EFFECTS OF ENDOGENOUSLY PRESENT AND EXOGENOUSLY PRODUCED MOTIVATIONAL SETS ON VERBAL PRODUCTIVITY

by

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Moreover, I, on my side, require of every writer, first or last, a simple and sincere account of his own life, and not merely what he has heard of other men's lives; some such account as he would send to his kindred from a distant land; for if he has lived sincerely, it must have been in a distant land to me.

Henry David Thoreau in Walden

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TABLE OF CONTENTS

LIST OF TABLES

BACKGROUND AND THEORETICAL INTRODUCTION

EXPRESSIVE VERSUS ADAPTIVE BEHAVIOR

This research, in common with most current research in the field of personality, is not derived from any one theory of personality. Although much good research on human personality and its functioning has been published in the past five decades, no single theory unifying this disparate research has yet emerged. Nevertheless, the writings of some personality theorists and the theoretical systems that they have constructed do appear to have considerable heuristic potential. Examination of these various theories reveals a common core. In particular all theorists of note in the field of personality agree that careful study and analysis of a person's verbalizations and other overt behavior can reveal valid information about the individual's underlying attitudinal and motivational state.

Within this context the specific problem area of this dissertation is a study of verbal productivity in writing as it relates to certain endogenously present and exogenously produced motivational sets. In this introductory chapter the writer will describe a miniature theoretical system focusing upon expressive behavior and the relationship of expressive behavior to other aspects of personality functioning.

The dependent variables which are encompassed within this theoretical treatment are measures of expressive behaviors. Largely, the behaviors of greatest interest here are verbal responses, either written or oral. Body posture and gestures, playing musical instruments, painting, and sculpting may also be considered behaviors encompassed by this theory. The important

point is that this miniature theory focuses upon the expressive aspects of these behaviors as opposed to their adaptive or instrumental aspects. This miniature theory specifically omits from consideration communicative behaviors that are under the immediate control of reinforcement contingencies. Pure examples of expressive, non-instrumental behaviors include:

1) talking to oneself when alone
2) writing in a diary that will never be shown to another person
3) some responses made on projective tests
4) doodling
5) solitary playing of musical instruments for personal enjoyment

It can be seen by the above list that the emphasis is upon potentially communicative responses that are not under immediate social control because of the lack of any auditor. Less obvious are other examples of communications which are partly instrumental but are also expressive. In these cases variations in communication style for which there are not social reinforcement contigencies may be expressive. For example, on a multiple-choice test, darker marks by certain items may mean that the writer was very confident about the answers to those items. The answer choice is under reinforcement control in this example, but the style of endorsement is free to vary within certain limits. Thus, expressive style (darkness or other emphasis) in communication responses may be neutral with respect to reward-punishment contingencies but still be of some value as a source of information about the communicator.

There has been a long history of interest in certain expressive acts which have been thought to provide reliable information about a subject's true underlying attitudes. Probably the widest known and most influential treatment of this subject was Freud's analysis of slips and errors in everyday behavior. His contention was that such behaviors were overt manifestations of underlying, often unconscious, motivation which more accurately reflected the individual's true feeling than the words the individual actually intended for the communication. Thus, for example, Freud argues that when attention is turned to the effect of a slip of speech, the slip itself often makes perfectly good sense. Freud cites cases where the meaning of the slip is obvious to the hearer. For example, " . . . a lady, appearing to compliment another, says, 'I am sure you must have thrown this delightful hat together' instead of 'sewn it together'" (Freud, (1920), 1943, p. 34).

It can be seen that the expressive behaviors and behavioral lapses Freud was interested in fit within the miniature theoretical framework developed for this research. Though the acts described by Freud were generally controlled by social reinforcement contingencies, they somehow escaped this control, presumably by the action of some interfering motive.

Since the time of Freud's work there have been a large number of attempts to use various expressive acts (presumably not under immediate control of social reinforcement contingencies) as sources of information about the actor. Following is a brief list which indicates the scope of these efforts. A comprehensive review of this area would include the thousands of studies in which meaningful information has been sought from any of these (possible)

expressive behaviors:

1) responses on projective tests, including telling stories about TAT cards, completing sentences, associating words, drawing figures, etc.
2) facial expressions
3) body posture and movements, including gait, eye gaze, gestures, and mannerisms
4) writing styles, including pen-pressure and hand-writing analysis
5) speech patterns, including rate, pausing, durations of utterance, latencies for responding, etc.
6) content of speech or writing (as usually determined from analysis of the relative frequencies of classes of words -- grammatical forms, emotional words, personal words, abstract words, different words, etc.)

EXPRESSIVE BEHAVIOR IN SPEECH AND WRITING

The variable focused upon in this research project is verbal productivity in writing, a variable which has been little studied in psychological research. Rather, in the main, writing output has usually been held constant as other aspects of writing have been analyzed. Mann (1944), for example, had each of her subjects write 2, 800 words about "a story of your life." After collecting these writing samples from a group of college students and a group of schizophrenic patients, she compared them on various measures of frequency for parts of speech and for diversity of speech. Differences in verbal productivity between the two groups was noted somewhat in passing; the average total time required by the patients to write the 2, 800 word sample was about eight hours while the college students needed only about five hours on the average. It was also noted (p. 48) that: " . . . subjects were cooperative for the most part, although the patients as a whole were slower in beginning to write and less consistent in keeping at it, and therefore required more attention and encouragement." From these observations it appears that schizophrenics, given attention similar to normals, would have been considerably less productive in their writing. Such a finding would have matched the relatively lower verbal productivity found when psychiatric patients were compared with normals in studies of speech behavior (Gottschalk, Gleser, & Hambridge, 1957; Matarazzo & Saslow, 1961).

Considerably more research has been done on verbal productivity in speech as an index of personality functioning than on verbal productivity in

writing. Experimental control of interviewee utterance durations has been demonstrated by Matarazzo and his coworkers in a series of experiments using naturalistic employment interviews (cf. Matarazzo, Wiens, & Saslow, 1965). They discovered that interviewees would significantly increase their verbal productivity (average durations of utterance) when the interviewer used either of the following tactics:

1) increase the duration of his utterances,

2) nod his head during the interviewee's utterances, or

3) say Mm-Hmm during the interviewee's utterances.

Later work at this same laboratory has indicated that interviewees' average verbal productivity appears to be affected by the topic (i.e., content of the communication) being discussed during the interview segment. For example, Matarazzo, Wiens, Jackson, and Manaugh (1970a) found that job applicants spoke in longer average durations of utterance about their occupational background than they did about either their family or educational background. In another study, college students were found to speak in longer average durations of utterance when discussing their college major than they did about their living setting (Matarazzo, Wiens, Jackson & Manaugh, 1970b). It was reasoned from these studies that the differences found in average durations of utterance while discussing different content topics may represent or mirror the "saliency" of a topic, or content area in the individual's personal life. Conceptually, saliency was defined in these studies roughly in the manner of Smith, Bruner, and White (1956, p. 35): "the extent to which a

particular object or class of objects is central in the everyday concerns of a person."

In order to more fully explore how topic saliency could affect certain speech patterns, Jackson, Manaugh, Wiens, and Matarazzo (1971) next developed a questionnaire designed to yield an objective index of the areas of highest (and lowest) saliency in the lives of individual respondents. The questionnaire index requires the subject to rate each of the 45 topics along a scale from 1 to 7 for each of the four subdimensions making up each saliency rating: his own interest or concern with the topic area, and his level of information, involvement, and strength of feeling about this area. Beginning evidence for the validity of this four-dimensional "Topic Importance Scale" (TIS) was, in part, revealed by the concordance of certain rating differences on the TIS with independently determined known differences in the individual's life situation. For example, married subjects, both men and women, rated "Marital Relationship" more salient on the average than any other topic. Unmarried subjects, on the other hand, rated "Marital Relationship" much lower; out of 45 topics "Marital Relationship" ranked, on the basis of average saliency ratings, thirty-fourth with unmarried men and twenty-ninth with unmarried women.

The first experiment to be outlined here is in part designed to extend the above research program into the area of written communication. Thus the question asked is whether or not a subject will write more words about a topic he rates (independently) as highly salient than he will write

about a topic that he rates as minimally salient. Experiment One focuses upon this question.

From a practical standpoint written productions, as opposed to oral productions, serve as a permanent record in themselves of the subject's behavior and can be much more economically analyzed than oral productions which, at least for content analysis, demand transcription and the expense associated with such transcription.

SALIENCY AS A HYPOTHETICAL VARIABLE

The concept of saliency and its relationship to verbal behavior is not a new one in psychology. Indeed, saliency is very similar in some ways to Jung's (1916) concept of a "complex" as an organized group of feelings, thoughts, perceptions, and memories. Even Jung's methodology is somewhat similar to that described here in that complexes were partly uncovered by the use of verbal behavior -- namely longer latencies to some verbal stimuli in a word association test.

Cross-cultural studies of verbal behavior also suggest ways in which verbal behavior may be related to salient content. Observation suggests environmental stimuli which are more important or prominent within a culture come to be referred to more discriminatingly. Whorf (1956), for example, notes that the Hopi language has one noun that covers everything that flies with the exception of birds. Referring to an aviator, insect, and rocket by the same term would be unacceptable to the speaker of English. On the other hand, Eskimos have a score of different words for "snow" depending on whether it is falling, wind-driven, on the ground, packed hard like ice, etc. The use of these different terms presumably reflects the Eskimos' need to communicate differences which are important to them (e.g., for survival) but are not as important in other cultures.

Social psychologists interested in research in the area of attitude assessment have long recognized that an individual's attitudes about some topics are more salient than others. Krech and Crutchfield (1948) for example,

point out (p. 254):

> Some attitudes and opinions are more salient than others for the individual, in the sense that they are more easily elicited, more readily verbalized and more prominent in the cognitive field.

In the study by Smith, Bruner, and White (1956), the strengths of attitudes toward Russia were assessed and related to the basic needs, hopes, and fears of the individual. In this study, saliency was defined as (p. 35):

> . . . the extent to which a particular object or class of objects is central in the everyday concerns of a person.

Similarly, salience of an attribute is defined by Scott (1963, p. 280) as "the likelihood of its being triggered off by environmental cues." Scott states that the salience of a concept is structurally represented as the number of other concepts with which it is associated in a dependent fashion.

Kerlinger (1967) developed a concept similar to topic saliency in proposing a structural theory for social attitudes. He argued that attitude referents are differentially "criterial" across individuals. Thus, it is assumed that there is a continuum of relevance for any referent. For instance, private property, religion, and civil rights can be assumed to be differentially criterial (relevant) for different individuals. Kerlinger presented evidence suggesting that the traditional dichotomy of liberal versus conservative is accounted for better by the pattern of what referents are criterial rather than by bipolarity of attitudes about those referents. That is, differences between the liberal and the conservative are more a matter of what each believes to be the important

issues rather than their differences of opinion over the same issues.

A notion similar to criteriality, it can be noted, underlay the personality test, A Study of Values, which was developed by Allport and Vernon (1931). In this test the focus was not upon identifying attitudes but upon measuring relative value-directions. Thus, for example, a testee might be said to be relatively more interested in business than religion without saying he was either strongly pro- or strongly anti-capitalistic.

A continual embarrassment for social and personality psychologists has been the typically poor relationship found between stated attitudes toward a referent and actual behavior (cf. Insko & Schopler, 1967; Wicker, 1969). This poor relationship may be largely due to a lack of topic salience as defined here or lack of "criteriality of referents," Kerlinger's (1967) concept that is similar to saliency. It follows, then, that one important aspect of saliency as a potentially measurable variable may be that only salient statements of attitude have behavioral validity. That is, behavior will reliably follow attitudes only when the attitudinal referents are sufficiently criterial (salient). Behavior directed toward non-salient referents would necessarily be more affected by immediate situational factors as opposed to ongoing attitudes. Saliency, then, may be conceived in this regard as a kind of moderator variable which is correlated neither with the predictor of behavior (attitude) nor with the behavior but with the validity itself. The greater the saliency of an attitude, the higher would be the validity of the attitude as a predictor of behavior.

The notion of criteriality as used by Kerlinger is somewhat similar

to the notion that attitudes differ along a dimension of ego-involvement (Sherif, Sherif, & Nebergall, 1965). Their key notion in this area is that the more involved and personally committed the individual is on an issue, the greater is the latitude of rejection in relation to the latitude of acceptance, the number of positions on which he remains non-committal approaching zero. Conversely, less involved individuals are noncommittal toward more positions in the universe of discourse, and their latitudes of acceptance and rejection are approximately equal or encompass equally small segments of the total range of propositions on the issue.

It can be seen that topic salience as a hypothetical variable in the present research is similar to certain variables used in attitude research. Personality theorists have also used notions similar to salience as motivational variables. In psychoanalytic theory it has been postulated that objects can become differentially pleasurable and exciting as a function of their investment by libido (cf. Hall & Lindzey, 1957, pp. 41-42). According to this theory the id is originally in possession of a libidinal or instinctual energy which is discharged (wish-fulfillment) by the primary process, the means by which the id operates. Ordinarily this energy will be discharged through a motor channel in the form of reflexive action (e.g., bladder-emptying, blinking, etc.). When this energy can not be immediately or directly discharged, the primary process produces a mental image of the desired object and by cathecting it as if it were real, fulfills the wish. A more realistic means of gratification is necessarily developed in the form of the "ego". The "reality principle" governs discharge

of instinctual energy by realistic interaction with the environment. Ego energy (drives) may be used to form new object-cathexes (response repertoires) thereby allowing a network of derived interests, attitudes, and preferences to form within the ego. Responses associated with these ego-cathexes may not directly satisfy the basic drives of the organism but they are connected by associative links with objects that do. Thus, the energy of hunger drive, to use Hall and Lindzey's example, may fan out to include such cathexes as an interest in collecting recipes, visiting unusual restaurants, and selling chinaware.

Freud's concept of object cathexis implies that certain referents become rather fundamentally important. This concept of object cathexis seems to go deeper than the concept of learned drives which presumably could be learned and then extinguished on a daily basis. The notion that certain "acquired drives" become integral aspects of the personality is an idea common to several theorists but it is most explicitly stated by Allport in developing the concept of "functional autonomy" of motives. Allport (1937) contended that only in the young, immature individual are biological "needs" or "drives" the dominant motivating variables. In the mature individual motives which have developed in connection with the biological motives are said to begin to function independently of the innate, biological motives. Allport argues that these acquired motives are dominant in the grown, mature individual and that they give a more satisfying explanation of the concrete, individual human motives. About the principle of functional autonomy Allport wrote (1937, p. 194):

> The dynamic psychology proposed here regards adult motives as infinitely varied and as self-sustaining,

> contemporary systems, growing out of antecedent systems, but functionally independent of them . . . Theoretically all adult purposes can be traced back to these seed-forms in infancy. But as the individual matures the bond is broken. The tie is historical, not functional.

The notion of functional autonomy of acquired motives has been a controversial one due to a vagueness in specifying how certain motives become autonomous while others extinguish. The importance of the concept from a theoretical standpoint is the emphasis placed on acquired, non-biological sources of motivation.

In recent years other theorists have stressed the motivating power that lies in acquired interests, values, sentiments and the total life style. Much of the impetus for this development has come from accumulating evidence that human behavior, as well as much animal behavior, cannot be explained within any simple motivational model based on drive reduction or drive stimulus reduction. It has been amply demonstrated, for example, that humans as well as animals will search out certain types of varied sensory experiences and physical activities even in what appears to be an absence of such drives as hunger, thirst, etc. (Harlow, 1953; White, 1959; Berlyne, 1960; Fisk & Maddi, 1961).

