hall, Room 225? Please mail the enclosed confirmation card whether or not you will be able to take part. This will be the only meeting of your group and nothing further will be asked of you.

Needless to say, I deeply appreciate your help and the spirit of helpfulness shown by the

Sincerely yours,

Tom J. McRorey  
Assistant Professor

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Enclosure

EXHIBIT 2

LETTER THANKING BANKS FOR AGREEING TO COOPERATE

Date

Addressee

Dear :

Thank you for agreeing to assist me with my research study of written correspondence in the finance industry.

In our telephone conversation of September 14, I stated that it would be about two months before the actual study could begin. When the research instruments are completed, I will telephone you to arrange for an appointment.

The data gathered during the study will be held confidential as to source. Only the results in tabulated form will be reported. A copy of the report will be sent to you upon completion.

May I again express my appreciation for your cooperation.

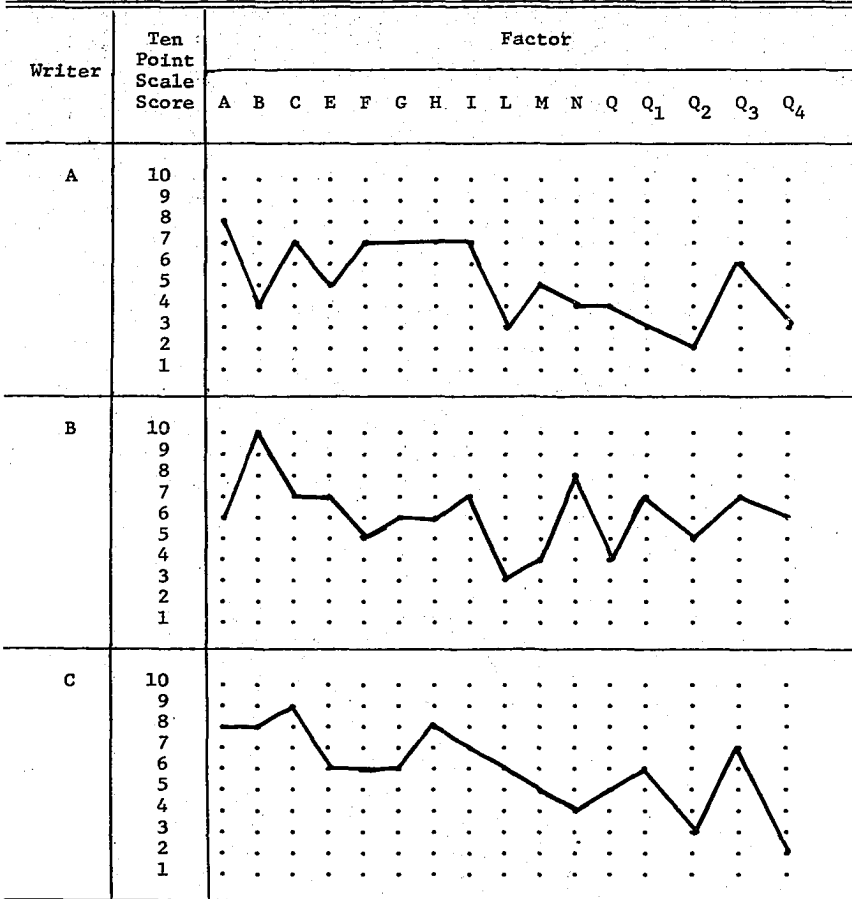
Sincerely yours,

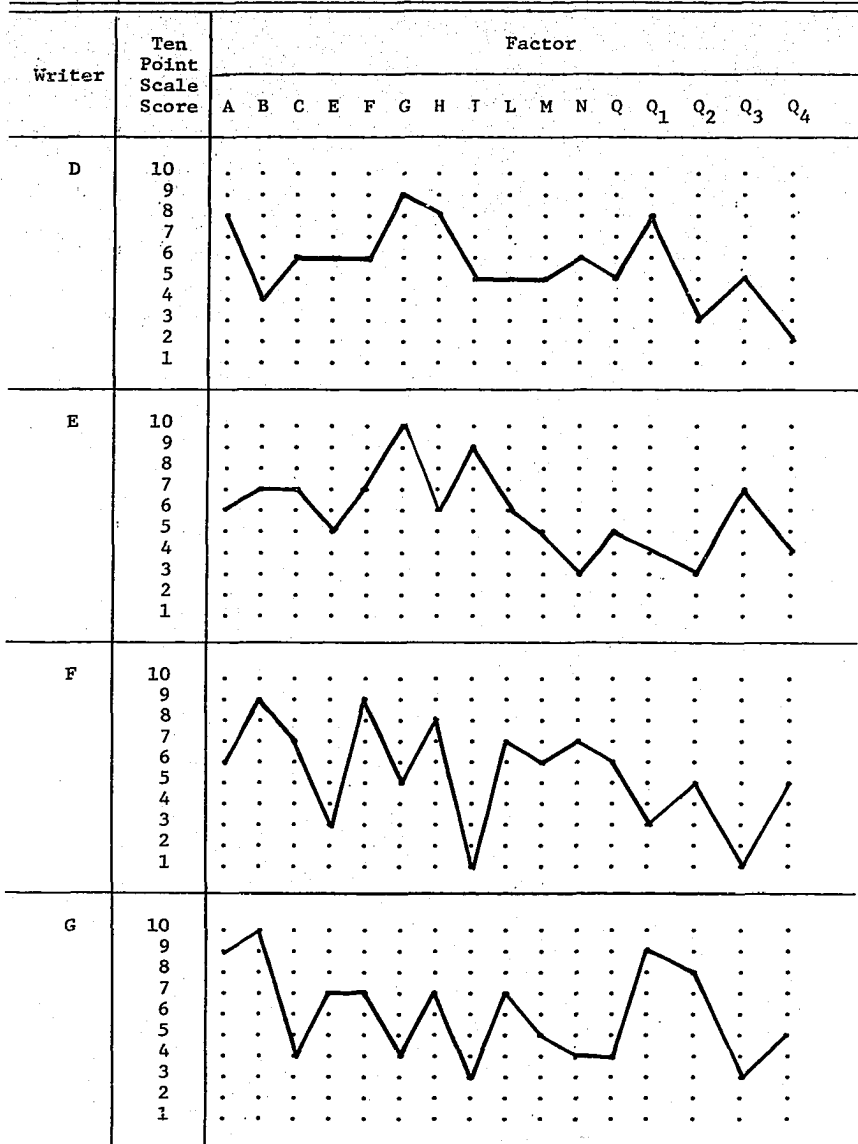
Tom J. McRorey  
Assistant Professor

TJM/ek

**APPENDIX B**  
**WRITER PERSONALITY PROFILES**

## WRITER PERSONALITY PROFILES





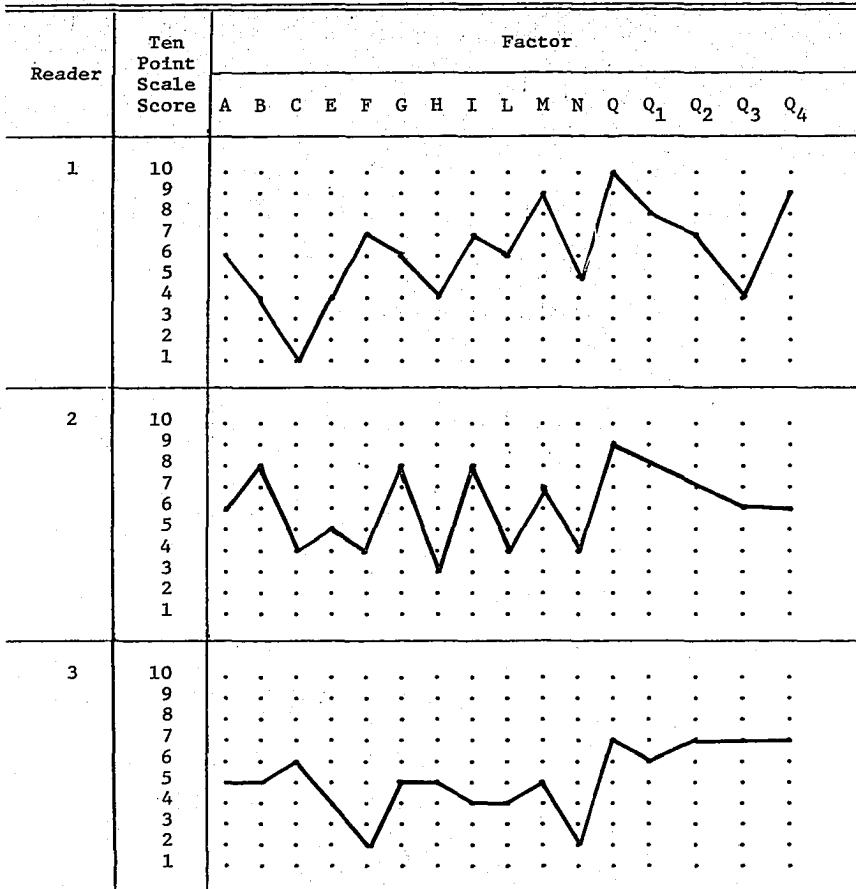


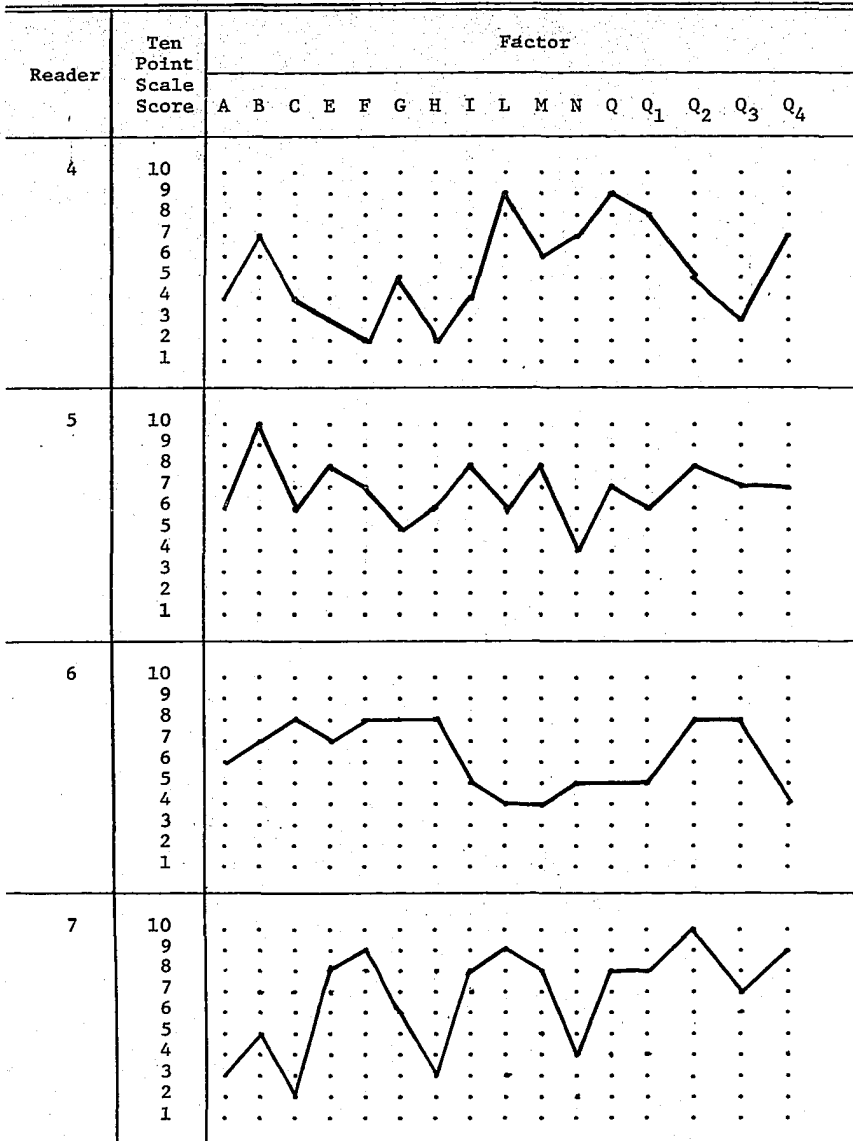


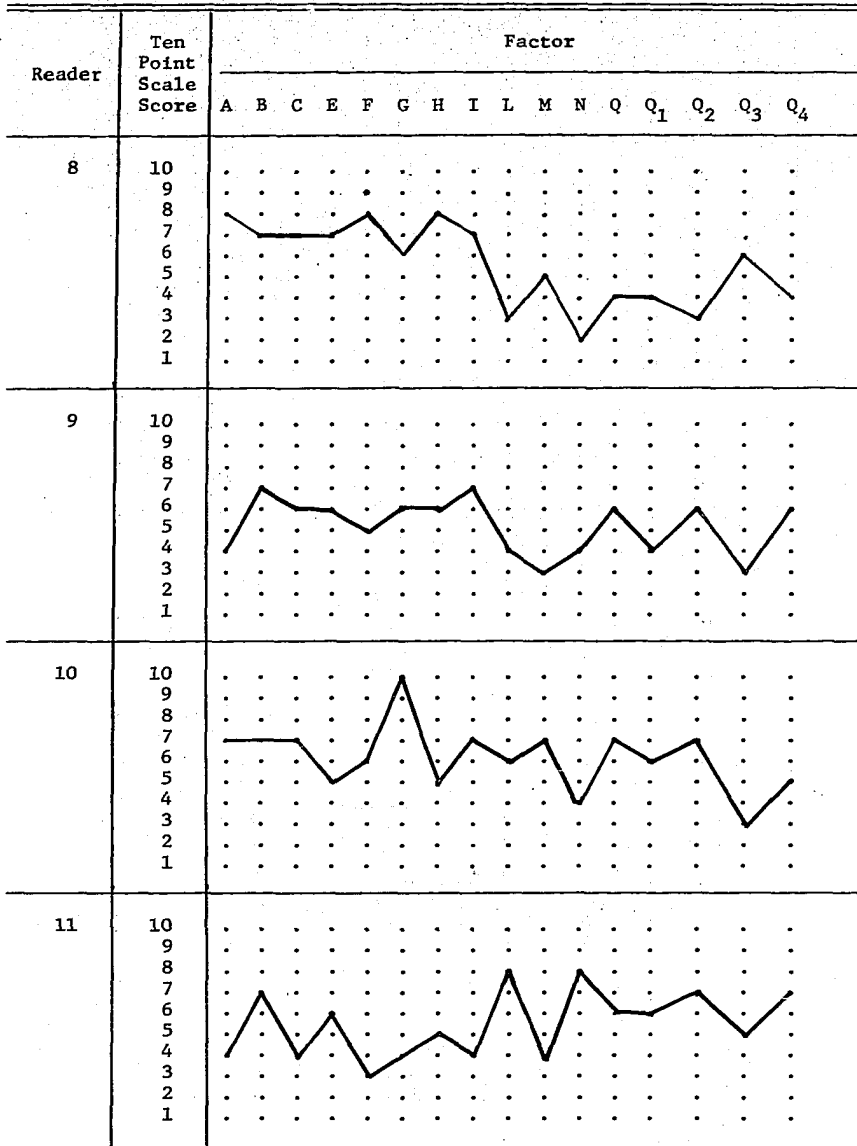


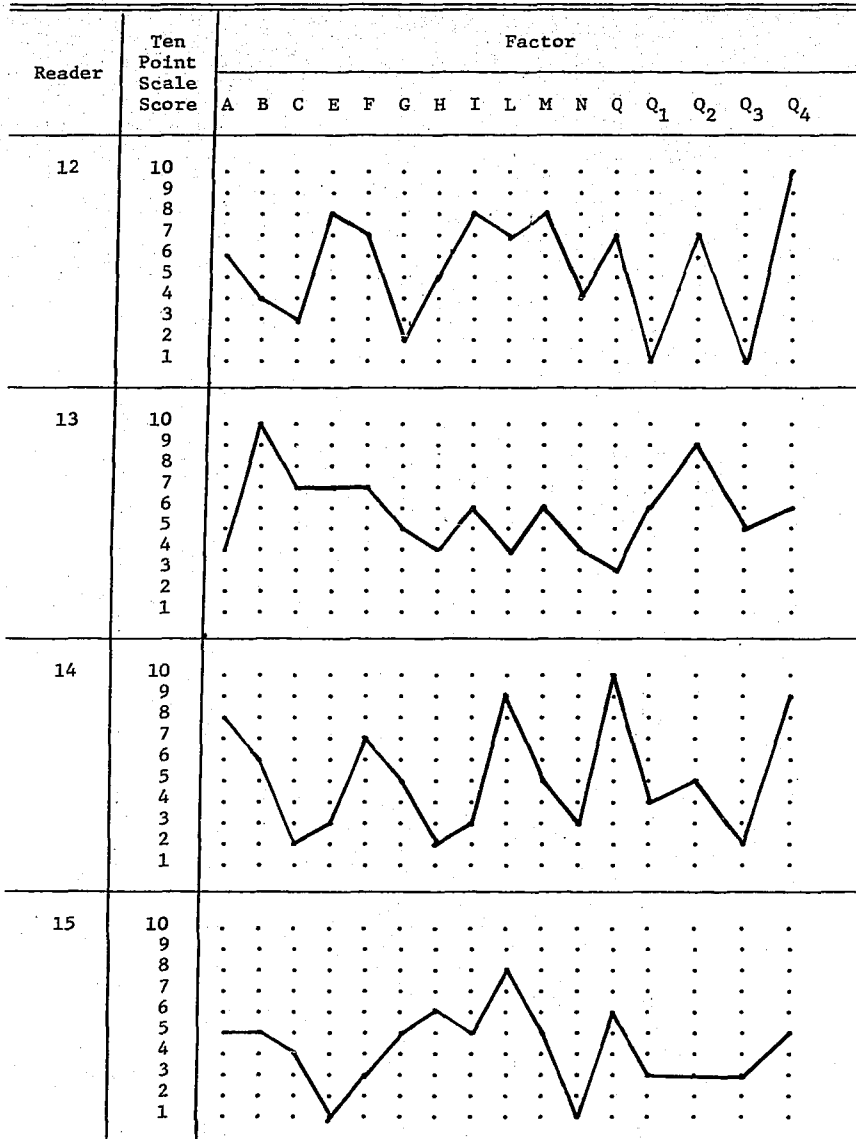
**APPENDIX C**  
**READER PERSONALITY PROFILES**

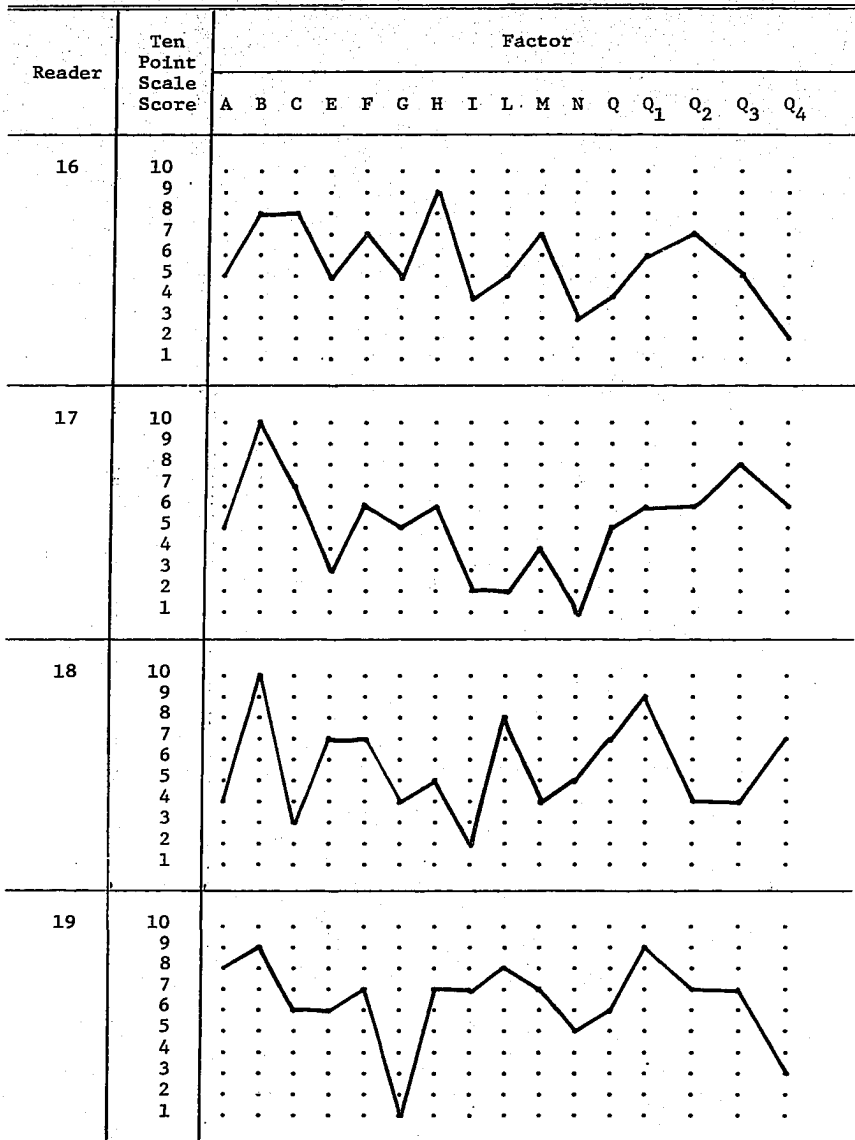
## READER PERSONALITY PROFILES



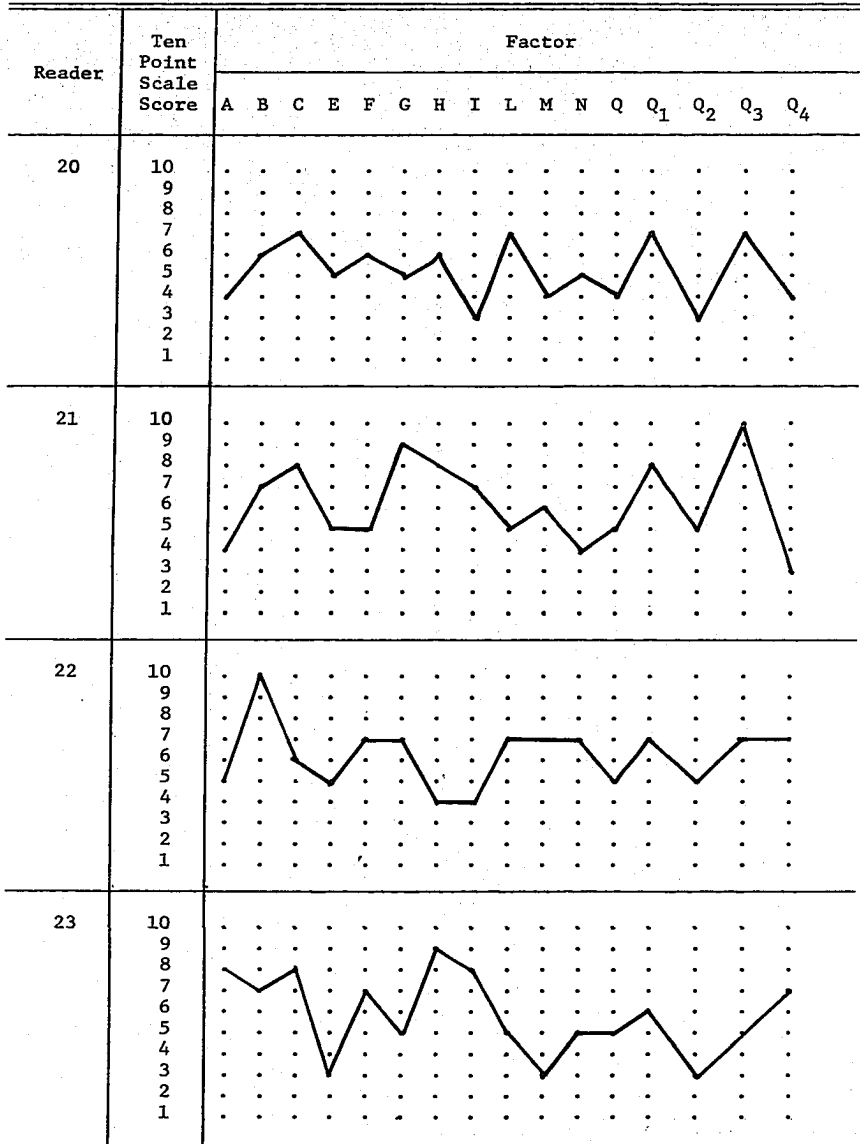


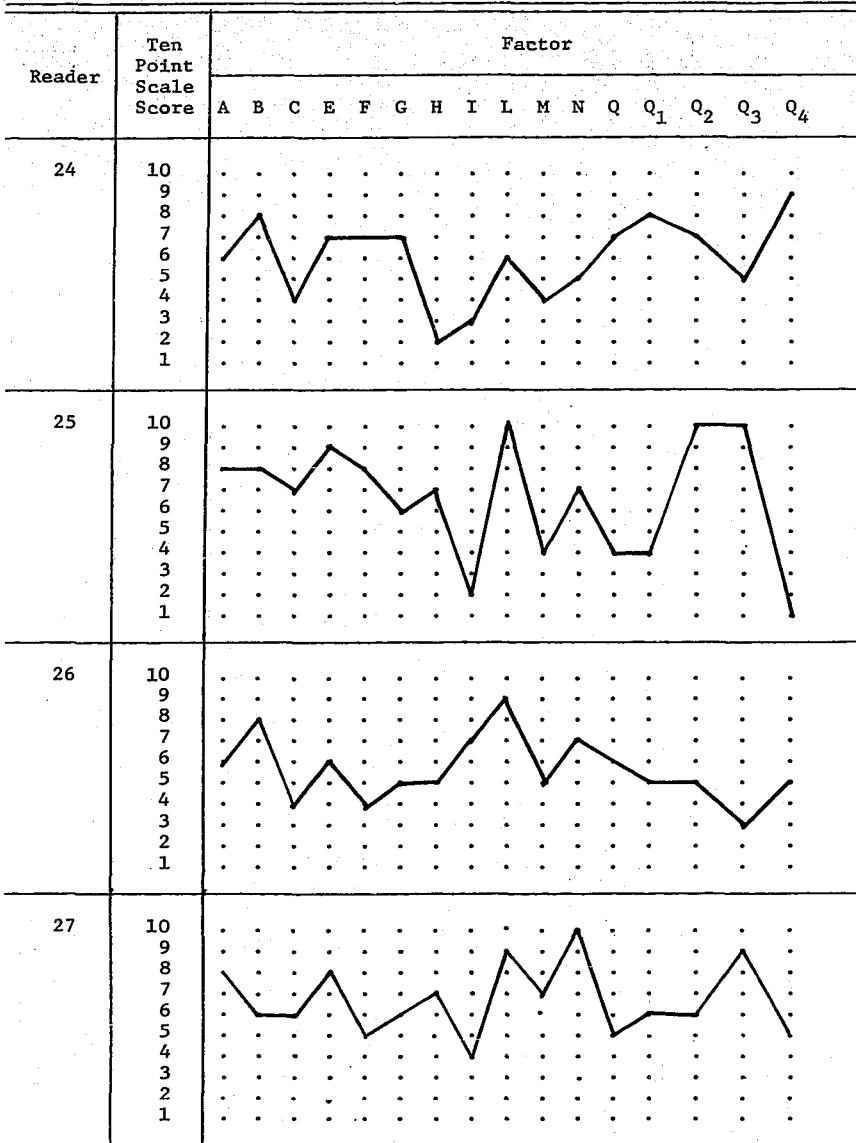


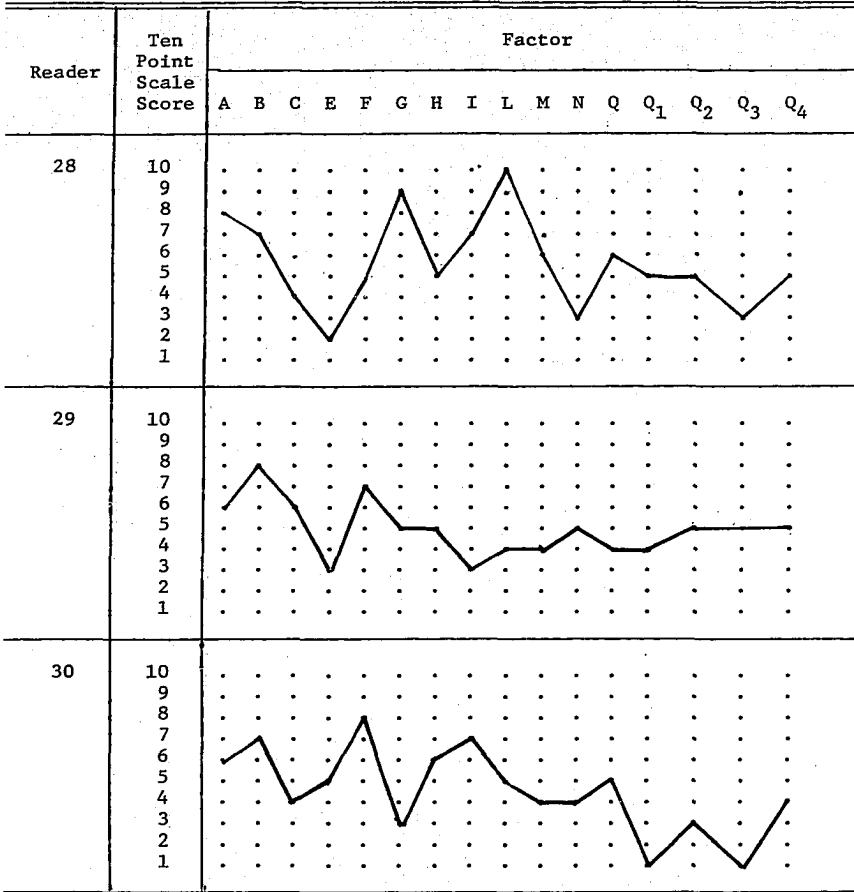












**APPENDIX D**  
**PROFILE SIMILARITY COEFFICIENTS**

## EXHIBIT 1

SIMILARITY COEFFICIENTS BASED ON COMPLETE 16  
FACTOR PROFILES

Reader	WRITER													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	-.247	-.217	-.294	-.167	-.192	-.247	-.147	-.107	-.362	-.386	+.041	-.113	-.347	-.251
2	-.063	+.139	+.007	+.037	+.127	-.228	-.017	+.055	-.192	-.170	+.097	-.205	-.164	-.164
3	+.015	+.059	+.015	-.013	+.007	-.176	-.087	+.092	-.208	-.025	+.229	-.308	-.218	-.062
4	-.306	-.009	-.232	-.173	-.228	-.123	-.116	-.073	-.333	-.329	+.170	-.189	-.340	-.197
5	-.083	+.280	-.148	-.100	+.117	-.119	+.159	+.260	-.129	+.015	-.087	-.150	-.040	-.116
6	+.159	+.343	+.373	+.254	+.300	-.021	+.055	+.300	+.199	+.343	+.003	-.097	+.260	+.153
7	-.374	-.251	-.343	-.320	-.228	-.380	-.191	-.184	-.415	-.419	-.242	-.144	-.444	-.377
8	+.684	+.205	+.576	+.273	+.463	-.062	+.007	+.358	+.205	+.229	+.148	-.225	+.280	+.254
9	+.229	+.321	+.182	+.112	+.280	+.059	+.050	+.235	+.102	+.078	+.381	-.215	+.107	+.235
10	-.025	+.117	+.205	+.261	+.397	+.025	+.068	+.314	-.009	-.009	+.241	-.107	+.148	+.024
11	-.162	+.211	-.066	-.040	+.573	+.011	+.117	+.193	-.080	-.021	+.187	-.048	-.126	-.013
12	-.230	-.292	-.327	-.343	-.267	-.200	-.220	-.116	-.349	-.338	+.003	-.322	-.345	-.244
13	-.070	+.366	+.059	-.103	+.041	-.048	+.217	-.097	-.103	+.148	+.024	-.267	+.007	-.107