In the theoretical framework being utilized here, topic saliency is obviously an acquired or learned motivational variable; it is not inherent in the newborn child that "the Vietnam War" will become a salient topic for him. (On the other hand, it is true that genetic background may favor "sports" becoming more salient for the person with an athletic body build.) It is not

necessary to assume that saliency is functionally autonomous, but it is assumed here that the expressive component of certain communications is not dependent for its occurrence on immediate external reinforcement. This is a considerably weaker statement of autonomy than that developed by Allport. It is assumed here than any behavior which can be expressive also can be instrumental. Indeed, it is assumed that in most social contexts behavior will be instrumental; only rarely will behavior in social contexts be purely expressive. For example, a salesman's broad smile when meeting a potential customer is more likely to be a behavior under the control of a reinforcement contingency (the possibility of making a sale) than it is likely to be a genuine expression of pleasure. It can be seen that expressive behaviors are a relatively fragile class of behaviors. That is, it is assumed that expressive behavior is easily masked by instrumental behavior. Putting these arguments together, the saliency of a topic would be expected to be expressed reliably and clearly only under permissive conditions -- conditions under which the subject is "free" to express what is most important to him.

The focus of this section of the introduction has been upon the concept of saliency and related concepts in theories of attitude, value, and more general personality functioning. In the following section a more detailed consideration is given to what conditions facilitate expressive behavior, especially expression of what is salient to the individual.

CONDITIONS FACILITATING EXPRESSIVE BEHAVIOR

In the first sections of this thesis the notion was developed that verbal productivity in writing is, under certain conditions, an expressive variable and, as such, verbal productivity can accurately reflect certain differences in personality traits or motivational states. It was specifically hypothesized that verbal productivity would, under appropriate conditions, reflect differences in topic saliency. In a later section a method is proposed to test this specific hypothesis. In this section the hypothesis is developed that the boundary conditions under which expressive behaviors are most prominent and easily measured are those in which there is little external control over communication.

Expressive behavior has been considered especially important by psychologists interested in psychotherapy. Expressive acts by their patients have been considered diagnostically important and also important from the aspect of the process and progress of treatment. The different therapies, especially those stressing insight and patient-therapist interaction, have thus developed various techniques to facilitate expressive behavior. In psychoanalysis, for example, the analyst traditionally sits out of the direct line of gaze of the recumbent patient. This technique presumably helps the therapist to remain a "blank screen" so as to avoid affecting the content of the patient's verbalizations. The patient is then instructed and encouraged to free-associate and to report his subjective observations; nothing is to be left out because it seems irrelevant, or unimportant, or nonsensical. Unpleasant topics are

not to be avoided, and the patient is instructed "to be absolutely honest, and never leave anything out" (Freud, (1912), 1958, p. 134).

Basically similar to the psychoanalytic techniques of Freud are those developed in the learning theory psychotherapy of Dollard and Miller (1950). Like Freud their goal is to provide conditions so that previously inadequately verbalized material is brought out. An important component of the neurotic's behavior is that he has acquired habits of stopping thinking (repression). Dollard and Miller also comment on the reason that the patient does not unlearn repression for himself. They state that the ordinary conditions of social life favor the learning of repression and favor maintaining it in those who have already learned it. The psychotherapeutic situation, on the other hand, is novel in its permissiveness. Dollard and Miller discuss the characteristics of the situation from the viewpoint of the patient (pp. 243-244):

> He is allowed a good turn to talk. His statements are received by the therapist with an even, warm attention. The therapist is understanding and friendly. He is willing, so far as he can, to look at matters from the patient's side and make the best case for the patient's view of things. The therapist is not shocked by what he hears and does not criticize. The frightened patient learns that here is a person he can really talk to -- perhaps the first such person in his life. These permissive circumstances are genuinely new and they have their great effect. The fears evoked by free communi-

cation are gradually extinguished through lack of punishment.

The theory of psychotherapy in which expressive behavior takes the most prominent position is that of client-centered therapy (Rogers, 1951; 1959). In Rogers' theory the client's expressive behavior is not only necessary to the process of the therapeutic treatment; expressive behavior is also the desired outcome of the therapy. Indeed, all behavior of the healthy (fully-functioning) individual is in a sense considered expressive. Rogers postulates only one basic human motive which he labels as the "actualizing tendency." This construct is defined (1959, p. 196) as "the inherent tendency of the organism to develop all its capacities in ways which serve to maintain or enhance the organism." This motive operates to affect behavior through the "organismic valuing process." Rogers describes this mechanism as "an ongoing process in which values are never fixed or rigid, but experiences are being accurately symbolized and continually and freshly valued in terms of the satisfactions organismically experienced; the organism experiences satisfaction in those stimuli or behaviors which maintain and enhance the organism and the self, both in the present and in the long range."

It can be seen that Rogers stresses internal as opposed to external sources of motivation. Psychopathology is seen as the result of external influences which subvert the operation of the inherently healthy organismic valuing process. External values ("conditions of worth") become introjected through a basic need for positive regard from significant others (e.g., the need of the infant for the love and affection of its mother). Rogers explains (1959, p. 209):

> A condition of worth arises when the positive regard of a significant other is conditional, when the individual feels that in some respects he is prized and in others not. Gradually this same attitude is assimilated into his own self-regard complex, and he values an experience positively or negatively solely because of these conditions of worth which he has taken over from others, not because the experience enhances or fails to enhance his organism.

The role of the psychotherapist is basically to provide conditions so that the organismic valuing process will reassert itself. Rogers believes that given those conditions, the client's innate response pattern which elicits behavior (the actualizing tendency) and the innate regulatory mechanism (organismic valuing) will lead the client to make sound, socially acceptable choices. Thus psychotherapy involves " . . . the releasing of an already existing capacity in a potentially competent individual, not the expert manipulation of a more or less passive personality" (1959, p. 221).

The particular relevance of Rogers' theory to this paper is the basic emphasis placed on expressive behavior. Expressive acts are not considered primarily of diagnostic importance as in other approaches. Rather, in the client-centered approach to psychotherapy, expressive acts are the criteria of healthy personality functioning. In a healthy (self-actualizing) individual, behavior is assumed by Rogers to be an individual and unique expression of the actualizing tendency. Purely adaptive behaviors, on the

other hand, are potentially harmful to the extent that they may subvert the innate actualizing tendency and organismic valuing process. Thus, it is not the completely socialized or "other directed" individual who is considered the model of effective personality functioning.

Taking a broader view of therapeutic conditions, Rogers comments (1961) upon the effects of external sources of evaluation in non-clinical settings:

> In almost every phase of our lives -- at home, at school, at work -- we find ourselves under the rewards and punishments of external judgments. 'That's good'; 'that's naughty.' 'That's worth an A'; 'That's a failure.' That's good counseling'; 'That's poor counseling.' Such judgments are a part of our lives from infancy to old age. I believe they have a certain social usefulness to institutions and organizations such as schools and professions. Like everyone else I find myself all too often making such evaluations. But, in my experience, they do not make for personal growth and hence I do not believe that they are a part of a helping relationship. Curiously enough a positive evaluation is as threatening in the long run as a negative one, since to inform someone that he is good implies that you also have the right to tell him he is bad. So I have come to feel that the more I can keep a relationship free of judgment and evaluation, the more this will permit the other person to reach the point where he recognizes that the locus of evaluation, the center of responsibility, lies

within himself' (pp. 54-55).

In the above discussion the point was made that therapies which depend heavily upon patients' verbal productions have generally adopted permissive, non-evaluative conditions to facilitate those productions. In the psychoanalytic approach, and similar "insight" approaches, the therapeutic content of the verbal productions is the important goal of these permissive conditions. Facilitation of expressive behavior is even more central to Rogers' theory of psychotherapy; ability to freely and accurately express oneself is a major goal of therapy. In the remainder of this section the conditions facilitating expressive behavior are considered in two other contexts -- in personality testing and classroom writing situations.

Turning first to the area of personality assessment, some evidence supports the contention that external evaluation may interfere with expressive behavior. Bernstein (1956) found that TAT stories varied in theme and involvement depending on whether the experimenter was absent from the room or present (seated across a desk from the subject). Stories written in the presence of the examiner were less likely to contain sad themes, sad outcomes, and showed less subject involvement. It appeared that experimenter presence tended to restrict the range of responses. Two studies by Van Krevelen (1954a, 1954b) also suggest that range of expression may be limited by experimenter presence. In one study (1954a) students were sometimes administered the Szondi test by the experimenter and at other times took the test themselves. When the experimenter was absent, subjects showed greater consistency, demonstrated more plus-minus reactions, and had a greater sum of open and

plus-minus reactions than when the experimenter was present. In the second study (1954b) 20 subjects were tested with two cards from the MAPS series. One story was dictated to the experimenter and the other was written in her absence. The more ambiguous of the two cards (presumably more open to individual interpretation and expression) was found to elicit more words in the written, experimenter-absent condition. The results of the above studies may be interpreted to mean that the presence of the examiner inhibited expression because of the threat of immediate examiner evaluation of the productions. An interpretation similar to this was offered by Entwisle & Forsyth (1963) when they compared results from group-written versus individual oral administration of word association tests. They found that children with high urban status gave responses of higher commonality (less individuality) under individual oral administration than under group-written testing. Only slight differences were found between the two procedures for children of low urban status. Entwisle and Forsyth speculated that the high urban status child tries to impress adults, and the individual test situation is more opportune for this goal than the group test situation.

The influence of an evaluation set has been directly investigated in two studies using word association tests. Burke (1960) found that word commonality (use of popular responses) increased when subjects were placed under time pressure and were instructed that the test measured intelligence. Jung (1966) instructed two subject groups either 1) that the word association test measured social adjustment or 2) the word association test measured creativity. Jung gave his subjects the same list of ten stimulus words for five successive trials.

No explicit instruction was provided to the subjects regarding responding with the same words on the repeated tests. It was found that under the social adjustment set significantly fewer different words were written down than under the creativity set conditions.

An evaluative set has also been shown to affect expressive behavior on the Rorschach Test. Calden and Cohen (1953) found that subjects who were given instructions that a group-administered Rorschach test served to measure intelligence tended to write responses significantly different than those of subjects told that the test measured either "nervousness" or "imagination." The differences found were interpreted as evidence of" . . . a limited expression of individual spontaneity or originality in favor of a stress on conformity, stereotypy, factual 'objectivity' . . ."

In summary, then, it can be said that external evaluation of expression (or the set in a subject that an expression will be evaluated) can affect the expressive range of productions of projective tests. O'Donovan (1965) has also shown an interest in range of expression in personality assessment. After reviewing the literature on extreme responding on rating scales, he proposed that the extremeness of a rater's written responses will depend to some extent on the meaningfulness of the stimuli. This proposition leads to the prediction that response to meaningful stimuli will tend toward the extreme (polarize), while response to meaningless stimuli will tend toward the middle, or neutral, position. O'Donovan's main contention is that use of extreme responses (polarization) on rating scales need not be a sign of pathology, given that the use of extreme ratings signifies that the stimuli are meaningful. On

the contrary, effective behavior and lack of emotional disturbance could be said to be associated with selective use of extreme responses. In commenting upon the implications for further research, O'Donovan states that an individual may make greater use of selective extreme responding as he becomes more autonomous or self-actualizing. According to O'Donovan the individual " . . . may also have a clearer, more conscious notion of what is meaningful to him. The ability to state to oneself and to others what is meaningful and to respond accordingly . . . may emerge as a psychological model for human freedom (p. 367)." From this quotation it can be seen that O'Donovan's concern with expressive behavior, like Rogers', goes beyond whatever use such behavior may have for purposes of diagnosis or personality assessment.

Turning now to expression in the classroom, attention may be focused on student compositions. Thousands of these productions are written each day in a highly evaluative context: formal grading systems, permanent records, and severe consequences for failure. It is, therefore, pertinent to consider the observations of teachers of English composition. Though anecdotal, these observations provide some insights into how external evaluation may affect expression in written productions. Coping with the task of writing for composition classes has, according to Zoellner (1969), led good students to acquire a "tragic proficiency in writing themes made up of words-for-teacher which are seldom if ever words-for-me." Along the same lines is the statement by Rohman and Wlecke (1964) who write (p. 3):

> It is just possible that writing instruction fails because it is conceived within what Bruner calls the

> 'expository mode, ' and the student-writer, as a result, never is given the chance to participate in the essentials of the process which he is being called upon to master. His involvement in his own writing and in the writing class is a phony. He is not essentially engaged as a human being in what he is doing because the only motivation he is made aware of is extrinsic: he must write correctly and effectively because the teacher and society command him to.

Moss (1969) also suggests that the nature of the motivation in student writing affects the characteristics of the written productions and the writing process. The importance that Moss places in how a topic is selected can also be seen in the following quotation (1969, p. 216):

> People are not machines, let alone writing machines. You can't trip a lever by writing a number of topics on a black-board, and expect students to turn on, to become suddenly fluent and write with distinction. Fluency is the result of an urgency to express one's self. The emotion or interest he can arouse in himself is the integrative force that stamps his writing with distinction. And if the student, for all his efforts and the teacher's, cannot learn the principles of composition and is balked by them at every turn, the only

> emotion he can summon is trepidation, the only interest he can have is in the grade, neither of which, need I say, is conducive to fluency and distinction in writing.

These observations by English teachers serve as suggestive, if anecdotal, evidence that external evaluation may affect (in fact, pervert) the writing process. Interestingly, these notions receive some support from experimental findings. Haber and Iverson (1965) found differences depending on whether the writers in their experiment (college students) were given the set that the person receiving the communication would be either 1) a college professor or 2) a high school student. In both groups the writers wrote letters on the "atmosphere" at their college. Letters to the professor were found to be significantly shorter and to contain significantly fewer value-oriented statements. Haber and Iverson interpreted these results to indicate that the effects of lower status was to inhibit self-exposure. Using the alternate framework proposed here, those same results could be explained by the stronger evaluation set assumed for the students writing to the professor. This interpretation is partly supported by the somewhat greater variability in length of letters written to the high school student as opposed to the professor; the standard deviation for the former was 31.1 words versus 22.6 for the latter. Similarly, there was a greater variability in the number of value-oriented statements. The standard deviation for those subjects writing to the high school student (who were presumably less threatened by evaluation) was 3.5 versus 2.4 for the other group. These differences, therefore, support the contention that under

conditions of evaluation, writers are less likely to express the importance that a given topic has for them. In this case those writers presumably working under a more evaluative set (to a professor) wrote with less individuality both in verbal productivity and in number of value-oriented statements.

In summary, it can be said that the above discussion -- which brings together observations about patients in psychotherapy, students in the classroom, and subjects in personality research -- serves as the rationale for the postulate that expressive behavior will tend to be masked under conditions of external evaluation. In a later section a specific method is described to test the hypothesis that differences in verbal productivity due to saliency effects will tend to be masked when a writer is given the set that he will be evaluated on the basis of his writing.

THEORETICAL FRAMEWORK

In the above sections certain definitions and hypotheses related to expressive behavior were either specifically stated or implied. The following outline serves to summarize the theoretical framework adopted for this dissertation.

A. Conceptual Definitions

1. Expressive behaviors are emitted overt acts which are not under the control of immediate external contingencies of reward and punishment. (This definition is not meant to imply that expressive behaviors are necessarily innate. Nor is it implied that these behaviors have been free from shaping by past contingencies of reward and punishment.)
2. Saliency is a variable descriptive of the intensity of the latent endogenous drive stimulus property of any stimulus.
3. An evaluative set is an exogenously produced, response-regulating condition which operates to maintain an individual's social prestige by eliciting appropriate adaptive responses under conditions of external judgment.

B. Primary Hypotheses

1. The intensity of expressive behaviors with respect to a discussion topic is a function of the saliency of a topic.
2. Expressive behavior tends to be masked by the instrumental or adaptive responses elicited by an evaluative set.

C. Operational Definitions:

1. The saliency of a topic is a score computed on the basis of an individual's ratings made on the Topic Importance Scale.

2. Verbal productivity in writing is defined by the number of words written.

3. The evaluative set that a written production is to be externally evaluated is given to the subject through instructions that the production will be used to assess writer characteristics such as intelligence or creativity.

D. Experimental Hypotheses

1. Verbal productivity in writing is greater for maximally as opposed to minimally salient topics.

2. Expression of topic saliency by verbal productivity in writing is masked by the effects of an evaluative set.

EXPERIMENT NUMBER ONE:

PRODUCTIVITY IN WRITING AND TOPIC SALIENCE

PURPOSE

Of primary interest in this first study was testing the proposition that the verbal productivity demonstrated by a writer when writing about two different topics would tend to be greater when he wrote about the topic of greater saliency to him. It was specifically hypothesized that if each one of a group of writers wrote about a topic of high saliency and a topic of low saliency, when the two collections of written productions were compared with respect to mean word count, the collection of writings dealing with topics of high saliency would be found to have the greater mean word count.

METHOD

Subjects

Sixty-seven subjects were originally recruited for this experiment from an introductory psychology class at Portland State University. At that same time the Topic Importance Scale was administered in the classroom. The number of subjects was reduced to 49 when 18 of the original 67 were not present for the second part of the study, which took place in class two months later. During this second part of the study each subject was asked to write on two topics, one topic he had previously identified as of high and the other one of low saliency. In this study, then, measures of verbal productivity (the dependent variable) were taken from the written productions which were assigned on the basis of topic saliency (the independent variable).

Briefly stated, the topics were selected on the basis of "saliency scores" which were obtained on each of 45 topics. The saliency score for any topic is defined by the sum of the subject's self-ratings with regard to: 1) his interest or concern about the topic, 2) his degree of information about the topic, 3) his degree of active involvement with the topic, and 4) the strength of his feelings about the topic. Thus each subject was asked to rate 45 item-topics on the Topic Importance Scale, for example:

Vietnam War

A. Interested or concerned about this topic

1 2 3 4 5 6 7

B. Informed about this topic

1 2 3 4 5 6 7

C. Actively involved with this topic

1 2 3 4 5 6 7

D. Have strong feelings about this topic

1 2 3 4 5 6 7

Low Some High

Because ratings on each of the above four dimensions was made on a seven point scale, the highest possible saliency score was 28 (7+7+7+7) and the lowest was 4 (1+1+1+1). Using these scores, the experimenter was able to select for each subject a topic of high salience and a topic of low salience. A copy of the Topic Importance Scale is given in Appendix A. The following selection rules guaranteed maximum separation of the topics with regard to saliency.

1) A high salient topic was selected for each individual as the one receiving the highest saliency score -- the sum of ratings of interest, information, involvement, and strength of feelings. Where ties occurred, the selection was made by referring to the last page of the Topic Importance Scale where Ss were asked to rank the three topics most important in their current life situation. Ties were then settled by choosing the topic placed highest in this ranking. If this last procedure did not uniquely determine a category as "most salient", then one was randomly selected from the remaining contenders.

2) A low salient topic was selected in a manner analogous to that used to select the high salient topic. Failing

a unique determination by saliency score or rankings, the less salient topic was selected on a random basis from the topics tied for "least salient."

The following topics, though appearing on the Topic Importance Scale, were not used in this experiment for the reasons given below:

1) The topic of "alienation" was not used because many Ss in pilot studies indicated that they did not understand this topic designation.

2) The topics "use of drugs," "premarital sex," "marital sex," and "feelings about myself" were not used because their use could in some cases have constituted an unnecessary invasion of the subject's privacy.

At the same time that the Topic Importance Scale was administered, each subject was also asked to fill out a biographical questionnaire. A copy of this questionnaire is given in Appendix B. Information from this questionnaire was used for an exploratory look at correlates of verbal productivity. Results are given in a subsequent section for tests of relationship between word counts and the following variables: sex, year in college, college grade point average, socio-economic status, birth order, size of home town, and interest in sports and outdoor activities.

Half of the volunteers for this experiment were assigned to write about the high salient topic first (Group A), while the other half wrote about the low salient topic first (Group B). Group A was composed of 25 subjects, 16

men and 9 women. Group B was composed of 24 subjects, 13 men and 11 women.

Ad hoc selection by the experimenter of two topics to be written about by each subject, one of high salience and one of low salience, resulted in the assignment of topics with the following "saliency score" means:

	Mean for High Salient Topic	Mean for Low Salient Topic	P
Group A	27.0	6.2	.001
Group B	26.5	6.5	.001

At the time these students were recruited it was made clear that participation was voluntary and that their participation would not affect their class grades in any way. Furthermore, the students were asked to maintain their anonymity by not putting their names on the forms. Instead, they were asked to write down the initials of their mother's maiden name. This method of identification was adopted in order to promote candidness in the subject's responses while at the same time allowing for coordination of data from the first to the second part of the experiment.

Writing Task

In the second phase of this study each subject was asked to write two letters, both as if to his best friend, one letter about the high salient topic selected by the experimenter and the other letter about the low salient topic. At the start of the class period two envelopes were given to each subject along with a caution not to open the envelopes until instructed. On the outside of each envelope appeared the initials of the maiden name of the subject's mother and a number (either 1 or 2) to indicate the order in which the subject was to open

the envelopes. The envelopes contained the two topics which each subject had rated previously as either of high or low salience for him. Inside each envelope there were three sheets of paper which the subject used in writing the respective letters. The first page for each letter contained the following standard opening sentences, which are also shown in Appendix C.

> Dear (name of best friend),
>
> In this letter I am going to write about a topic that is on my mind today. It is (the topic to be written about was filled in by the E, using previous saliency ratings).

The subjects were orally instructed to complete the letters, writing as if to their best friend who was in another city. The topic sequences were counterbalanced for order so that half the subjects in the class would write about the higher saliency topic first (Group A) and the other half would write about the lower saliency topic first (Group B).

Prior to beginning the writing, the instructions below were read to the classes. The sentences in the second paragraph which are bracketed were also provided in writing in the envelope.

> Everybody should have two envelopes marked with either a "1" or a "2". Please set envelope number 2 aside. (Pause). Inside the first envelope there are three sheets of paper. Don't open the envelope yet.
>
> The experiment today involves some writing. The writing you will be doing will not affect your class grade in any way, but I would very much appreciate your

cooperation. [Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic that we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.] A copy of these instructions is enclosed in the first envelope.

After you finish the letter, put it back into the envelope and then get out the other envelope. There is a second letter to the same best friend to be completed inside the second envelope. Please go on and write that second letter as soon as you finish the first one. Both letters are to be written as you actually would write to your best friend. Please keep both letters at your desk until I ask for them to be passed in. Are there any questions? (Pause). If there are no (more) questions, please go ahead and start the first letter. Go right on with the second letter after you finish the first one. You will have 40 minutes to write the two letters.

At the end of 18 minutes the experimenter said: "For those of you who have not yet completed the first letter, you have used up 18 minutes of the 40 minutes you have to complete the two letters."

At the end of 40 minutes the experimenter asked that all the letters be placed in the respective envelopes and then be passed forward. At this same time a post-experimental questionnaire was passed out to the subjects. Its purpose will be described below.

Measures

The dependent variable for this experiment was the number of words written in a letter. The following simple rules tell how the word count was carried out for each letter.

1) Each separate group of letters was defined to be a word. Hyphenated words were counted as one word.
2) Groups of initial letters were counted as one word unless the letters were separated by periods, in which case each letter counted as one word. Thus, IBM counted as one word, while I.B.M. counted as three words.
3) Any number, regardless of length, counted as one word.
4) Symbols, such as dollar signs for example, were not counted as words.
5) Any words written in above the introductory sentences of the letter were disregarded. (Some subjects wrote in the name of their "best friend," while others did not;

some subjects wrote in the date.)

No specific statistical test was made for reliability (accuracy) of the word counts, but it can be assumed to be quite high since each count was independently done at least twice to check for error. Previous work has demonstrated that word counts can be done with extremely high accuracy. Wiens, Jackson, Manaugh, and Matarazzo (1969) reported a Pearson r of .998 between independent word counts.

The post-experimental questionnaire, which was passed out after the writing task was finished, was designed to probe the following areas:

1) how difficult the subject found it to write about each topic,
2) how hesitant the subject is to reveal his ideas and feelings about each topic,
3) how much the writing reflected the subject's true feelings about each topic,
4) how much the subject became involved in the writing process as he wrote about each topic,
5) how hard the subject tried to write a good letter about each topic, and
6) if the subject had recently read about or talked about each topic.

A copy of the post-experimental questionnaire for Experiment Number One is given in Appendix D.

RESULTS

Verbal Productivity and Topic Saliency

In this first experiment it was found that subjects did tend to write longer productions about the more salient of two topics. As shown in Table 1, the mean number of words written about the high salient topics was 264.3 while the mean length about low salient topics was 197.5 words (difference significant at p .001). These results, then, demonstrate that verbal productivity in writing can serve as an index of topic saliency. *

Interestingly, the order in which the topics were written (high salient then low salient versus low salient then high salient) appeared to affect the amount written about the topic of low saliency. Inspection of Table 1 and Figures 1 and 2 will show that the 25 subjects who wrote about the high salient topic first (Group A, Figure 1) tended to show a greater saliency effect than the 24 subjects who wrote about the low salient topic first (Group B, Figure 2). Of the 14 subjects (out of 49) who wrote more about the low salient topic, 11 of them came from Group B. Comparison of means from Groups A and B also shows that mean differences in verbal productivity discriminated high from low salient topics in Group A better than in Group B. The mean number of words written about the high salient topic in Group A was 261.9 versus 173.3 about the low salient topic (difference significant at p .001). Comparable figures from Group B, on the other hand, were 266.9 versus 222.7 (difference significant at p .05, one-tailed *t* test). Comparison of these means and inspection of Figure 3 shows that the difference between these groups lies in

*This finding is consistent with a similar finding by Wiens, Jackson, Manaugh, & Matarazzo (1969) who showed that number of words in a letter of recommendation can better reflect a writer's true feelings than does the content of what he writes.

TABLE I

Mean Number of Words Written about Topics of

High or Low Salience by Subjects in Experiment Number One

Group	N	Mean Number of Words Written		p
		High Salient Topic	Low Salient Topic	
All Subjects	49	264.3	197.5	.001
Group A (high salient topic first)	25	261.9	173.3	.001
Group B (low salient topic first)	24	266.9	222.7	.05

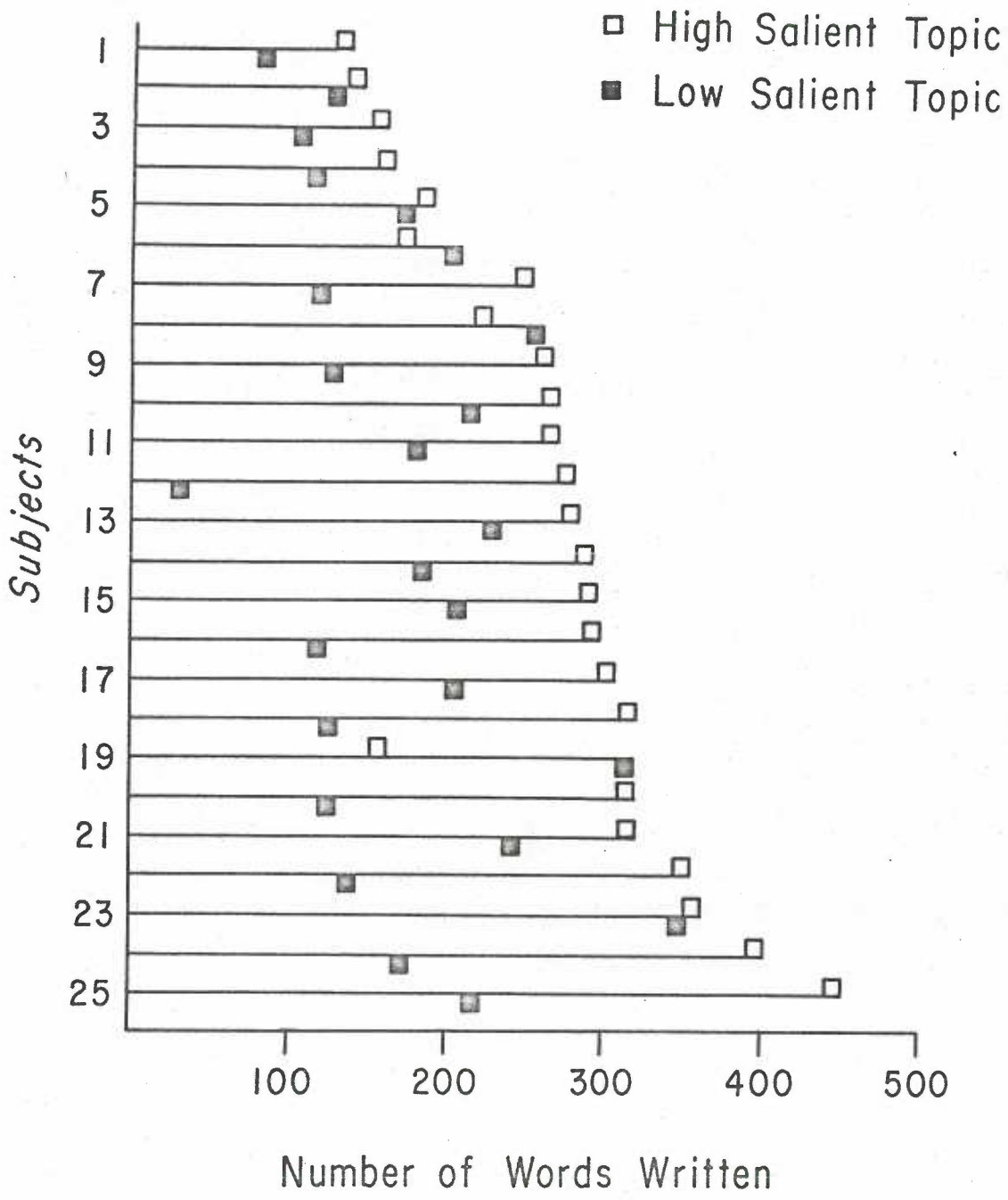

Fig. 1. Number of words written on each of two topics (high and low salient, respectively) by subjects in Group A, those writing about the high salient topic first.