14	-.269	-.322	-.347	-.192	-.237	-.162	-.116	-.167	-.401	-.398	+.241	-.210	-.383	-.116
15	+.046	-.267	-.044	-.013	-.006	-.037	-.173	-.048	-.312	-.173	+.358	-.367	-.262	-.073
16	+.173	+.122	+.421	+.193	+.080	+.187	+.223	+.280	-.080	+.373	+.082	-.202	+.176	+.187
17	-.009	+.107	+.098	-.100	-.009	-.069	+.015	-.037	-.242	+.097	+.127	-.372	-.159	-.205
18	-.253	+.046	-.100	-.066	-.178	+.059	+.314	+.041	-.210	-.225	+.159	+.107	-.205	+.165
19	-.103	+.138	+.267	-.037	-.083	-.150	+.267	+.358	-.153	-.017	-.056	-.184	-.055	-.048
20	+.217	+.241	+.294	+.329	+.187	-.192	+.078	+.389	+.068	+.117	+.217	-.021	+.015	+.280
21	+.148	+.241	+.429	+.273	+.413	-.251	-.159	+.165	-.017	+.097	-.119	-.230	-.025	-.141
22	+.059	+.536	+.117	+.064	+.127	+.068	+.107	+.229	-.009	+.082	+.229	-.059	-.009	+.068
23	+.343	+.273	+.421	+.193	+.273	+.037	-.040	+.413	+.235	+.046	+.373	-.242	+.199	-.097
24	-.192	+.127	-.141	-.073	-.083	-.083	+.205	+.082	-.141	-.210	+.193	-.223	-.167	+.050
25	-.247	-.147	-.040	-.156	-.213	-.202	-.056	+.011	-.187	+.068	-.317	-.138	-.076	-.228
26	+.003	+.211	+.143	+.097	+.112	+.092	+.176	+.366	+.028	+.011	+.314	-.033	+.073	-.228
27	-.076	+.159	+.107	+.132	-.069	-.116	-.009	+.405	+.097	+.165	-.097	+.165	+.033	-.113
28	+.011	-.135	+.055	+.078	+.260	-.021	-.005	+.127	-.200	-.138	+.273	-.208	-.087	-.113
29	+.294	+.273	+.229	+.143	+.170	+.366	+.170	+.273	+.024	+.280	+.481	-.262	+.097	+.413
30	+.229	-.073	+.032	-.066	+.050	+.159	-.069	+.055	-.103	-.076	+.294	-.288	-.033	+.217