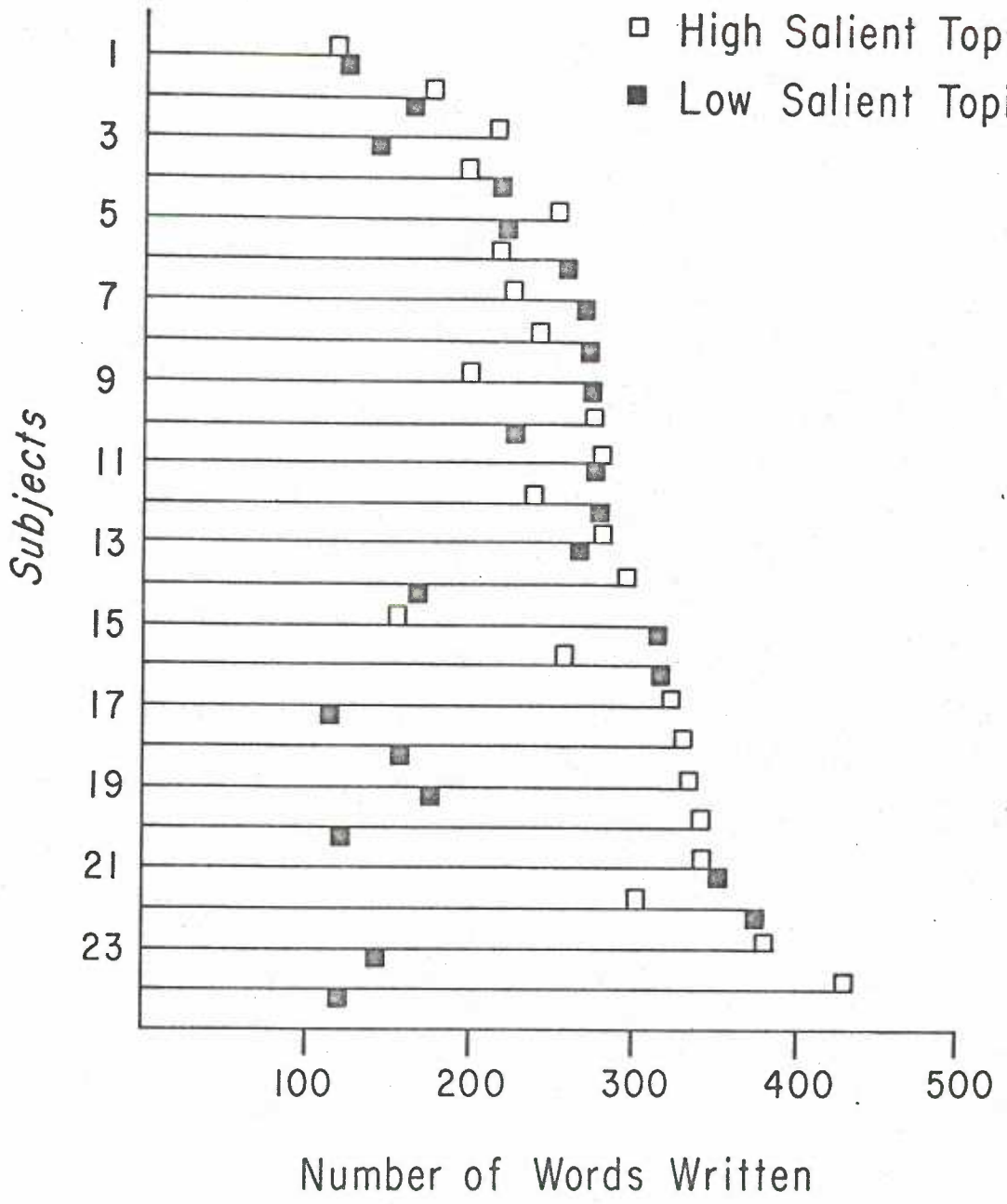

Fig. 2. Number of words written on each of two topics (high and low salient, respectively) by subjects in Group B, those writing about the low salient topic first.

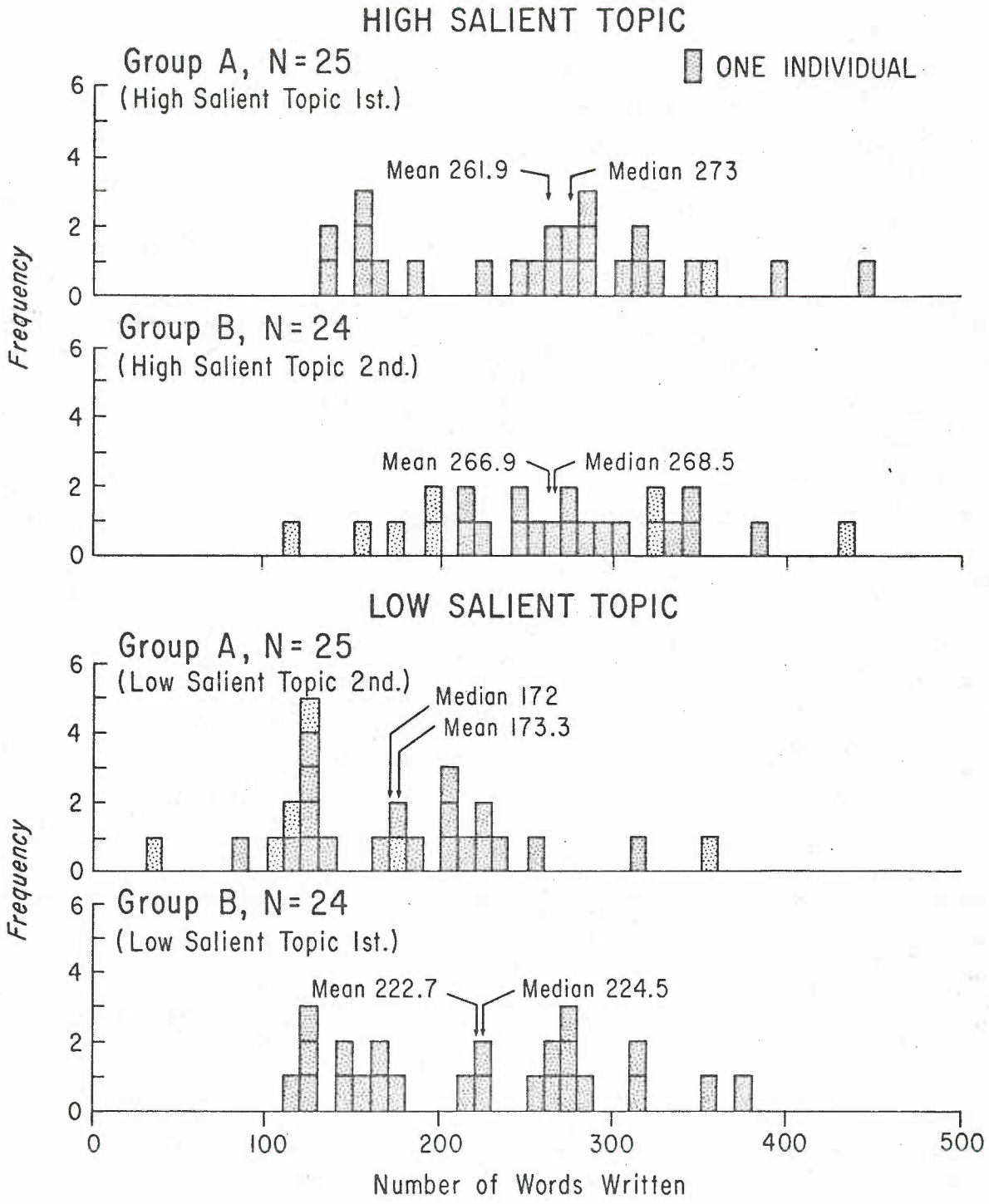

Fig. 3. Frequency distributions on the number of words written by subjects in Experiment I, grouped according to topic salience and to order of writing (high or low salience topic first).

the differential response to the low salient topic since verbal productivity in response to the high salient topic was almost identical for Groups A and B. These results suggest that order (sequence) effects are fairly strong. Furthermore, the effect of order appears to be non-additive in that it affects verbal productivity for a low salient topic written second but not for a high salient topic written second. These results suggest the possibility of rather complicated relationships, ones in which verbal productivity would be differentially affected not only by the order (first versus second), but also by the salience level of the first topic. Regardless of these apparent order effects, this experiment convincingly shows that verbal productivity in writing is affected by topic saliency. No matter in which order subjects wrote high and low salient topics, the mean length of the high salient topics was significantly greater.

Relationship of Verbal Productivity to Other Measures

There are substantial individual differences in verbal productivity as is demonstrated by the range of the scores in the frequency distributions in Figure 3. In order to explore some of the possible correlates of verbal productivity beyond the imposed experimental conditions, a large inter-correlation matrix was computed. This matrix of Pearson *r*'s was constructed using 27 variables, including biographical items, responses to the post-experimental questionnaire, number of words written about the high salient topic and low salient topic and both topics combined, and the ratio of words written on the high vs. the low salient topic. This inter-correlation matrix was computed for both Group A and Group B, and the two matrices are presented, respectively,

in Appendices H and I. The general results of these computations do not shed much light upon the reasons for individual variation in verbal productivity. When a significant relationship was found for one group, it failed to be confirmed in the other group. For example, in Group A the correlation between years of father's education and word count on the low salient topic was computed to be -0.53 while the same correlation in Group B was found to be +0.19. Similarly, no significant and reliable correlations were found between measures of verbal productivity and variables such as reported age, sex, year in college, grade point average, years of mother's education, occupational status of father, birth order, number of children in family, size of home town, or interest in sports.

Comparison of mean rating responses on the post-experimental questionnaire produces some apparently meaningful results. The responses on this questionnaire ranged from "1" (very little) to "7" (very much). The items and results from this questionnaire are given in Table 2. Two-tailed *t* tests were used to test for the significance of differences between the means. Subjects on the average reported:

1) it was more difficult to write about the less salient topic,
2) they would feel more uncomfortable attempting to discuss the less salient topic with a stranger,
3) they expressed their true feelings more when writing about the higher salient topic,

TABLE 2

MEAN RATINGS FOR ITEMS ON THE POST-EXPERIMENTAL QUESTIONNAIRE

FOR EXPERIMENT NUMBER ONE BY THE 25 SUBJECTS IN GROUP A AND THE 24 SUBJECTS IN GROUP B

Item

1. How difficult was it to write about the . . . . topic?

	Mean for High Salient Topic	Mean for Low Salient Topic	p
Group A	2.04	3.80	.001
Group B	1.79	3.62	.001

TABLE 2 - Continued

Item

2. How uncomfortable would you find it to discuss the . . . topic with a fellow student you have just met for the first time in the PSU cafeteria?

	Mean for High Salient Topic	Mean for Low Salient Topic	p
Group A	2.72	3.40	
Group B	2.21	3.46	.001

3. To what extent did you express your true feelings about the . . . topic?

	Mean for High Salient Topic	Mean for Low Salient Topic	p
Group A	6.20	5.48	.01
Group B	5.88	5.38	

TABLE 2 - Continued

Item

4. To what extent did you feel yourself become personally involved in the writing as you wrote about the . . . topic?

	Mean for High Salient Topic	Mean for Low Salient Topic	p
Group A	5.92	3.68	.001
Group B	6.04	4.08	.001

5. How hard did you try to write a good letter about the . . . topic?

	Mean for High Salient Topic	Mean for Low Salient Topic	p
Group A	5.44	4.28	.01
Group B	4.96	4.54	

4) they became more involved in writing about the higher salient topic, and

5) they tried harder to write a good letter about the higher salient topic

Interestingly, one of the items which best discriminated high from low salient topics was that one which asked for ratings of involvement during the writing. Self-ratings of involvement, however, were not shown to be predictive of verbal productivity when those correlations were computed (Appendices H and I); the highest correlation between involvement and word count was only 0.13, as computed for the high salient topic of Group B.

The fact that verbal productivity discriminated the high from the low salient topic better in Group A than in Group B may be partially accounted for by the fact that subjects in Group A tried harder* to write a good letter about the high salient topic but tried less hard to write a good letter about the low salient topic. Subjects in Group A, on the average, rated their effort on the high salient topic at 5.44 vs. only 4.28 for the low salient topic (difference significant at p .001). Subjects in Group B, however, did not rate their effort significantly different for high vs. low salient topic (4.96 vs. 4.54, p not significant). Unlike the case with ratings of involvement, there is some evidence that ratings of effort were somewhat predictive of verbal productivity within the experimental groups; the correlations between ratings of effort and verbal productivity on the low salient topic were 0.32 and 0.35 for Groups A and B, respectively. Comparable correlations for the high salient topic, however, were only -0.03 and 0.11.

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* Or at least so stated on their post-experimental questionnaire.

Sex Differences

The results of the second study, which are reported in the following chapter of this thesis, suggested that male and female subjects respond differently to high versus low salient topics. Because of those results, a post hoc analysis was performed for this study to see if similar results would be found. Comparisons were thus made of verbal productivity on high versus low salient topics for men and women separately, and those results are shown in Table 3. It can be seen from inspection of this table that both sexes wrote more about the high salient topic regardless of which order it came in, high or low first. Differences due to topic saliency were, however, larger for men under all conditions. Thus, men in Group A wrote 54 percent more words on the average about their high salient topic than their low salient topic (271.1 versus 175.4), while women wrote 45 percent more about the high salient topic (245.4 versus 169.6). In Group B sex differences were more apparent; men wrote 30 percent more words on the average about their high salient topic than about the low salient topic (265.2 versus 203.0), while women wrote only 10 percent more about their high salient topic (269.0 versus 245.1). Interestingly, the topic first written about by the women subjects elicited the same mean number of words (245) whether it was of high salience (Group A) or of low salience (Group B.) Verbal productivity by men subjects, on the other hand, did discriminate the high salient topic written about first from the low salient topic written about first; men in Group A wrote 271.1 words on the average about their first topic versus only 203.0 words by Group B men about their first topic. Generally speaking, the men were apparently less affected by the order of writing.

TABLE 3

MEAN NUMBER OF WORDS WRITTEN IN GROUPS A AND B OF EXPERIMENT NUMBER ONE BY MEN AND WOMEN SUBJECTS ABOUT TOPICS OF HIGH AND LOW SALIENCE

Group A -- high salient topic first

	Mean Number of Words Written		
	High Salient Topic	Low Salient Topic	p
Men (N = 16)	271.1	175.4	.01
Women (N = 9)	245.4	169.6	.01

Group B -- low salient topic first

	Mean Number of Words Written		
	High Salient Topic	Low Salient Topic	p
Men (N = 13)	265.2	203.0	.05
Women (N = 11)	269.0	245.1	

The figures above are based on samples too small to base any firm conclusions upon. However, they are consistent with the results to be presented in the next chapter. And these results all suggest that verbal productivity, as an expressive aspect of writing, is a more reliable reflection of topic saliency in men than in women. This notion will be developed further in the subsequent chapters.

SUMMARY

It had been hypothesized for this first study that the verbal productivity of a writer would tend to be greater when he wrote about the more salient of two topics. This was found to be the case.

Two topics were first chosen for each individual of a group of college students on the basis of having either high or low salience for that individual. Asked later to write two letters about those respective topics, the subjects in this study wrote significantly more in their letters about the topics which were previously chosen as highly salient.

It was found that subjects would write approximately the same amount about a high salient topic whether it preceded or followed writing about a low salient topic. Interestingly, however, this did not hold for writing about a low salient topic. When the low salient topic came first, it elicited considerably more writing than when it came just after the high salient topic. There is no ready explanation for this result. Further research may show that a kind of adaptation-level mechanism is responsible for this apparent order effect. A follow-up study of the order effect might include two additional groups which would write about two topics of either both high or both low salience, thus allowing for a better estimation of what changes in verbal productivity are due to order alone, unconfounded by concommitant changes in topic

saliency. Perhaps also useful in such a follow-up study would be to have subjects fill out a post-experimental questionnaire after the first topic as well as after the second. Effects of order on subjective perception of the task and topic may perhaps, in that way, be more precisely measured.

The fact that this order effect is substantial and non-additive (across salience levels) makes repeated measures designs generally undesirable since treatment effects become entangled with order effects. Avoiding repeated measures designs in similar experiments is, of course, quite possible, as shown in experiment described in the next chapter. Fairly large N's must be used, however, since individual differences are large.

Meaningful or robust correlations between verbal productivity measures and biographical varibles were not found in this experiment. Because correlations between these classes of variables were also computed in the following experiment, further discussion of these results is postponed to a later section.

The essential finding in this study was, of course, that verbal productivity in writing tends to express individual, endogenous differences in the saliency of topics. In the following experiment this fact is put to use to explore conditions which facilitate individual expression of differences in saliency.

EXPERIMENT NUMBER TWO:

EFFECTS OF EXTERNAL EVALUATION ON EXPRESSION IN WRITING

PURPOSE

The hypothesis tested in this second experiment dealt with the masking of topic saliency effects under conditions of external evaluation. Simply stated, this experiment was designed to show that verbal productivity in writing can serve as an index of the personal relevance of a topic to a writer but that such a relationship is masked when the writer will be judged by his writing. It was hypothesized that subjects who were given neutral instructions with regard to evaluation of their intellectual capacities would tend to write more words when assigned a topic of high salience than other subjects who were also given neutral instructions but were assigned a topic of low salience. This difference due to topic saliency was, however, expected to be smaller or non-existent when instructions included an external evaluation set -- information that the written productions would serve to measure intelligence and creative writing ability.

METHOD

Subjects

Subjects for this study were recruited from 11 introductory English composition classes at Portland State University. At the initial contact the students were told that their participation was being requested in a study of writing behavior. As in Experiment Number One, they were asked to fill out the Topic Importance Scale and biographical inventory. Following current ethical guidelines, the experimenter also passed out the following statement for the subjects to read and sign:

> I am aware that I am participating in a psychology study which will take approximately one hour to complete -- twenty minutes now and forty minutes during a later class period. I understand that my participation is voluntary, that I may withdraw at any time, and that this study will not affect my class grade.
>
> _____
>
> Name

As in Experiment Number One, subjects were asked to not put their names on the Topic Importance Scale. They were, however, asked to put down the initials of their mother's maiden name. This procedure allowed the experimenter to coordinate materials between the two session of the experiment while at the same time guaranteeing subject anonymity. The original number of volunteers recruited was 225. This number was reduced

by 69 when some volunteers were not in class during the second experimental period. Another three of the original volunteers (one in one class and two in another) decided not to participate during the second session, leaving a total of 153 subjects in the experiment.

During the second session of the experiment, about one month following the first session, each subject was asked during a class period to write on one topic. A high or low salient topic was chosen in the same manner as described for the first experiment (page 34 in the preceding chapter). Topics were assigned so that one-half of the subjects wrote about a topic of high salience and one-half wrote about a topic of low salience. These two groups made four groups when they were further divided so that one-half of each got neutral instructions and one-half got instructions designed to produce an evaluation set. These instructions are described in greater detail in the following section.

Within each classroom subjects were assigned to groups on a random basis. Because the second experimental session was run in different classes at different times, it was possible to monitor over the course of the experiment the number of subjects actually used in each experimental group. It was thus possible to assign subjects within a class so as to balance the numbers in the experimental groups. For example, if a class contained ten volunteers, assignments would be made so that more subjects would be randomly assigned to the groups having fewer members (i. e., 3 to these groups and 2 to the other groups). Furthermore, sex distribution was kept balanced in a similar manner; fewer subjects of a particular sex would be randomly

assigned to a group if that group already had more subjects of that sex than did the other groups. This method of assignment provided well-balanced groups as can be seen from the following summary.

Experimental Group	Number of Subjects		
	Men	Women	Total
HE (High Salient Topic, Evaluation Set)	21	19	40
LE (Low Salient Topic, Evaluation Set)	19	20	39
HN (High Salient Topic, Neutral Set)	19	18	37
LN (Low Salient Topic, Neutral Set)	19	18	37

A priori and ad hoc selection of a topic for each subject which was either of high salience or of low salience resulted in the following mean saliency scores for the topics written about by the four groups.

Evaluative Set Means

Group HE	Group LE	p
27.4	5.9	.001

Neutral Set Means

Group HE	Group LN	p
27.0	5.8	.001

To recapitulate, then, the experimental hypothesis is that differences in word count due to topic saliency will tend to be smaller between Groups HE and LE than between Groups HN and LN because of the effects of the external evaluation set. This latter set was induced by the experimenter in a way which will be described below.

Writing Task

At the start of a class period a legal-size envelope was given to each subject with a caution not to open it. On the outside of the envelope appeared the initials of the maiden name of the subject's mother. The envelope contained three sheets of paper which the subject used in writing about the assigned topic. Additionally, this envelope contained the instructions for the written task (either evaluation or neutral, as described in the next section).

As in the first experiment, the writing task involved completing a letter, the first sentences of which were already prepared in advance. The subject was asked to complete the letter, writing as he would to his best friend. The first page of the letter contained the following standard opening sentences:

> Dear (Name of best friend),
>
> In this letter I am going to write about a topic that is on my mind today. It is (the topic to be written about was filled in by experimenter, using previous saliency ratings).

After all the envelopes have been distributed, the experimenter said:

> This experiment involves writing a letter. You will have up to 30 minutes to write the letter after we begin. The instructions for how the letter is to be written are inside the envelope. After we begin, please read the instructions carefully before you begin to write the letter. When you finish the letter, please bring it down to the front of the room. I will then give you a short questionnaire to fill out. After that, you may leave the class if you like. The experiment will be over. If you have any questions after reading the instructions, raise your hand and I will come to you individually. Please open your envelope now, read the instructions, and then go ahead and write the letter.

The experimenter wrote down the time when he finished giving the above instructions. He also wrote down the time of completion on each envelope as the subjects brought back their completed letters. After 30 minutes had elapsed the experimenter asked that all the letters be returned. As each subject turned in his written production, he was handed a copy of the post-experimental questionnaire to fill out. All subjects followed this same procedure and, therefore, the only treatment differences were 1) whether the subjects were assigned, by the opening sentences of their letters, a high or a low salient topic and 2) whether the written instruction forms inside their envelopes were evaluative or neutral.

Instruction Forms

The two kinds of written instructions given to the subjects in this study were designed to be very similar in appearance. Since the writing was done in a classroom setting, contamination of the data could have resulted if some of the students had become aware that others were receiving different written instructions. There is no evidence that any subject actually did become aware that there were two different instruction forms. Examples of the two instruction forms are given in Appendices E and F. Inspection of these forms will show that they are identical with respect to the task instructions which appear in the first paragraph. Information about the purpose of the experiment is different, however, as can be seen by comparing the second paragraphs from each form:

(Evaluative Set)

> Thank you for volunteering for this research study. Past research has shown that people who have creative ability in writing also tend to have high intelligence. The particular study for today involves an extension of this previous research. We will be evaluating your letter for creative ability as an index to your intellectual capacity. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

(Neutral Set)

> Thank you for volunteering for this research study.

> There is typically quite a bit of diversity in the backgrounds of students of courses in English composition. That is one reason we have asked for your cooperation. This section in introductory composition contains quite a diversity with respect to the background of the people in the class. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

It can be seen that the above paragraphs are the same except for the sentences appearing in the middle of the paragraphs. In the first paragraph above (evaluation set) the student is given the information that his letter will be judged for "creative ability" and that this ability is related to intelligence. On the other hand, subjects getting the instructions shown in the second paragraph above are not, ostensibly, given any information pertinent to the writing task. Rather, the subjects getting these instructions are given "filler" information that is neutral with respect to evaluation.

Measures

The same basic measures were used in this second experiment as the ones described for Experiment Number One:

1) saliency scores for topics as computed from an individual's responses on the Topic Importance Scale
2) biographical data (age, sex, school year, etc.) from a biographical inventory

3) word counts

4) responses on a post-experimental questionnaire

Besides the above measures, one other one was made possible by the fact that each subject wrote about only one topic. An estimate of the duration of writing time could thus be calculated by subtracting the time at the start of the writing period from the time when each subject turned in his written production.

The post-experimental questionnaire contained items designed to elicit self-reports on:

1) what the S believed the purpose of the experiment to be and his evidence for that belief,
2) how difficult the subject found it to write about the topic,
3) how hesitant the subject would be to reveal his ideas and feelings about the topic to a stranger,
4) how much the writing reflected the subject's true feelings about the topic,
5) the degree to which the subject became involved in the writing process,
6) how hard the subject tried to write a good letter,
7) if the subject had read or talked about the topic recently, and
8) if the subject were willing to come to a special session, should one be scheduled, in order to get additional details about his performance on the writing task.

RESULTS

Pilot Study

Before presenting the major results for this study, it should be mentioned that a pilot for this study was done in a single large classroom using the procedures described above. In Table 4 the results of this pilot are given. It can be seen that these results are somewhat ambigous because of the unequal sex distribution and the tendency for the sexes to respond differently, both in regard to absolute verbal productivity within groups and relative productivity between groups. For example, the women subjects in Group LE wrote 49 percent more words, on the average, than the men subjects (282.6 versus 189.7). In Group LN, on the other hand, the women subjects wrote three percent fewer words (237.8 versus 244.2). Though the small numbers of subjects prohibit any conclusive statements, the results do suggest that there may be sex differences not only related to absolute level of verbal productivity but also to response or responsiveness to differences in topic saliency and evaluative set. Further data and discussion bearing on these points will be presented in following sections.

It seems clear that verbal productivity was substantially greater in Group HE than in the other groups, which did not differ one from another. This result seems largely to have come from those subjects' greater fluency in writing. They wrote more but did not take proportionately longer to do so. The mean durations of writing for subjects in the groups were: Group HE, 23.75 minutes; Group LE, 20.65 minutes; Group HN, 23.61 minutes, and

TABLE 4

PILOT STUDY MEANS OF NUMBER OF WORDS WRITTEN BY MEN, WOMEN, AND COMBINED SUBJECTS IN EACH OF FOUR GROUPS

Group HE -- high salience topic, evaluative set

	Mean Number of Words
Men (N = 10)	283.4
Women (N = 14)	326.6
Combined (N = 24)	308.6

Group LE -- low salience topic, evaluative set

	Mean Number of Words
Men (N = 10)	189.7
Women (N = 13)	282.6
Combined (N = 23)	242.2

Group HN -- high salience topic, neutral set

	Mean Number of Words
Men (N = 13)	244.2
Women (N = 10)	260.7
Combined (N = 23)	251.4

Continued

TABLE 4 - Continued

Group LN -- low salience topic, neutral set

	Mean Number of Words
Men (N = 8)	244.2
Women (N = 16)	237.8
Combined (N = 24)	239.9

Group LN, 21.83 minutes. In the following sections it will be shown that this result was not found in the major study reported in this chapter. Because the pilot study had relatively small numbers in its groups and was, thus, more susceptible to sampling error, it is believed that the markedly high productivity of the HE Group in this pilot study resulted largely or wholely from random assignment of especially fluent subjects to that group. This notion receives indirect support from the failure to find the expected differences in verbal productivity due to topic saliency in the comparison of Group HN with Group LN. In the following section it will be shown that the results of the major study were consistent with those from Experiment Number One. Furthermore, larger and better balanced groups in the major study, as described above on page 61, allowed for a reasonably adequate evaluation of sex differences.

Saliency and Masking Effects

Turning now from the pilot study to the results of Experiment Number Two, those results support the hypothesis that expression of topic saliency in verbal productivity is masked under evaluative conditions. Thus, for those subjects getting neutral instructions, the high salient topics elicited significantly longer productions than did the low salient topics; Group HN subjects wrote, on the average, 246.4 words versus only 209.1 words by Group LN subjects ($p < .05$, one-tailed t test).

Under evaluative conditions, on the other hand, no significant differences were found to result from differences in topic saliency. Thus, when subjects were given the set that they would be evaluated for their creativity and intelligence, the high and low salient topics failed to elicit productions signifi-

TABLE 5

MEAN NUMBER OF WORDS WRITTEN IN EACH OF FOUR GROUPS FROM EXPERIMENT NUMBER TWO

Mean Number of Words for Evaluative Set Groups

Group HE (N=40)	Group LE (N=39)	t	p
252.1	227.0	1.34	

Mean Number of Words for Neutral Set Groups

Group HN (N=37)	Group LN (N=37)	t	p
246.4	209.1	2.02	.05

cantly different in length. Group HE subjects wrote, on the average, 252.1 words versus 227.0 words by Group LE subjects (p not significant). These results are summarized in Table 5.

Not only do these results support the hypothesis that evaluative conditions can suppress expression of differences in topic saliency, but the fact that subjects in Group HN wrote more than subjects in Group LN serves to cross-validate the basic finding of Experiment Number One -- that verbal productivity can reflect topic saliency.

In Figure 4 histograms are presented showing the verbal productivity of each subject in each group. Inspection of this figure shows that the greater differentiation between Groups HN and LN than between Groups HE and LE is not a statistical artifact resulting from distributions containing one or two extreme scores. Indeed, if anything, the apparent masking effect appears even more potent if medians are compared in order to mitigate the influence of any extreme scores. These median values are shown in Figure 4. It can be seen that the median number of words written in Groups HN and LN are substantially farther apart (248 versus 198) than the medians in Groups HE and LE (243.5 versus 230).