## EXHIBIT 2

## SIMILARITY COEFFICIENTS BASED ON 6 ANXIETY FACTORS

Reader	WRITER													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	-.505	-.413	-.584	-.624	-.396	-.374	-.221	-.447	-.496	-.634	+1.00	-.003	-.476	-.365
2	-.134	-.068	-.320	-.124	-.003	-.228	-.356	-.213	-.286	-.464	+1.60	-.003	-.424	-.097
3	+0.076	+0.536	-.088	-.003	+0.385	-.151	-.036	+0.114	+0.072	-.235	-.301	-.047	-.267	+0.034
4	-.474	-.413	-.284	-.405	-.201	-.213	-.151	-.248	-.478	-.614	+1.60	+1.00	-.537	-.325
5	+0.072	+0.363	+0.009	+0.059	+0.507	-.047	+1.00	+0.301	+0.086	+0.213	+0.408	+0.209	-.221	+0.046
6	+0.652	+0.562	+0.621	+0.408	+0.621	-.176	-.107	-.142	+0.507	+0.364	-.183	-.241	+0.129	+0.046
7	-.505	-.379	-.534	-.471	-.286	-.440	-.255	-.365	-.508	-.600	-.088	+0.072	-.611	-.474
8	+0.911	+0.652	+0.385	+0.591	+0.481	-.036	+0.086	+0.363	+0.791	+0.534	-.125	-.248	+0.363	+0.321
9	+0.262	+0.321	-.078	+0.244	+0.244	+0.385	+0.385	+0.301	+0.301	-.167	+0.562	-.014	+0.072	+0.719
10	+0.041	+0.086	+0.009	+0.059	+0.321	+0.481	+0.301	+0.385	+0.114	-.303	+0.562	+0.114	+0.021	+0.481
11	-.159	-.014	-.129	+0.057	+0.209	+0.046	+0.431	+0.192	-.116	-.458	+0.408	+0.507	-.292	-.047
12	-.471	-.374	-.392	-.425	-.374	-.088	-.003	-.297	-.401	-.582	+0.363	-.078	-.490	-.176
13	+0.342	+0.685	-.058	+0.059	+0.313	-.088	+0.129	+0.342	+0.408	+0.009	+0.009	-.280	-.003	+0.050
14	-.061	-.549	-.637	-.559	-.490	-.392	-.336	-.493	-.600	-.698	-.047	-.125	-.648	-.527
15	-.097	-.125	-.159	+0.160	+0.160	+0.408	+0.754	+0.244	-.068	-.388	+0.342	+0.591	-.134	+0.176
16	+0.591	+0.114	+0.685	+0.754	+0.363	+1.00	+0.072	+0.431	+0.562	+0.456	-.241	-.241	+0.719	+0.262
17	+0.591	+0.829	+0.114	+0.144	+0.408	-.297	-.195	+0.072	+0.321	+0.114	-.167	-.325	-.125	-.025
18	-.267	-.176	-.341	-.142	-.003	+0.034	+0.363	-.014	-.248	-.436	+0.431	+0.591	-.374	-.078
19	+0.321	+0.160	+0.534	+0.591	+0.791	+0.009	+0.209	+0.456	+0.160	+0.046	-.047	+0.262	+0.009	+0.034
20	+0.384	+0.363	+0.507	+0.408	+0.911	-.025	+0.226	+0.719	+0.363	+0.209	-.078	+0.009	+0.100	-.003
21	+0.301	+0.201	+0.562	+0.176	+0.456	-.360	-.274	+0.100	+0.114	+0.209	-.037	-.303	-.125	-.248
22	+0.192	+0.685	-.116	-.036	+0.408	-.221	-.003	+0.159	+0.144	-.151	+0.114	-.167	-.248	-.047
23	+0.226	+0.363	+0.144	+0.175	+0.281	+0.244	+0.129	+0.534	+0.621	+0.059	+0.209	-.151	+0.652	+0.431
24	-.351	-.320	-.468	-.097	-.151	-.297	-.125	-.221	-.346	-.527	+0.408	-.097	-.508	-.241
25	-.235	-.325	+0.144	-.116	+0.086	-.444	-.320	-.088	-.346	-.183	-.516	-.267	-.341	-.478
26	-.213	+0.221	-.118	-.003	+0.072	+0.244	+0.562	+0.144	-.191	-.379	+0.226	+0.534	-.241	-.014
27	-.088	-.014	+0.144	-.009	+0.456	-.248	-.078	+0.262	-.078	-.116	-.119	+0.114	-.261	-.286
28	-.297	-.303	-.280	-.097	-.014	+0.160	+0.431	+0.072	-.267	-.425	+0.114	+0.507	-.297	-.125
29	+0.591	+0.685	+0.280	+0.363	+0.562	+0.046	+0.342	+0.431	+0.507	+0.114	+0.144	-.116	+0.100	+0.301
30	-.097	-.116	-.241	+0.209	-.036	+0.385	+0.591	+0.046	+0.002	-.255	+0.114	-.014	-.003	+0.431

## EXHIBIT 3

SIMILARITY COEFFICIENTS BASED ON 5 INTROVERSION-  
EXTROVERSION FACTORS

Reader	WRITER													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	+0.003	+0.464	-.082	-.082	+0.247	+0.145	+0.126	+0.042	-.316	-.094	+0.204	-.295	-.281	-.082
2	-.216	+0.318	-.179	-.179	+0.012	-.250	-.057	-.031	-.336	-.016	+0.074	-.428	-.329	-.323
3	-.295	+0.184	-.216	-.216	-.117	-.295	-.225	-.169	-.399	+0.027	-.044	-.700	-.378	-.404
4	-.388	+0.128	-.399	-.399	-.204	-.438	-.484	-.404	-.541	-.295	-.128	-.619	-.567	-.472
5	-.179	+0.426	-.044	-.044	+0.012	-.094	+0.520	+0.247	-.069	+0.126	-.198	+0.058	-.003	-.044
6	-.139	+0.225	+0.012	+0.012	+0.012	+0.145	+0.520	+0.204	-.094	+0.204	-.179	+0.058	+0.058	+0.108
7	-.532	+0.226	-.526	-.526	-.394	-.414	-.273	-.428	-.550	-.480	-.513	-.273	-.547	-.460
8	+0.665	+0.164	+0.749	+0.749	+0.456	+0.164	+0.108	+0.554	+0.589	+0.012	+0.164	+0.370	+0.426	+0.841
9	+0.044	+0.706	+0.074	+0.074	+0.318	+0.012	-.003	+0.091	-.159	+0.126	+0.108	-.225	-.189	-.044
10	+0.058	+0.520	+0.126	+0.126	+0.294	+0.126	+0.426	+0.370	-.128	+0.225	+0.247	-.216	-.044	-.003
11	-.207	+0.426	-.179	-.179	-.044	-.281	-.149	-.105	-.323	+0.027	-.117	-.329	-.329	-.336
12	-.094	+0.554	+0.012	+0.012	+0.145	-.094	+0.398	+0.294	-.012	+0.027	-.117	+0.126	-.031	+0.074
13	-.383	+0.108	-.336	-.336	-.159	-.233	-.003	-.189	-.404	-.225	-.309	-.273	-.388	-.309
14	-.044	+0.069	-.179	-.179	+0.108	-.117	-.189	-.105	-.366	-.342	+0.226	+0.419	-.388	-.216
15	-.105	-.128	-.149	-.149	+0.023	-.169	-.460	-.309	-.455	-.266	+0.344	-.592	-.468	-.329
16	-.044	+0.325	+0.108	+0.108	+0.145	+0.426	+0.164	+0.091	-.179	+0.294	+0.012	-.189	-.057	+0.145
17	+0.058	+0.294	+0.058	+0.058	+0.398	+0.398	-.044	+0.012	-.303	+0.042	+0.456	-.360	-.266	+0.145
18	+0.108	+0.554	+0.108	+0.108	+0.544	+0.012	-.128	-.069	-.069	-.189	+0.108	+0.058	-.225	+0.183
19	+0.145	+0.426	+0.318	+0.318	+0.225	+0.225	+0.841	+0.665	+0.091	+0.456	+0.108	-.004	+0.344	+0.255
20	+0.293	+0.456	+0.247	+0.249	+0.749	+0.164	-.233	+0.012	-.128	-.139	+0.456	-.198	-.250	+0.204
21	+0.074	+0.487	+0.225	+0.225	+0.370	+0.183	-.105	+0.058	-.139	+0.204	+0.226	-.273	-.149	+0.225
22	+0.126	+0.456	+0.058	+0.058	+0.589	+0.164	-.044	+0.074	-.207	-.159	+0.344	-.159	-.266	+0.091
23	+0.589	+0.031	+0.519	+0.519	+0.344	+0.426	-.139	+0.145	-.057	-.149	+0.520	-.295	+0.012	+0.398
24	-.250	+0.184	-.250	-.250	-.017	-.179	-.003	-.057	-.309	-.288	-.179	-.207	-.342	-.250
25	-.399	-.105	-.288	-.288	-.342	-.316	+0.554	+0.012	-.225	-.044	-.447	-.139	-.044	-.273
26	+0.126	+0.841	+0.247	+0.247	+0.398	-.105	+0.042	+0.318	-.003	+0.184	+0.293	-.250	-.040	-.057
27	+0.091	+0.706	+0.398	+0.398	+0.126	-.149	+0.554	+0.794	+0.456	+0.554	-.031	+0.012	+0.554	+0.091
28	+0.145	+0.074	+0.074	+0.074	+0.225	+0.074	+0.456	+0.058	-.295	-.031	+0.626	-.464	-.242	-.139
29	+0.249	+0.247	+0.126	+0.126	+0.589	+0.456	-.044	+0.074	-.258	-.094	+0.664	-.295	-.250	+0.042
30	+0.589	+0.319	+0.456	+0.456	+0.944	+0.456	-.069	+0.225	+0.027	-.139	+0.589	+0.042	-.094	+0.665

APPENDIX E

LETTERS COMPOSED BY BANK PUBLIC  
RELATIONS WRITERS

Letters are presented exactly as received.  
No attempt was made to correct spelling, structure, and so forth.



## EXHIBIT 1

## LETTER COMPOSED BY WRITER A

While banking, as in other types of businesses, experience always means a lot. As a borrower here, your payment record has been excellent and we naturally hope that you have found your relationship with us equally as pleasant.

Credit at our bank is available to you for possible future needs and therefore we are pleased to invite you to come back again.

EXHIBIT 2

LETTER COMPOSED BY WRITER B

On behalf of the American State Bank, I would like to take this time to thank you for doing business with our bank and allowing us to serve your banking needs. We especially appreciate your installment loan which we presently have on your automobile.

If we may be of further assistance in serving your banking needs, do not hesitate to call on us.

## EXHIBIT 3

## LETTER COMPOSED BY WRITER C

We wish to say thank you again for your contract that was purchased from one of the local dealerships.

I hope you will allow us to serve your for any other banking needs such as your checking and savings business or further borrowing when the occasion arises.

Current savings rates are as follows:

1. Regular savings with interest compounded daily currently at  $4\frac{1}{2}\%$ , which will yield 4.6% annually.
2. Five Star savings plan with interest compounded daily currently at 5%, which will yield  $5\frac{1}{8}\%$  annually.
3. Regular Certificates of Deposit, with variable maturity dates (90 days to 6 months) currently earning 5%.
4. Regular Certificates of Deposit, with maturity dates of one year or more currently earning  $5\frac{1}{2}\%$ .
5. Regular Certificates of Deposit, with maturity dates of two years or more currently earning  $5\frac{3}{4}\%$ .

Remember, with bank savings you receive highest possible "guaranteed" interest earnings with insured safety up to \$20,000.00 per account, and with bank borrowing you pay the "lowest" interest rates available compared with other lending institutions.

Again, thank you for banking with us.

EXHIBIT 4

LETTER COMPOSED BY WRITER D

As we enter the new year of 1972, I would like to thank you, our installment loan customer, for the part you played in the success of Guaranty National Bank during the past year.

We shall look forward to serving you in the coming year.

EXHIBIT 5

LETTER COMPOSED BY WRITER E

Congratulations upon the prompt payment of your loan. You may well be proud of the excellent credit you established. To show our appreciation we are enclosing your Preferred Customer Credit Card.

Call on us again at any time. When you want to buy a new automobile or repair the one you have, remodel your home, purchase household appliances, take a vacation, provide medical or dental attention, you can get the money here, quickly and easily.

Boulder Bank is YOUR bank. Its complete banking services are available for your use. Come in again soon.

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EXHIBIT 6

LETTER COMPOSED BY WRITER F

Thank you, very much, for letting National Bank of Tulsa handle your current installment loan. As a customer of NBT, we would like you to be aware of our many services which we feel would be to your advantage and added convenience. Enclosed is a brochure which explains our other services in detail. We have specialists in many areas of finance to help you with your needs.

Please feel free to call us any time.

## EXHIBIT 7

## LETTER COMPOSED BY WRITER G

With the beginning of another new year we feel that it is appropriate at times to reflect on the past and to renew our hope for the future. In doing this we are very conscious of the part that you and our other customers have had in making the past year successful for us and the part we hope you will have in making the future successful.

We are especially grateful for the patronage you have been kind enough to favor us with in the past years. In the future we shall endeavor to extend our best service to you in order to deserve your patronage. Once again, thank you.

## EXHIBIT 8

## LETTER COMPOSED BY WRITER H

I wish to take this opportunity to express to you my sincere appreciation for the fine manner in which you have handled your obligations to this bank, and to acquaint you with some of the many other services that this bank offers. For your convenience may we suggest any or all of the following services:

1. Checking accounts
2. Savings accounts
3. Travelers Cheques
4. Letters of credit
5. Foreign and Domestic Services
6. Foreign Exchange
7. Chashiers Checks
8. Loans for almost every personal or business need.

If at any time this bank maybe of service to you in any way, I would be most happy to call on you to arrange for the prompt satisfaction of any financial need which may arise. Remember, I am here to serve you, please call on us if we can help.



EXHIBIT 9

LETTER COMPOSED BY WRITER I

The City Bank & Trust Company is starting their new 13 story building today and I want you to know that you have been a help in the growth of City Bank. Because of your patronage of installment Loan Department and your excellent bank record this new expansion is possible at this time.

City Bank & Trust's deposits have grown 85% in the last 12 months and it is our hope that in the next 12 months the same growth may take place. It is through customers like you that has made our growth possible.

If I personally can be of some service to you in financial matters, please feel free to call me at 627-2000.

EXHIBIT 10

LETTER COMPOSED BY WRITER J

Thank you... your business with First National is certainly appreciated. Now that your final installment loan payment has been received we are returning your note.

At First National "You Come First" and now that you are an established customer we will offer you preferred rates for your future installment loan requirements.

First National specialists can give you personal attention in any financial area. Please call me if we may be of further service to you.

EXHIBIT 11

LETTER COMPOSED BY WRITER K

All too often the person who continually does the right things, such as you have done in making payments on your installment loan, is overlooked. In other words, your account is trouble-free and we want you to know that we appreciate this so very much.

Even though your account is still active, you certainly are entitled to additional money should you want it.

Again, we appreciate doing business with you and if there is every any way we can be of help to you, we welcome the opportunity.

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EXHIBIT 12

LETTER COMPOSED BY WRITER L

It is our pleasure to welcome you as one of our installment loan customers. We appreciate your selecting our bank for this service. We look forward to assisting you in your future banking needs.

Since you are new to this area, please feel free to call on us and acquaint yourself with all our banking services.

EXHIBIT 13

LETTER COMPOSED BY WRITER M

You are one of our valued customers, and I would like to take this opportunity to express our appreciation for not only the privilege of serving your loan requirements, but the fine manner in which you are handling your loan with us.

Fourth National Bank is truly a full service bank where you can do all of your business under one roof. We are interested in serving your banking needs with such additional services as checking accounts, a safe deposit box, additional personal loan requirements, trust services, savings accounts tailored to fit your own goals, or any one of the many services we offer. The desirability of having all of your financial transactions handled at your full service bank can be a most important asset to you in your future planning and your own personal goals.

Our entire staff is dedicated to providing superior service to our customers, and any of us at anytime would welcome the opportunity to explore with you how we might be of additional service to you.

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EXHIBIT 14

LETTER COMPOSED BY WRITER N

I am enclosing the cancelled note you signed with us when you purchased your car three years ago.

Our bank is most pleased with the way you handled your affairs. If we can be of service in the future please call on us.

**APPENDIX F**  
**SEMANTIC DIFFERENTIAL RATING SCALE**

## SEMANTIC DIFFERENTIAL RATING SCALE

Letter Number \_\_\_\_\_

Subject Number \_\_\_\_\_

[illegible]