The above results seem to provide modestsupport for the notion of a masking effect from external evaluation. The facts are that subjects in Group HN wrote 18 percent more words on the average than did subjects in Group LN (246.4 versus 209.1), while subjects in Group HE wrote only 11 percent more than subjects in group LE (252.1 versus 227.0). In the following section it is shown that this subtle effect is entirely due to a somewhat stronger effect of the evaluative set on male subjects. In the next

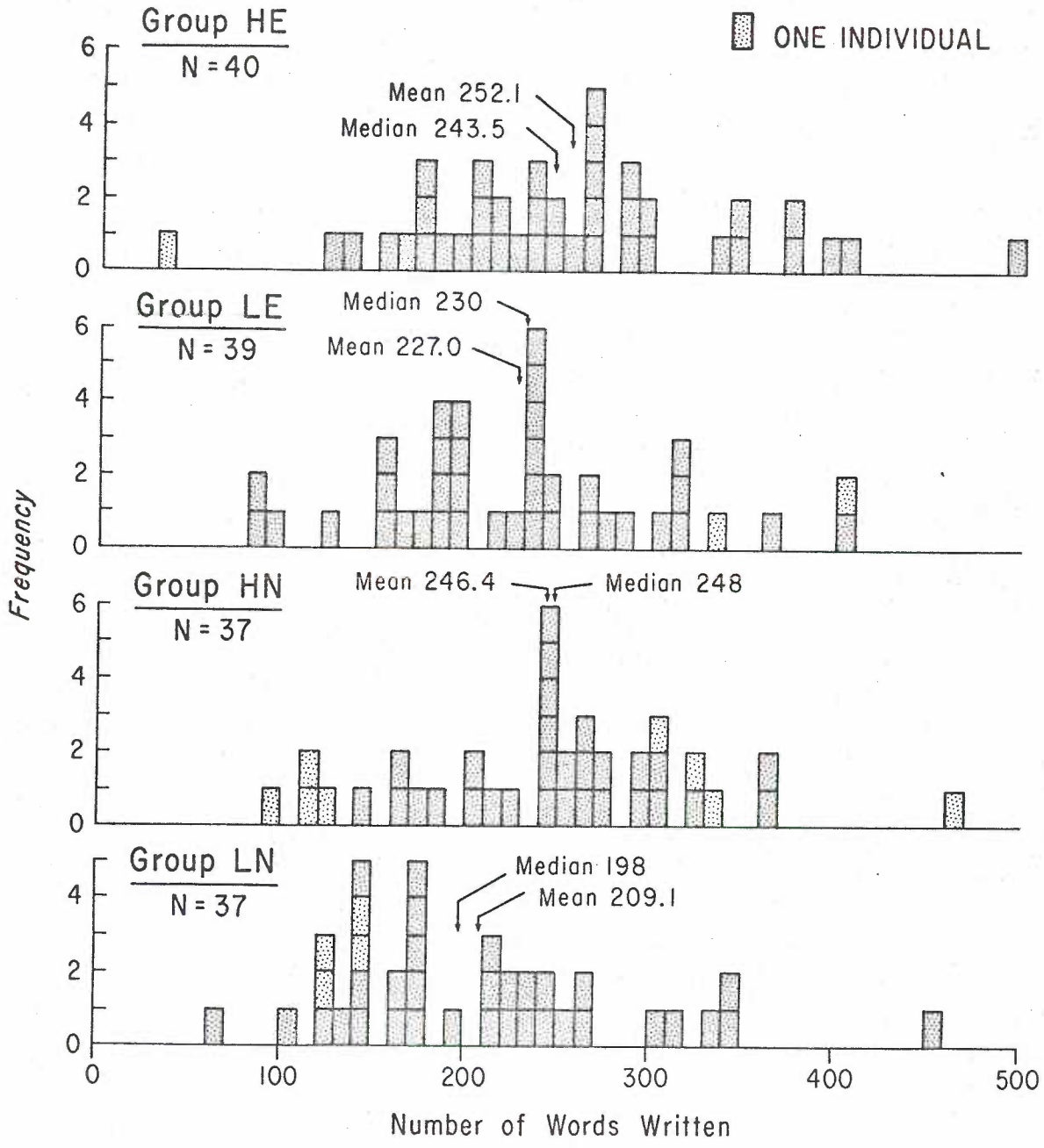

Fig. 4. Frequency distributions of the number of words written by subjects in the four groups in Experiment 2.

section, then, a post hoc analysis shows that the masking effect of the evaluative set is somewhat less subtle than first appears but that its demonstration in this experiment is restricted to the male sex.

Sex Differences

It was pointed out in the preceding chapter that male subjects' verbal productivity seemed to reflect topic saliency more discriminatingly than did female subjects' verbal productivity. This was most clearly seen in the case where female subjects in Group B were asked to write about the low salient topic first. Those female subjects wrote only 10 percent more about their high salient topic than about their low salient topic. In fact these Group B women wrote almost identically as much about their (first) low salient topic as did the Group A women about their (first) high salient topic. Interestingly, this same result was duplicated in this experiment where female subjects in Group HN wrote about a high salient topic (only) and female subjects in Group LN wrote about a low salient topic (only). The respective means were identical, 239.9 words in each case. (See Table 6). Compare, then, these figures to those from Experiment Number One where Group A women wrote 245.4 words about their high salient topic (first) and Group B women wrote 245.1 words about their low salient topic (first). These figures, taken together, provide strikingly consistent evidence that across group comparisons of verbal productivity by women do not discriminate high from low salient topics under non-evaluative conditions.

Men subjects, on the other hand, consistently do demonstrate differences in their verbal productivity in writing about high versus low

TABLE 6

MEAN NUMBER OF WORDS WRITTEN IN THE FOUR GROUPS OF EXPERIMENT NUMBER TWO PRESENTED SEPARATELY FOR MEN AND WOMEN SUBJECTS

M E N

Mean Number of Words

Group HE (N = 21)	Group LE (N = 19)	t	p
243.4	198.1	1.51	.05

Group HN (N = 19)	Group LN (N = 19)	t	p
252.5	180.0	2.87	.01

W O M E N

Mean Number of Words

Group HE (N = 19)	Group LE (N = 20)	t	p
261.7	254.4	.31	

Group HN (N = 18)	Group LN (N = 18)	t	p
239.9	239.9	.00	

salient topics. In this experiment men under non-evaluative conditions and writing about a high salient topic (Group HN) wrote an average of 252.5 words versus 180.0 words ($p < .01$, one-tailed t test) by men also under non-evaluative conditions but writing about a low salient topic (Group LN). These values are consistent with those from Experiment Number One where Group A men wrote (first) about a high salient topic with an average of 271.1 words versus 203.0 words by men in Group B who wrote (first) about a low salient topic.

Similar results were found under the evaluative conditions introduced in Groups HE and LE of this experiment. The mean number of words written by men subjects in Group HE was significantly higher than the number of words written by the men subjects in Group LE (243.38 versus 198.1, $p < .05$, one-tailed t test). The comparable means for women subjects in Groups HE and LE (261.7 versus 254.4) were not significantly different. These values are all given in Table 6.

Turning now from consideration of saliency effects to a consideration of masking effects, inspection of Table 6 will show that any possible masking effect from the evaluative set could have operated only for the men subjects since, in truth, the failure to find differences between womens' verbal productivity in Groups HN and LN left nothing to be masked. There is, in fact, evidence that saliency effects were masked for men subjects under evaluative conditions. While Group HN men wrote 40 percent more words on the average than did Group LN men (252.5 versus 180.0), men in Group HE wrote on the average

only 23 percent more words than men in Group LE (243.4 versus 198.1). This apparent masking effect appears, as it did in the complete groups, to be even larger if medians are compared in order to mitigate the effects of any extreme scores. Thus, the median number of words for men in Group HN was 263 compared to only 174 for the men in Group LN. Under the evaluative set, on the other hand, the median values were less far apart, 232 for men in Group HE and 191 for men in Group LE. Comparing percent differences, the median for Group HN men was 51 percent greater than the median for Group LN men, while the comparable figure for Group HE and LE men was only 21 percent.

Duration of Writing

As each subject turned in his completed letter, the time was written down on the envelope. It was thus possible to estimate the duration of writing by each subject by subtracting the starting time (when the subjects opened their letters) from the time each subject turned in his letter. The group averages for duration of writing suggest that the effects of the evaluative set on verbal productivity in this experiment are largely accounted for by the time spent at the task. Under neutral conditions those subjects writing about a high salient topic spent a mean duration of 21.22 minutes writing versus only 18.34 minutes for subjects also under neutral conditions but writing about a low salient topic ($p < .05$, two-tailed t test). Under evaluative conditions, on the other hand, the difference between mean writing durations for Group HE (20.86 minutes) and Group LE (19.36 minutes) was not significant. These results, which are presented in Table 7, suggest that differences in verbal productivity due to topic

TABLE 7

MEAN DURATION OF WRITING IN MINUTES IN EACH OF FOUR GROUPS FROM EXPERIMENT NUMBER TWO

Mean Duration of Writing			
Group HE (N = 40)	Group LE (N = 39)	t	p
20.86	19.36	.98	

Mean Duration of Writing			
Group HN (N = 37)	Group LN (N = 37)	t	p
21.22	18.34	2.06	.05

saliency are probably accounted for more by differences in the time spent at the writing task than by differences in verbal fluency in writing about the topics; there was no significant difference in mean words written per minute between Group HN (mean of 12.04) and Group LN (mean of 11.71). The masking effect of an evaluative set, therefore, seems to operate not by a homogenization of writing rates across saliency conditions but, rather, by motivating subjects to spend comparable amounts of time writing whether the topic written about is of high salience or low salience.

Histograms showing duration of writing by the subjects in the four groups are given in Figure 5. Inspection of this figure shows that the reflection of topic saliency in duration of writing under neutral conditions is not due to one or two extreme scores. Nor is this the case with the masking effect under evaluative conditions. As in the case of word count, the distribution of scores, if anything, tends to obscure both effects of saliency and the masking effect of the evaluative set. Indeed, a comparison of median values shows that under evaluative conditions the median duration of writing was even slightly longer for subjects in the LE Group than for subjects in the HE Group (18.7 minutes versus 18.2 minutes, respectively). In contrast, the median duration for the LN Group was markedly shorter than that for the HN Group (16.5 minutes versus 20.0 minutes respectively).

Following the lead suggested by the sex differences found in verbal productivity, the duration of writing variable was also analysed for male and female subjects separately. The results of these post hoc analyses were very similar to the results found for the verbal productivity variable; both saliency and

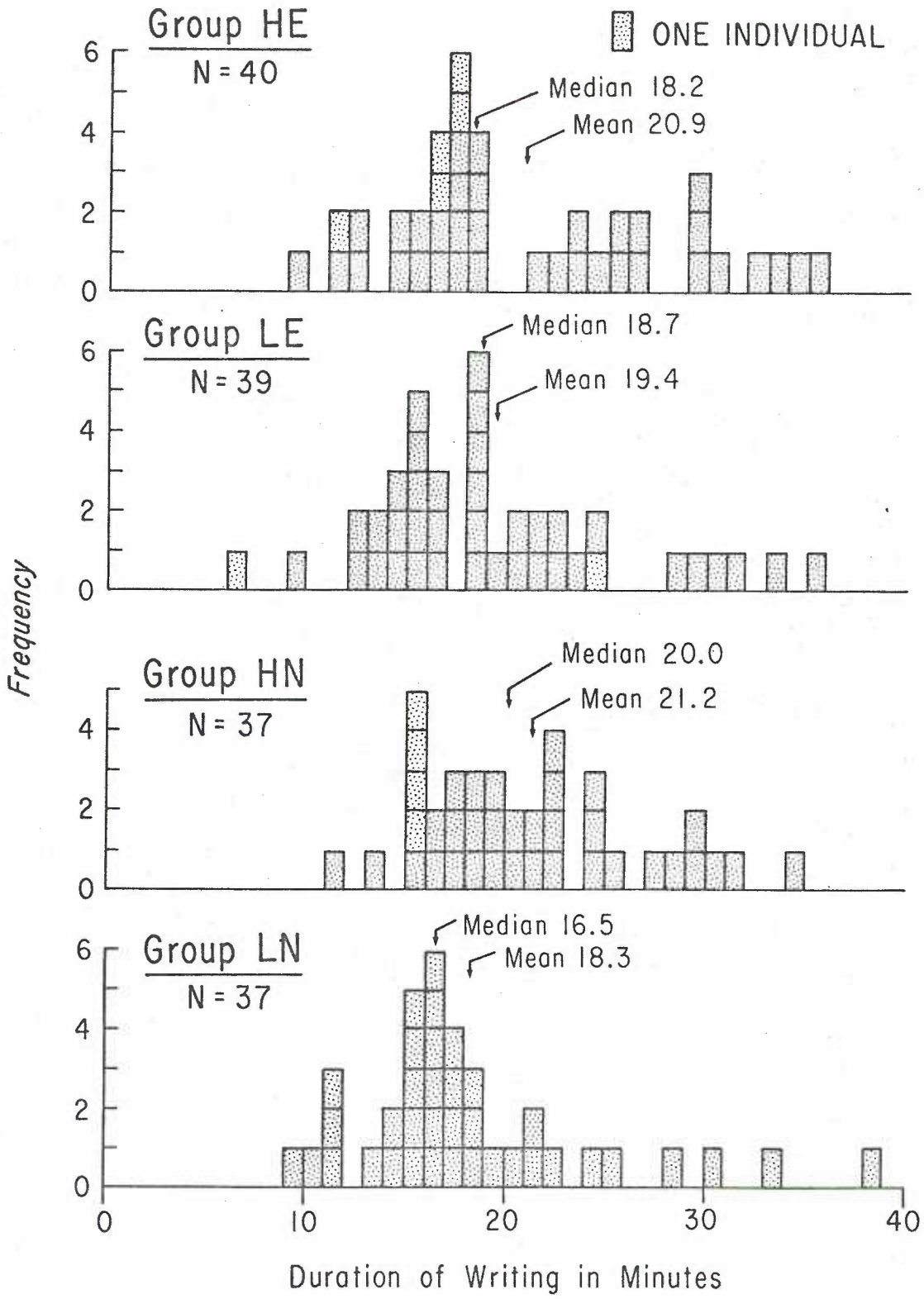

Fig. 5. Frequency distributions of duration of writing time by subjects in the four groups in Experiment 2.

masking effects were strong for male subjects and absent for female subjects. The mean duration of writing time for male subjects in the HN Group was 22.51 minutes versus 17.18 for male subjects in Group LN ($p < .01$, two-tailed t test). There was no significant difference, however, under the evaluative conditions; Group HE males did not take significantly longer on the average to write than did Group LE males (22.18 versus 19.38 minutes, respectively). Mean durations of writing for the groups of women subjects were remarkably homogeneous ranging from 19.34 to 19.86, and there were of course no significant differences.

In summary, then, these results for duration of writing parallel the results for verbal productivity. Demonstration of saliency and masking effects on these variables was restricted to the male subjects in both cases.