## APPENDIX G

### SEMANTIC DIFFERENTIAL RATING SCALE SCORES

## SEMANTIC DIFFERENTIAL RATING SCORES

WRITER																	
Reader	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total	Average	
1	E	1.867	1.500	2.167	1.867	1.667	2.667	3.500	2.167	1.667	1.500	1.867	3.167	1.500	1.867	28.970	2.069
	P	4.333	3.333	2.000	4.667	2.667	3.333	4.333	3.667	2.333	3.333	3.667	5.333	3.667	2.00	48.666	1.476
	A	4.333	5.000	2.000	6.333	2.333	5.333	4.333	5.000	2.333	4.667	6.000	4.667	4.000	5.333	61.665	4.406
	T	3.083	2.833	2.083	3.667	2.083	2.833	3.917	3.250	2.000	2.750	3.333	4.083	2.167	2.750	41.332	2.952
2	E	1.500	1.667	1.667	2.833	1.000	2.500	3.167	1.667	1.667	1.000	2.833	1.500	2.167	2.000	29.168	2.083
	P	2.667	2.667	2.333	2.667	2.333	3.000	3.333	4.000	4.333	2.667	5.000	4.000	3.333	3.167	44.000	3.142
	A	5.000	5.000	4.667	5.667	3.333	4.667	4.000	4.333	4.000	5.000	4.000	4.333	3.333	5.000	62.333	4.452
	T	2.667	2.750	2.583	3.500	1.917	3.167	3.417	2.917	3.917	2.417	3.667	2.833	2.750	2.667	41.169	2.941
3	E	3.333	2.5000	4.000	2.333	2.000	2.667	3.333	3.867	3.867	3.000	2.500	3.000	4.667	4.667	45.734	3.267
	P	1.667	3.667	1.333	5.000	3.000	4.333	4.667	4.667	4.667	4.333	5.667	4.667	3.332	1.667	52.668	3.762
	A	5.000	5.667	4.333	5.333	5.000	6.000	4.667	5.000	5.667	5.333	5.333	5.333	2.333	3.333	63.332	4.524
	T	3.333	3.583	3.417	3.750	3.000	3.750	4.000	4.333	4.500	3.917	4.000	4.000	3.167	3.667	52.417	3.744
4	E	3.000	2.167	3.867	3.500	1.000	3.333	4.000	3.167	3.667	1.833	3.867	2.833	2.000	4.833	43.567	3.112
	P	3.333	3.667	2.667	4.000	3.000	3.333	3.333	2.667	3.333	4.000	3.667	4.000	3.333	3.333	45.665	3.262
	A	5.000	5.333	4.333	4.333	3.000	4.667	3.667	5.000	5.000	5.000	4.000	5.000	3.333	5.667	63.333	4.524
	T	3.583	3.333	3.667	3.750	2.250	3.667	3.750	3.500	3.917	4.083	3.750	3.667	5.333	4.167	52.417	3.744
5	E	4.167	2.000	4.167	4.000	3.000	3.867	4.000	3.867	3.333	3.867	2.833	3.867	3.000	2.833	48.601	3.472
	P	3.667	2.667	3.333	3.667	2.667	3.667	3.667	3.667	3.333	3.000	2.333	3.000	2.333	2.667	43.668	3.119
	A	4.333	4.667	4.333	4.000	3.000	3.667	3.667	4.333	4.000	4.333	4.333	4.333	4.333	4.667	47.999	4.143
	T	4.083	2.833	4.000	3.917	3.250	3.833	3.583	3.583	3.250	3.250	4.167	3.333	3.167	3.250	49.499	3.536
6	E	2.500	2.000	1.867	3.667	1.667	2.667	2.000	1.867	3.167	3.000	1.867	3.500	1.667	3.667	35.603	2.543
	P	4.000	3.667	3.333	3.667	3.333	4.000	4.000	3.667	4.000	3.667	3.333	4.000	3.667	4.000	52.334	3.738
	A	5.333	4.667	3.000	5.000	4.333	4.333	4.333	4.667	5.000	5.000	4.000	5.000	2.667	5.000	62.000	4.462
	T	3.583	3.333	2.500	4.000	2.750	3.250	3.083	3.000	3.833	3.667	2.750	4.000	2.417	4.083	46.249	3.306
7	E	5.167	4.000	5.667	4.833	4.500	5.333	5.333	2.333	5.667	2.500	2.500	5.167	3.867	2.333	59.204	4.229
	P	3.333	3.333	2.667	4.333	4.000	4.000	2.333	4.667	4.000	5.000	4.667	4.667	3.000	3.000	53.000	3.786
	A	5.333	3.667	4.667	5.000	3.333	3.333	5.000	4.667	5.000	4.000	3.667	6.000	4.333	4.000	62.000	4.428
	T	4.750	3.750	4.667	4.750	4.083	4.500	4.500	3.500	5.083	3.500	3.333	5.250	3.750	2.917	58.333	4.167
8	E	4.167	3.000	5.000	3.867	1.000	3.000	4.333	4.167	3.667	2.500	2.167	3.667	2.500	4.833	47.868	3.419
	P	3.000	3.000	2.667	3.333	4.000	2.667	2.333	1.667	3.000	4.333	3.000	4.333	2.333	2.000	41.666	2.976
	A	4.333	3.667	4.000	5.000	3.667	4.000	4.333	4.333	3.000	3.333	2.667	5.000	2.333	3.667	55.333	3.952
	T	3.917	3.167	4.167	4.250	2.417	3.167	3.833	3.583	3.333	3.167	2.500	4.167	2.250	4.333	48.251	2.552
9	E	2.000	1.667	2.833	5.833	1.333	2.000	2.833	1.867	1.867	3.667	1.000	2.000	1.000	5.833	35.733	2.552
	P	2.667	2.000	3.667	3.667	2.000	2.333	3.667	2.667	2.333	2.333	3.000	2.000	2.000	3.667	38.001	2.714
	A	4.667	3.667	4.333	5.000	5.000	5.000	4.000	4.667	4.333	4.333	4.333	4.667	4.333	4.333	62.666	4.476
	T	2.833	2.250	4.833	5.083	2.417	2.833	3.333	2.750	2.583	3.500	2.333	2.667	2.083	4.917	44.415	3.173
10	E	2.833	3.000	3.000	3.333	2.833	3.000	3.000	2.833	3.000	2.333	2.667	3.333	2.167	3.500	40.832	2.917
	P	4.000	4.000	3.667	4.000	4.000	4.000	4.000	4.000	4.667	4.333	4.000	3.000	4.333	3.600	40.000	4.000
	A	4.333	4.333	3.333	3.333	3.333	3.333	3.333	3.333	3.000	3.333	3.333	4.000	3.667	4.667	51.666	3.690
	T	3.500	3.583	3.250	3.500	3.500	3.333	3.333	3.500	3.250	3.250	3.250	3.667	2.750	4.000	47.666	3.405
11	E	1.867	4.500	7.000	3.167	2.833	1.867	7.000	5.000	1.867	7.000	2.333	4.500	5.000	3.500	57.434	4.102
	P	3.333	4.000	4.000	3.333	4.000	3.333	5.667	4.333	3.000	4.000	3.000	3.000	3.667	3.000	51.666	3.690
	A	6.000	4.000	2.667	5.333	4.000	4.000	4.000	4.667	3.333	4.667	4.000	5.333	3.000	5.000	60.000	4.286
	T	3.250	4.250	5.167	4.583	3.417	2.750	5.917	4.750	2.500	5.667	2.917	4.333	4.167	3.750	57.418	4.101
12	E	2.167	3.333	3.500	5.333	2.000	2.667	2.333	1.167	1.000	5.500	1.000	1.667	1.867	3.000	36.534	2.610
	P	3.667	4.333	4.333	4.667	4.000	3.333	4.333	2.000	2.000	4.667	3.000	4.333	3.000	3.667	51.333	3.667
	A	4.000	3.667	6.333	6.667	2.000	4.333	3.667	2.000	4.333	3.667	2.000	4.333	4.333	6.000	56.000	4.000
	T	3.000	3.667	4.416	5.500	2.500	3.250	3.167	1.583	1.500	5.083	1.750	3.000	2.750	3.917	45.083	3.220
13	E	1.000	1.000	1.867	1.000	1.000	1.500	1.000	1.000	1.167	1.000	1.000	1.000	1.000	5.000	19.534	1.395
	P	2.333	4.667	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	4.333	66.333	4.738	
	A	5.000	.000	3.333	5.000	4.333	4.333	4.667	4.000	3.667	5.000	5.000	5.333	1.000	5.667	61.333	4.381
	T	2.917	2.917	3.000	3.000	2.833	3.083	2.917	2.750	2.750	3.000	3.000	3.083	2.750	5.000	43.000	3.071
14	E	1.000	2.667	2.500	3.867	1.333	3.867	1.167	3.000	4.000	1.167	2.500	1.167	2.833	5.000	36.068	2.576
	P	3.000	1.667	1.333	4.000	3.000	4.333	4.333	3.000	2.333	3.000	4.000	4.000	3.333	1.000	42.332	3.024
	A	4.333	5.000	3.000	6.000	5.000	6.000	4.667	4.667	4.000	5.000	3.667	4.667	2.667	7.000	65.668	4.691
	T	2.333	3.000	2.333	4.416	2.667	4.500	2.833	3.417	3.583	4.083	3.167	2.750	2.917	4.500	46.499	3.321

WRITER																	
Reader	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total	Average	
15 E	2.000	1.667	1.167	1.667	1.667	2.000	1.333	2.167	1.500	2.667	1.867	2.167	2.333	3.333	29.535	2.110	
P	2.000	3.333	2.000	2.667	2.667	2.333	3.667	2.667	3.000	3.333	1.667	3.333	2.667	1.333	36.667	2.619	
A	4.000	4.333	3.667	5.000	4.333	3.667	2.667	3.333	3.000	4.333	3.667	4.333	3.333	6.000	55.666	3.976	
T	2.500	2.750	2.750	2.750	2.583	2.500	2.250	2.583	2.250	3.250	2.250	3.000	2.667	3.417	37.500	2.678	
16 E	2.000	1.333	1.167	1.500	1.333	1.500	1.333	1.000	1.500	2.333	1.000	1.167	1.000	2.000	20.166	1.440	
P	2.667	3.333	2.667	4.667	3.667	3.000	3.333	3.667	4.000	4.000	3.667	2.667	2.667	2.667	47.669	3.405	
A	6.000	6.000	1.667	5.333	4.000	5.000	5.333	4.667	5.333	5.333	4.333	4.333	3.333	5.667	66.332	4.738	
T	3.167	3.000	3.333	3.250	2.583	2.917	2.750	2.500	3.000	3.500	2.583	2.583	2.000	3.083	40.199	2.871	
17 E	4.333	4.333	3.167	3.667	1.500	3.333	2.333	1.333	3.500	2.833	1.333	3.167	1.500	5.167	41.499	2.964	
P	3.333	3.333	3.333	4.000	4.333	4.333	3.667	2.667	3.333	2.667	4.000	2.667	4.000	2.667	50.000	3.572	
A	5.333	5.667	3.333	5.333	3.333	4.000	3.000	3.333	4.333	3.333	3.000	4.667	2.667	5.667	56.999	4.071	
T	4.333	4.146	3.250	4.167	2.667	3.750	2.833	2.167	4.000	3.083	2.083	3.750	2.083	4.917	47.499	3.393	
18 E	4.000	3.667	4.333	2.500	2.167	4.500	4.333	4.000	2.167	3.333	2.833	3.167	3.867	2.000	46.867	3.348	
P	3.333	3.667	3.000	4.667	4.000	3.000	4.333	4.000	4.333	4.000	4.333	3.333	3.333	4.000	52.999	3.786	
A	3.333	4.000	3.333	4.667	4.000	4.000	3.667	4.333	3.333	3.333	3.667	4.333	2.333	4.667	53.999	3.857	
T	3.667	3.750	3.750	3.583	2.917	4.000	4.167	4.083	3.000	3.833	3.333	3.500	3.333	3.167	50.083	3.577	
19 E	4.167	2.000	6.500	1.000	3.167	3.000	4.500	2.000	1.000	4.167	2.667	4.000	2.667	1.867	42.702	3.050	
P	2.667	2.333	4.000	4.000	3.333	2.333	4.000	2.000	3.333	4.000	2.667	4.000	3.333	4.000	43.666	3.119	
A	5.000	3.333	6.000	3.333	4.000	5.000	4.000	1.867	3.000	7.000	4.000	4.000	3.000	3.333	56.866	4.062	
T	4.000	2.417	5.750	2.333	3.417	3.333	4.250	2.750	2.250	4.333	3.000	4.000	4.000	3.750	2.167	47.500	3.412
20 E	1.333	1.333	3.667	1.867	1.167	2.000	3.867	1.167	1.500	2.500	1.667	1.867	1.867	4.167	29.969	2.141	
P	3.000	3.333	2.000	2.333	4.667	4.667	2.333	3.667	3.333	2.333	1.333	5.000	2.333	3.667	43.999	3.143	
A	4.667	3.333	4.667	3.333	2.333	4.667	4.667	3.000	5.000	4.333	3.000	5.000	3.667	5.667	57.667	4.119	
T	2.583	2.250	3.583	2.917	2.333	2.750	4.000	2.167	2.583	2.667	2.583	2.750	2.750	4.083	39.999	2.857	
21 E	2.333	1.000	3.000	2.000	1.000	1.667	1.000	1.667	2.333	2.500	1.500	2.833	1.000	2.500	26.333	1.881	
P	2.000	2.333	1.000	2.667	4.000	3.000	3.333	2.333	2.000	3.333	3.000	2.000	2.000	1.333	37.665	2.690	
A	6.000	6.667	4.333	6.667	5.000	6.333	3.000	4.000	5.667	8.000	4.000	6.333	3.667	7.000	74.667	5.333	
T	3.167	2.750	2.833	3.333	2.750	3.167	2.083	2.417	3.083	3.583	2.667	5.250	1.917	3.333	41.338	2.953	
22 E	4.333	2.333	4.167	2.500	1.667	3.167	5.500	5.000	4.833	4.000	2.167	2.500	3.333	1.833	47.333	3.381	
P	4.667	3.333	3.333	4.333	4.000	4.000	4.000	4.000	3.667	3.667	2.667	3.667	2.667	3.333	55.001	3.929	
A	4.000	4.000	3.667	4.000	4.333	4.333	3.333	3.000	3.667	4.667	4.667	4.000	3.333	6.000	57.000	4.071	
T	4.333	3.000	3.833	3.333	2.917	3.667	4.583	4.333	4.250	4.083	2.917	3.167	3.167	4.167	51.750	3.696	
23 E	2.833	3.000	2.833	2.833	2.500	2.833	2.833	2.833	2.833	2.167	2.833	2.833	2.833	2.667	38.644	2.762	
P	2.333	2.000	2.000	2.333	2.833	2.333	2.333	2.333	3.000	2.667	4.333	2.667	2.667	2.000	35.498	2.536	
A	4.333	4.333	4.667	5.000	4.667	4.333	4.333	4.333	4.333	4.667	4.333	4.333	4.333	4.667	62.665	4.476	
T	3.083	3.083	3.083	3.250	3.000	3.083	3.083	3.333	3.083	3.000	3.167	3.583	3.167	3.000	43.998	3.143	
24 E	3.000	3.333	6.000	2.000	3.667	3.333	5.000	2.500	4.167	5.000	2.167	2.667	2.667	6.000	51.501	3.679	
P	3.667	2.667	3.667	4.000	3.000	3.000	5.000	4.333	4.667	2.000	4.000	4.333	2.667	2.000	49.001	3.500	
A	5.000	3.667	4.000	3.000	3.000	5.667	3.000	4.667	2.333	5.333	4.333	3.333	3.000	7.000	57.333	4.095	
T	3.667	3.250	4.917	2.750	3.333	3.833	4.500	2.500	3.833	4.333	3.167	3.250	2.750	5.250	52.333	3.738	
25 E	1.667	2.167	4.333	3.000	1.333	1.333	4.000	3.000	1.667	4.333	4.167	2.167	2.000	5.500	40.667	2.905	
P	3.000	3.333	2.667	3.000	3.667	2.000	3.667	3.333	2.667	3.000	3.000	4.333	2.667	1.338	41.667	2.976	
A	5.000	4.667	4.000	6.657	2.667	2.667	6.333	4.000	2.667	5.333	4.333	4.000	2.667	4.667	57.001	4.072	
T	2.833	3.083	3.833	3.917	2.250	1.833	4.500	3.333	2.167	4.250	3.917	3.167	2.333	4.250	45.666	3.262	
26 E	2.667	3.667	5.500	4.667	3.000	4.000	4.000	3.667	4.000	1.000	4.833	2.167	3.167	5.000	51.335	3.667	
P	3.333	3.667	3.000	5.000	3.667	3.667	4.333	4.333	3.667	3.333	4.000	4.333	3.333	3.000	52.666	3.762	
A	3.667	4.333	2.333	3.000	2.667	3.667	4.333	3.000	3.333	3.667	3.667	4.000	3.333	5.333	50.333	3.595	
T	2.917	3.833	4.083	4.333	3.083	3.833	4.167	3.667	3.750	2.250	4.333	3.167	3.250	4.583	51.249	3.674	
27 E	2.500	1.500	3.167	2.167	1.167	2.833	2.000	1.333	3.667	1.500	2.833	3.500	1.167	4.333	33.667	2.405	
P	1.000	3.667	1.000	5.000	2.667	2.000	4.000	3.667	2.000	4.667	3.000	3.667	3.333	1.000	40.668	2.905	
A	5.000	4.333	3.333	6.000	3.000	3.667	4.000	2.667	4.000	4.333	3.667	5.000	2.000	6.667	57.667	4.119	
T	2.750	2.750	2.667	3.833	2.000	2.833	3.000	2.250	3.333	3.000	3.083	3.917	1.917	4.083	41.416	2.958	
28 E	3.000	4.000	5.000	4.667	1.167	4.667	5.833	5.833	6.000	6.667	1.000	1.867	2.167	4.167	56.035	4.003	
P	3.333	2.000	2.000	3.333	3.333	3.667	3.667	2.333	2.333	2.000	4.333	3.667	2.667	3.000	42.666	3.058	
A	4.333	5.667	5.333	4.333	3.333	4.333	5.333	4.667	5.333	5.667	3.000	5.333	4.000	5.667	66.332	4.738	
T	3.417	3.917	4.333	4.250	2.250	4.333	5.167	4.667	4.917	5.083	2.333	3.417	2.750	4.250	55.084	3.935	
29 E	3.167	3.167	5.333	5.167	6.500	5.000	5.833	5.500	4.833	4.167	4.167	4.333	4.333	5.000	66.500	4.750	
P	2.667	3.000	2.000	4.000	4.000	4.000	3.667	3.333	3.333	4.333	3.667	3.333	3.333	3.000	47.666	3.405	
A	6.000	5.000	4.000	6.000	6.000	6.000	6.000	6.000	6.000	5.333	5.000	5.000	6.000	6.000	78.333	5.595	
T	3.750	3.583	4.167	5.083	5.750	5.000	5.333	5.083	4.750	4.500	4.250	4.250	4.500	4.750	64.749	4.625	
30 E	4.000	2.333	4.167	2.000	4.333	2.167	4.167	3.667	2.500	2.667	4.333	2.333	4.833	3.167	46.667	3.333	
P	3.000	3.333	3.000	2.667	3.333	3.333	3.667	2.333	3.333	2.667	3.333	2.667	3.333	3.333	40.667	3.058	
A	6.667	2.333	2.000	3.000	2.333	4.333	3.000	4.333	3.000	2.333	3.667	4.333	3.333	3.333	49.998	3.571	
T	4.417	2.833	3.333	2.917	4.000	3.167	4.083	3.750	3.167	3.000	4.250	2.917	3.833	3.667	49.334	3.524	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total Average
<b>Totals</b>															
E	78.735	76.334	114.603	92.635	65.668	88.401	104.731	84.106	90.137	90.667	73.335	82.236	75.969	111.617	
P	84.333	95.000	83.333	117.002	105.167	100.331	116.333	103.333	100.666	105.998	109.002	117.331	91.000	77.000	
A	123.331	135.001	113.665	144.665	110.664	134.666	125.333	122.867	118.665	137.665	118.667	140.330	99.664	160.669	
T	82.749	95.914	110.248	113.665	86.917	101.915	112.332	98.899	99.415	109.082	93.833	105.501	89.085	116.085	
<b>Average</b>															
E	2.625	2.544	3.820	3.088	2.189	2.947	3.491	2.804	3.005	3.022	2.445	2.761	2.532	3.721	40.974 2.927
P	2.811	3.167	2.778	3.990	3.506	3.344	3.878	3.444	3.356	3.533	3.633	3.911	3.033	2.567	46.861 3.347
A	4.111	4.500	3.789	4.322	3.689	4.489	4.178	4.096	3.956	4.589	3.956	4.678	3.322	5.356	59.531 4.252
T	2.758	3.197	3.675	3.789	2.897	3.397	3.744	3.300	3.314	3.636	3.128	3.517	2.970	3.870	47.192 3.371
<b>Average Equal Weight</b>															
T	3.182	3.403	3.462	3.937	3.128	3.593	3.859	3.448	3.439	3.714	3.345	3.777	2.962	3.881	49.120 3.509