Individual and Group Differences

As in Experiment Number One, correlations were computed between verbal productivity and other variables in order to explore what might account for some of the variation among individuals within groups. With this purpose in mind, inter-correlation matrices were prepared for each of the four groups in this experiment. These matrices of Pearson r correlations were constructed using 22 variables, including biographical items, responses to the post-experimental questionnaire, number of words written about the assigned topic, the time spent writing, and fluency (the ratio of word count to duration of writing). These inter-correlation matrices are presented in Appendix J. Generally speaking, the correlations between verbal productivity and the other variables were not high. There was, however, enough consistency found in some

correlations across groups that some confidence can be felt that some of these variables are related to verbal productivity. For instance, subjects' self-reported grade point average (GPA) was correlated with word count in the four groups as follows: HE .08, LE .21, HN .27, and LN .14. The notion that word count is positively correlated with GPA gets some additional support from the correlations computed for Experiment Number One. Writing about low salient topics, Group A and B had correlations between GPA and word count of .01 and .12, respectively. Writing about a high salient topic, the comparable correlations were .35 and -04. Given that seven of the eight correlations from the two experiments were positive, it is reasonable to believe that there is probably a weak (but real) positive correlation between GPA and verbal productivity. Following this same line of reasoning, verbal productivity also seems to be positively related to the following self-ratings: (1) lack of difficulty in writing about the topic, (2) success in expressing true feelings about the topic, (3) feeling of involvement in writing about the topic, (4) harder try to write a good letter, (5) having recently read or talked about the topic, and (6) willingness to attend a special session to find out more about one's performance in the experiment. In Table 8 are listed the correlations of the above variables with verbal productivity. Parenthetically, it can be pointed out that in both Experiment Number One and Experiment Number Two higher word count was positively related to self-reported success in expressing one's true feelings about the high salient topic. The fact that in both experiments the comparable correlations for low salient topics were lower than for the high salient topics is congruent with the notion that greater verbal

TABLE 8

CORRELATIONS FOUND IN THE VARIOUS GROUPS OF EXPERIMENTS NUMBER ONE AND TWO BETWEEN VERBAL PRODUCTIVITY AND OTHER SELECTED VARIABLES

Variable

1. Reported grade point average

Experiment Number One		Experiment Number Two	
Group A, high salient topic	.35	Group HE	.08
Group A, low salient topic	.01	Group LE	.21
Group B, high salient topic	-.04	Group HN	.27
Group B, low salient topic	.12	Group LN	.14

2. How difficult was it to write about the . . . topic?

Experiment Number One		Experiment Number Two	
Group A, high salient topic	-.01	Group HE	-.26
Group A, low salient topic	-.12	Group LE	-.12
Group B, high salient topic	-.29	Group HN	-.27
Group B, low salient topic	-.48	Group LN	-.31

TABLE 8 - Continued

Variable

3. To what extent did you express your true feelings about the . . . topic?

Experiment Number One		Experiment Number Two	
Group A, high salient topic	.26	Group HE	.35
Group A, low salient topic	-.12	Group LE	.00
Group B, high salient topic	.27	Group HN	.16
Group B, low salient topic	.05	Group LN	.10

4. To what extent did you feel yourself become personally involved in the writing as you wrote about the . . . topic?

Experiment Number One		Experiment Number Two	
Group A, high salient topic	-.10	Group HE	.32
Group A, low salient topic	.16	Group LE	.25
Group B, high salient topic	.13	Group HN	.31
Group B, low salient topic	.42	Group LN	.37

5. How hard did you try to write a good letter about the topic?

Experiment Number One		Experiment Number Two	
Group A, high salient topic	-.03	Group HE	.32
Group A, low salient topic	.32	Group LE	.37
Group B, high salient topic	.11	Group HN	.14
Group B, low salient topic	.35	Group LN	.44

TABLE 8 - Continued

Variable

6. Have you read or talked about this topic in the last week?

(Yes = 2, No = 1)

Experiment Number One		Experiment Number Two	
Group A, high salient topic	.07	Group HE	.10
Group A, low salient topic	.05	Group LE	.28
Group B, high salient topic	.12	Group HN	.39
Group B, low salient topic	.13	Group LN	.20

7. If a special session were scheduled next quarter (not during a class hour), would you want to come to find out about your individual performance in this experiment?

Experiment Number Two	
Group HE	.27
Group LE	.33
Group HN	.25
Group LN	.00

8. Duration of writing

Experiment Number Two	
Group HE	.52
Group LE	.63
Group HN	.59
Group LN	.22

productivity is one way used to express that a topic is highly salient. Apparently the lower correlations found for those writing about low salient topics means that those writing a great deal about a low salient topic did not think they had expressed their true feelings especially well.

Values are also given in Table 8 for the correlations found in Experiment Number One between verbal productivity and the above selected variables. Also shown in Table 8 are the correlations from Experiment Number One between verbal productivity and duration of writing. The fact that these latter correlations are high but not perfect suggests that the duration of writing variable can, and probably does, contain information about the subject's motivational state which does not overlap information from the verbal productivity variable.

Focusing now upon group differences on the post-experimental questionnaire, it can be asked how the subjects' self-reported subjective reactions to the topic and task were different under the various conditions. In analysing these responses, then, a two-way analysis of variance procedure was used so as to test for differences due to both topic saliency and to the evaluative set. The results of these analyses are given in Table 9 along with the means of the ratings for each group.

It can be seen from inspection of this table that these post-experimental responses were relatively more sensitive to differences in topic saliency than to differences in evaluative conditions. These results cross-validate results from Experiment Number One in that, compared to subjects in the low salient groups (LE and LN), subjects in the high salient groups (HE and HN) reported that they:

TABLE 9

MEAN RATINGS ON THE POST-EXPERIMENTAL QUESTIONNAIRE BY SUBJECTS IN EACH OF THE FOUR GROUPS FROM EXPERIMENT NUMBER TWO

					Significance Levels from ANOV Tests for the Effects of:		
	HE	LE	HN	LN	Topic Saliency	Evaluative Set	Saliency x Set
Degree of difficulty in writing about the topic	2.25	3.35	2.32	4.32	.001	.05	
Uncomfortableness in discussing topic with stranger	2.42	3.46	2.68	3.72	.01		
Extent of having expressed true feelings	5.62	5.46	5.97	4.72	(.01)		.05
Extent of personal involvement felt in writing	5.44	4.72	5.22	3.62	.001	.05	
Amount of effort to write a good letter	4.35	4.60	3.89	4.19			

1) had less difficulty in writing about their topics

2) would be less uncomfortable in discussing their topics with a stranger, and

3) became more personally involved in writing about their topics.

In contrast to the results in Experiment Number One, however, no significant effects were found for the self-rating of how hard the subject tried to write a good letter.

For two variables there were significant effects of the evaluative set. Under evaluative conditions subjects reported (1) less difficulty and (2) more involvement in writing about their topics.

A significant interaction was found for the rating of the extent to which the subject expressed his true feelings about the topic. Consistent with the results of Experiment Number One, subjects in the high salient groups reported having more accurately expressed their true feelings about the topic. The significant interaction effect apparently resulted from the especially low ratings on this item given by Group LN subjects who wrote about a low salient topic under neutral conditions.

Taking these results as a whole, it appears that the subjects' subjective experiences with the writing task were in some manner more "positive" when the topic was more salient and/or they were given an evaluative set. Looking at Group LN, in which neither of those conditions was present, it can be seen that subjects in this group reported (1) the greatest difficulty in writing, (2) the least expression of true feelings, and (3) the least

involvement felt in writing. These results suggest the interpretation that these subjects had, as a group, the least emotional and cognitive engagement with the writing task. Consistent with this interpretation were the results from the item asking subjects if they would be willing to come to a special session to find out about their performance. Seventy-three percent of the subjects in Group LN answered positively to this question while 90 percent answered positively in Group HE, 81 percent in Group HN, and 76 percent in Group LE. The above results will be discussed further in a later section.

The one remaining item on the post-experimental questionnaire was the one asking the subject what he believed the purpose of the experiment to be and what his evidence was for believing so. This item was scored as to whether or not subjects verbalized an evaluation set. In doing so, any response was scored positively if it included some variation upon the themes of assessing "creativity," "how well one can write," or "intelligence." Thirty percent of the subjects in Group HE and 49 percent of the subjects in Group LE indicated an evaluative set. These figures compare with the "spontaneous" evaluative sets verbalized by 14 percent of the subjects in Group HN and 19 percent in Group LN.

The most common alternative to the evaluative set in all groups was that the experiment involved measuring one's interests or attitudes. Indeed, this alternative set by the subjects seems to follow from the objective evidence available to the subjects as well or better than the evaluative set does. The fact that the groups writing about low salient topics verbalized an evaluative set at a higher percentage than their matching high salient group may mean

that the alternative interest-attitude set was less compelling when the task was of less interest and attitudes about the topic less salient. Because the evaluative set was verbalized by at best 49 percent of the subjects (Group LE), it seems probable that the effects of an evaluative set could be made more potent by bringing the set more strongly into the subjects' cognitive field, perhaps through more attention-demanding instructions.

SUMMARY

It had been hypothesized for this study that under evaluative conditions differences in verbal productivity due to topic saliency would tend to be masked. The major results of the study support that hypothesis. Subjects in Group HN of this study, who were individually assigned a topic of high personal salience, wrote significantly more than subjects in Group LN, who were also under neutral conditions but who wrote about a topic of low salience. This result confirmed the results of Experiment Number One, that topic saliency can be reflected in verbal productivity. Furthermore, it served as the control against which to compare topic saliency effects under evaluative conditions. As hypothesized, differences in verbal productivity due to topic saliency were smaller and non-significant when groups were given an evaluative set--that their writing would be used to evaluate their "creative writing ability as an index to ...intellectual capacity." Under these conditions subjects in Group HE, who wrote about high salient topics, did not write significantly more than subjects in Group LE, who wrote about low salient topics. Though these results supported the hypothesis, the actual effects were rather subtle: the mean word count for Group HN was 18 percent higher than that for Group LN, while the mean word count for Group HE was 11 percent higher than that for Group LE. A post hoc analysis for sex differences showed that the verbal productivity of women subjects did not reflect differences due to topic saliency. Thus, it appeared that differences due to topic saliency were wholely accounted for by the differences between groups in men's verbal

productivity. A reanalysis of data from Experiment Number One supported the notion that topic saliency is more strongly reflected in men's verbal productivity than in women's.

In three of the four groups in this study women wrote more than men, and in Groups LE and LN these differences were significant. Men exceeded women in their productivity only in Group HN in this experiment. In the following chapter these data are brought together with data from Experiment Number One and Experiment Number Three for a detailed look at the possibility of sex differences in verbal productivity.

Duration of writing for each individual in this study was estimated by subtracting the starting time from the time when each individual turned in his written production. Analysis of this variable showed that it apparently was responsible for variations in verbal productivity; longer productions were associated with longer durations of writing rather than with higher verbal fluency.

EXPERIMENT NUMBER THREE:

VERBAL PRODUCTIVITY UNDER COMPATIBLE VERSUS INCOMPATIBLE CRITERIA OF MESSAGE EVALUATION

PURPOSE

In the first experiment it was shown that when the task (assigned topic) matched the subject's endogenous interests, verbal productivity was higher. Under typical conditions of human endeavor, however, there is an additional component to the task situation -- the goal of the task. There is little doubt that some activites are inherently rewarding and the goal may lie in performing the activity itself. Most activities, however, are performed partly or wholely to achieve some goal -- for example, maintenance or enhancement of the self image or public image. In Experiment Number Two subjects were told their productions would be used to evaluate their creative writing ability as an index of their intellectual capacity. It was there implicitly assumed that 1) the evaluation, what was to be judged, would be more potent if it was chosen to match goals important to the subjects and 2) the qualities of creativity, ability, and intelligence are generally important to college students.

In this third experiment it was decided that the focus should be upon the evaluative conditions of writing rather than upon topic saliency. It was thus decided that subjects would all be assigned topics of comparable saliency, but that the conditions of evaluation would vary. In the earlier reported first experiment it was found that matching the topic assignment to either previous high or low ratings of topic salience led to differences in verbal productivity. In this third experiment an analogous type of matching was used; evaluative instructions were assigned in a way such that each subject got either a good

(compatible) or a poor (incompatible) match of evaluative criteria to what he previously had rated as important goals in writing. The method used to match instructions to writing goals is explained in a later section.

Because it was planned that topic saliency should not vary, it was necessary to pick the level of saliency which all the assigned topics would have. For the following reasons it was decided that all subjects would be asked to write about a topic of high salience:

1) In the pilot study for Experiment Number Two a strikingly high verbal productivity was found for subjects getting a high salient topic and evaluative instructions. Evaluation and high saliency thus seemed a combination deserving more attention.

2) In the absence of compelling reasons to the contrary, it was decided that subjects should be given a task which they would find more interesting and perhaps more enjoyable. In this light, the task of writing about a high salient topic is preferable to the task of writing about a low salient topic.

Following the notion that subjects will be more effectively motivated if they have the set that they will be evaluated by criteria compatible with their goals, a method is described in a subsequent section to test the hypothesis

that subjects getting compatible criteria of evaluation will write more about their assigned topic than subjects getting incompatible criteria or subjects who are given instructions which are neutral with respect to evaluation. The rationale for this hypothesis is further developed below.

Rationale

The results of the first two experiments were generally consistent with the miniature theoretical framework described in the first chapter. That is, verbal productivity was shown to express or reflect topic saliency. Furthermore, verbal productivity was shown, though modestly, to possess the hypothesized fragile nature of expressive behavior--that it tends to be masked under evaluative conditions. These major results were accompanied by some interesting additional results which suggest many lines of research both within and beyond the present theoretical framework. For example, the apparent interaction of saliency and order on verbal productivity provides possible links with research on 1) adaptation level effects on motivation, 2) patterns of change in interpersonal communication, and perhaps even 3) task characteristic factors in work fatigue. Similarly, the apparent differences found in the way males and females responded suggest links with other research dealing generally with how and why behavior change is motivated for individuals or groups in different ways. This latter research area has attracted much interest in recent years. Goldstein, Heller, and Sechrest (1966), for example, argued that psychotherapy, to be generally effective, should not be oriented toward how carefully selected patients could be treated

within the framework of a particular theory of psychotherapy. Rather, they strongly advocated that the orientation be toward finding how a variety of procedures from personality, social, and learning research could be used to change the behavior of a variety of patients.

Industrial psychologists have also become increasingly interested in the ways that individual differences in motivational patterns interact with external conditions to affect behavior. Friedman (1961) pointed out that rationalization of manual work into ever more discrete operations, a 50 year trend, had reached a point of diminishing returns because repetitive work provides no work satisfaction, consequently adversely affecting productivity. Though there is some evidence to support this argument (e.g., Ford, 1969), others have pointed out that reducing rationalization through job enlargement programs may not cause greater satisfaction for all workers. Wild (1970) found that for women manual workers who quit their highly rationalized jobs, the actual work done was an overriding determinant of job dissatisfaction. Wild, however, warns that indiscriminate job enlargement is unlikely to result in a significant modification of workers' behavior generally because the majority of workers display lesser needs for self-actualization. The importance of paying attention to differences in individual motivations is seen, therefore, in industry as well as in psychotherapy; it may do little good to enlarge the job of a worker whose primary satisfactions have little to do with the technical aspects of his work.

In a similar way researchers in education and educational

psychology have begun in recent years to show increasing interest in finding ways to make allowances for and to take advantage of existing differences across individuals and groups in what is motivating for them. Sexton (1970), for example, has presented evidence which suggests that a reason for the preponderance of males failing in school is the difficulty they have in adapting to the feminine values and behavior patterns stressed in schools. Sexton went on to recommend that schools should be reoriented to become more accepting of and to capitalize upon masculine behavior patterns, interests and values. On the subject of grades Sexton wrote (p. 29): "Self-image greatly affects academic performance. Students' views of their own mental capacities can be either crippling or encouraging to them. The major lesson many learn in school is that they are smart or dumb (or gradings in between), depending on marks given them by teachers."

Rogers (1969), like Sexton, argues that the threat of external evaluation (grades) may be detrimental to learning. He sees the teacher's role as a "facilitator" of learning, with the student responsible for its course (p. 162):

> Learning is facilitated when the student participates responsibly in the learning process. When he chooses his own directions, helps to discover his own learning resources, formulates his own problems, decides his own course of action, lives with the consequences of each of these choices, then significant learning is maximized. There is evidence from industry as well as from the field of education that such

participative learning is far more effective than passive learning.

Student productivity is said by Rogers to be greater under conditions of freedom from external evaluation. Apparently Rogers typically comes to an agreement with his own students by which their grades are largely determined through self-evaluation. He reports (p. 232):

> When we have worked out some solution, in which we have all participated, to the absurd demand of the University that learning is measured by grades, then they begin to feel that they are really free. Then curiosity is unleashed. Individuals and groups start to pursue their own goals, their own purposes. They become explorers. They can try to find the meaning of their lives in the work they're doing. They work twice as hard in such a course where nothing is required as in courses with requirements.

Rogers backs up his contentions by referring to studies showing how students were more productive under conditions in which they developed their own academic goals. Most impressive, perhaps, was the data Rogers presented (p. 46) from a study by Faw (1954) in which an "own goals" group was compared with a more traditional group. The former group impressively surpassed the other both in number and range of activities.

Interestingly, the examples cited by Rogers do not involve learning in the absence of evaluation. Rather, the evaluation is different; it is evalu-

ation based largely on mutual agreement by the one evaluating and the one being evaluated. Thus, the evaluation is based on goals and criteria determined and agreed upon by both parties to the evaluation. It seems very possible that the social contract thus formed may be as important, motivationally speaking, as is the academic freedom that is stressed by Rogers. Another difference between this "contractual" system and the more typical evaluative conditions would be that the educational goals and performance criteria agreed upon would be more often compatible, presumably, with the student's particular, individual interests and goals.

In Experiment Number Two the subjects were given the set that they were to be evaluated for their creative writing ability as an index to their intellectual capacity. It seems reasonable to assume the implied goals or criteria of their writing (creativity and intellectualness) would be generally compatible with their endogenous goals and values as college students. Had the criteria been different, perhaps less compatible and less motivating, different results might have been found. In the pilot study for Experiment Number Two especially high verbal productivity was found for those subjects writing about a high salient topic under evaluative conditions. It was thought possible that the combination of presumably compatible evaluation and high saliency conditions could have been especially motivating. It was, therefore, decided to focus upon evaluative conditions for this third experiment. Thus, Experiment Number Three was an exploratory one to see if the high productivity found in the pilot study would perhaps be replicated under known conditions

of compatibility versus incompatibility of external evaluation. This experiment, then, represents a different approach than that in the first two experiments. In those first experiments it was found and then cross-validated that verbal productivity significantly reflected topic saliency under non-evaluative conditions. In this third experiment it was decided to keep topic saliency constant while the evaluative set was manipulated so that it should be either of high or low compatibility with the subject's endogenous goals in writing. This third experiment, thus, turns away from the consideration of verbal productivity as an expression of topic saliency and focuses upon one particular dimension of evaluation (i.e., its compatibility) so as to better understand how and why external evaluation may affect verbal productivity.

INDEPENDENT VARIABLE

Of principal interest in this study was the effects of variation from individual to individual in the compatibility of external evaluation. It was planned that evaluation instructions would be assigned to subjects so that the evaluative criteria would 1) match or 2) not match what subjects previously had shown were important goals in their writing. Of first importance, then, was to develop a method to assess what goals subjects felt were important in their writing.

Goals in Writing

A first step in developing a method to assess writing goals was to find what qualities or characteristics college students would spontaneously specify as desirable in their own writing. This was done through the cooperation of a literature class at Portland State University. In this class a form was distributed bearing the following instructions:

> Imagine this scene. You have just finished a letter to to a good friend. The letter was about a topic that you think is important. Before putting the letter into an envelope you decide to read the letter a final time.
>
> There are many ways that letters can be described or evaluated. Think now about the characteristics or qualities you would most like to see in your letter. Please write down those characteristics or qualities you would most like to see in your letter.

A large variety of responses were collected using the above form. Among the 23 students filling out the form, there was one student who listed ten characteristics and one student who listed only one characteristic. The characteristics were roughly grouped into five categories. Those categories are listed below along with the two most prominent characteristics or qualities which were thought to fall into each category. A more detailed list of characteristics specified by the students is given in Appendix K.

1) Elements of Writing
   - good spelling
   - good punctuation

2) Style of Presentation
   - clarity
   - concise

3) Characteristics of Topic Development
   - informative
   - communicates a definite point of view

4) Impact of Writing on Reader
   - elicits reader involvement
   - interesting

5) Communication of Writer Characteristics
   - warmth
   - self-expressive

A Device to Assess Goals in Writing

On the basis of the above categories and characteristics a 9-item scale was developed. The items follow closely the categorized results of the pilot study with the minor exception that the first item is a combination of the characteristics in the first category. In using this scale subjects are asked in the instructions to imagine having written a letter to a good friend about a topic of importance. They are then asked to think about the qualities or characteristics they would most like to see in their imaginary letters and then to rank the following characteristics from "1" (most desirable) to "9" (least desirable). The items are listed below and an example of the form is given in Appendix L.

_____ good form (grammar, spelling, punctuation)

_____ clarity (lucidity)

_____ concise (succinct, to the point, not too wordy, direct)

_____ informative (background, developed, concrete details used, facts and issues stated)

_____ communicates a point of view (says something, reflective, persuasive techniques and arguments used, conclusions and suggestions stated)

_____ elicits reader's involvement (mutual concerns of writer and reader developed, questions used, message tailored to the specific reader)

_____ interesting (entertaining)

_____ warmth (friendliness, positiveness, care for and interest in the reader)

_____ self-expressive (says what the writer wants to say, expresses the writer's frame of mind, conveys recent moods, feelings, and emotions)

This particular scale was tested for reliability with the cooperation of a class of nursing students at the University of Oregon Medical School. This scale was administered to 29 students on two occasions six weeks apart. There was typically a high degree of agreement from the first to the second administration of the scale. Rank correlations were computed for each of the 29 students. The highest degree of agreement was found for one student whose rankings were correlated at $r_s = .98$, p .001. The lowest agreement was found for a student whose rankings were correlated at $r_s = -.25$, p not significant. All other correlations were positive, and of the total 29 subjects, 25 had correlations equal to or greater than .57, p of .03. Twenty of the 29 subjects had correlations equal to or greater than .73, p .01, one-tailed test. The results of this reliability check are given in greater detail in Appendix M.

METHOD

Subjects

Subjects for this study were recruited from eight introductory speech classes at Portland State University. At the initial contact the students were told that their participation was being requested in a study of writing behavior. As in the first two experiments, they were asked to fill out the Topic Importance Scale (TIS) and biographical inventory. In light of the focus upon evaluation in this study, it was decided to ask subjects to include their names on the forms. It was believed that an evaluation set may be more potent when the subject has been identified by name. In order to avoid any possible unnecessary invasion of privacy, given that subjects were not anonymous, the following item-topics were dropped from the TIS: "use of drugs," "premarital sex," and "feelings about myself." Parenthetically, for the same reason these topics were not used as topics for writing about in the first two experiments. Another topic which was not used in the first two experiments was "alienation" because subjects in prior studies had indicated that this was not sufficiently clear and unambiguous designation for an item-topic. Consequently, this item was dropped from the alternate form used in this study, and a new item-topic ("population explosion") was substituted. Onto the back of the TIS was attached a copy of the above described form used to elicit rankings of writers' goals in writing (example given in Appendix L). As in Experiment Number Two, the subjects signed a consent form for their participation in the experiment.

About one month after the first session a second session was scheduled during a class period and all subjects were asked to write on a high salient topic. Selection of the topic was done as in the previous experiments. (See page 34 for details.)

Subjects in this study were randomly assigned to one of three groups. One third of the subjects (Group EC) received an evaluative set, but it was not the standard evaluative set employed in Experiment Number Two. Rather, the evaluative set was designed to be compatible with high ranking writing goals as indicated by the subject at the first session, one month previously. Thus, a subject in this group was given an evaluative set that was known to be compatible with his own goals in writing. For example, a subject who had given "warmth" a high mark on the writing goals scale might get the following instructions along with the usual ones about writing a letter to a good friend:

> Thank you for volunteering for this research study. Your letter when analysed will be used to help develop a way to measure ability to communicate warmth in writing. Thus, your letter will be evaluated for the qualities of friendliness, positiveness, and care for and interest in the reader. Please keep this criterion in mind while writing. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

Similar evaluative instructions were prepared for the goals of "good

form," "clarity," "informative," etc. An exception was use of the goal "concise" because of the probable direct, depressive effect of this goal on subjects' verbal productivity. Copies of all the evaluative set instruction forms are given in Appendix N.

One-third of the subjects (Group EI) were randomly assigned to another group also getting evaluative instructions. Subjects in this group were matched one-to-one with subjects in Group EC so that for each kind of evaluative instruction assigned to a subject in Group EC, one of the same kind was also assigned to a subject in Group EI. The assignment of the evaluative instructions was carried out, however, so that a subject in Group EI got instructions which, while highly compatible to the writing goals of a subject in Group EC, were incompatible with his own writing goals. Once subjects were assigned to groups, it was only necessary to assign instructions so that each subject in Group EC received compatible instructions and some subject in Group EI got the same instructions but which were, however, incompatible to him. Thus, though groups were matched with respect to the kind and number of evaluation instructions assigned, there was a substantial difference in the compatibility of instructions between Groups EC and EI. Instructions assigned to Group EC were based on goals having a mean rank of 1.53 for the 28 subjects in that group. The comparable mean for the 29 subjects in Group EI, on the other hand, was 7.83, difference significant at p .001.

The remaining one-third of the subjects (Group N) got neutral instructions exactly like the ones in Experiment Number Two. (See copy in

Appendix F). As in Experiment Number Two, the evaluative instructions and the neutral instructions were of very similar appearance. There was no evidence that any subject in this study realized that there were alternate forms of the instructions.

Within each classroom subjects were assigned to groups on a random basis. Because the second experimental session was run in different classrooms at different times, it was possible to monitor over the course of the experiment the number of subjects used in each experimental group. As in Experiment Number Two, it was possible, therefore, to assign the subjects in a class so as to help balance the numbers in the groups. The following summary shows that the groups were well balanced.

Experimental Group	Men	Women	Total
EC (Evaluative, Compatible instructions)	13	15	28
EI (Evaluative, Incompatible ")	14	15	29
N (Neutral instructions)	14	13	27

The nature of the data collected in this experiment was almost identical with that collected for Experiment Number Two. Exceptions, as noted above, were that 1) subjects used their names on the forms, 2) there were some changes in the TIS form, and 3) the newly developed scale for assessing writing goals was used. Procedures for collecting the data were exactly the same as those used in Experiment Number Two: subjects were given a maximum of 30 minutes to write on their assigned topic after which they completed

the standard post-experimental questionnaire. The writing task was, thus, carried out exactly as in Experiment Number Two and the post-experimental questionnaire was the same. (See the sections titled Writing Task and Measures in the preceding chapter for additional details.)

RESULTS

Verbal Productivity

In order to test for differences among the groups a single-factor analysis of variance for unequal cell frequencies was performed (Winer, 1962, pp. 96-104). The resultant F value of 1.06 was not significant, which showed that the groups did not differ in verbal productivity. The actual distribution of word counts is shown for each group in Figure 6. In the group receiving instructions stressing compatible criteria of evaluation (Group EC), the mean number of words written was 302.8. Though in the expected direction, this value was not significantly greater than the mean of 272. 2 words written by subjects getting an incompatible evaluative set (Group EI). Somewhat surprisingly, subjects getting neutral instructions (Group N) wrote more, on the average, than subjects in the other groups; the respective means for Groups EI, EC, and N were 272.2, 302.8, and 319.3. An independent check of the analysis of variance results was made by the selective testing for a significant difference between Groups N and EC, the two groups most widely separated in mean word count. The calculated Chi-square value of 1.14 from a median test (Siegel, 1956, pp. 111-116) was non-significant, thus confirming the results of the analysis of variance test.

In Experiment Number Two, it was pointed out that under the high salience condition only 30 percent of the subjects who were given the evaluation instructions (Group HE) verbalized an evaluative set on the post-experimental

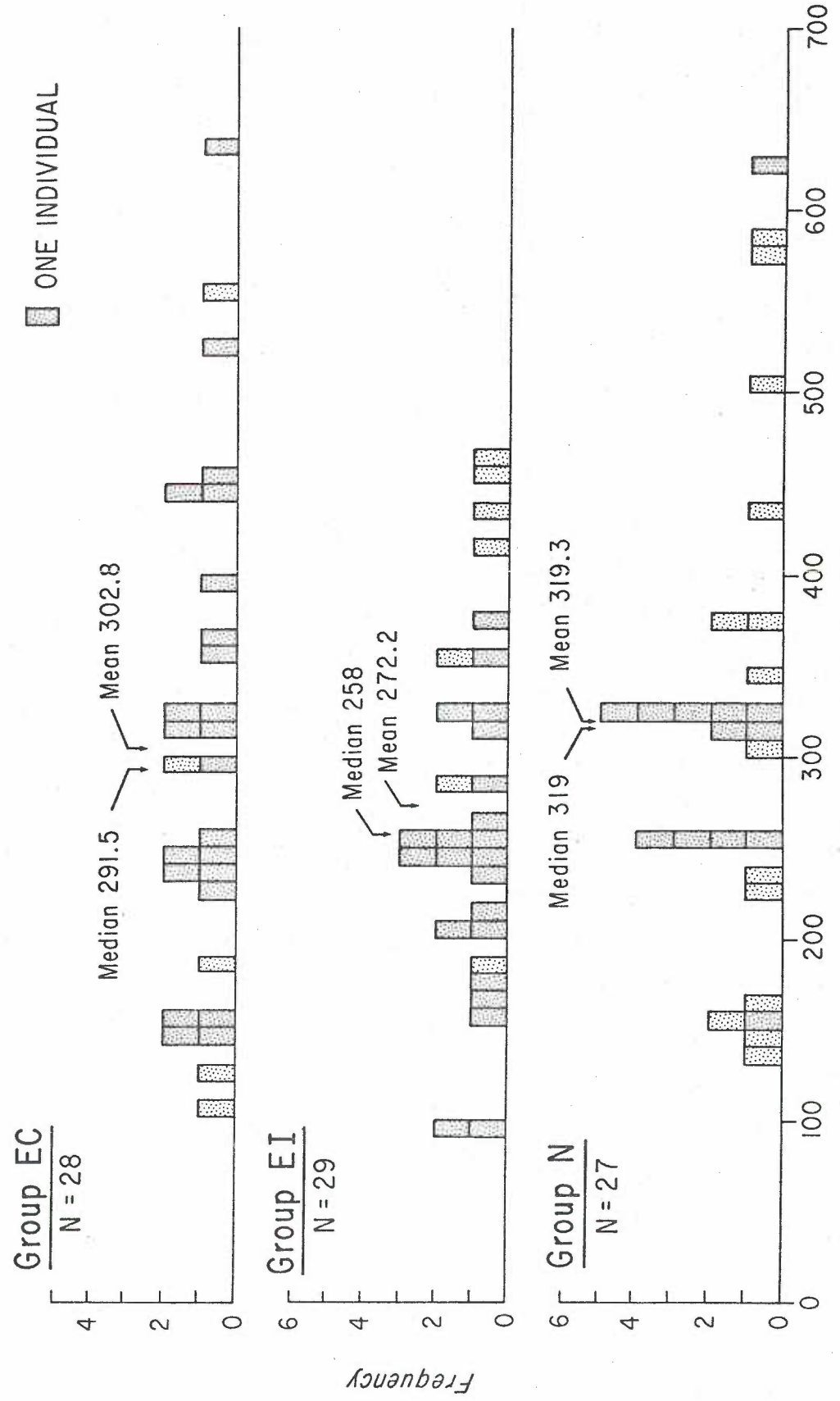

Fig. 6. Frequency distributions of the number of words written by subjects in the three groups of Experiment 3.

questionnaire. The comparable figures in this experiment were somewhat higher: 57 percent of the subjects in Group EC and 66 percent in Group EI. As In Experiment Number Two, an evaluative set was judged as present when a subject said that he believed that the purpose of the experiment was to judge his writing in some way. The experimenter, therefore, scored subjects' responses positively if they included some variation on the themes of judging or measuring "writing ability," "interesting writing," "warmth," "intelligence," "clarity," etc. This scoring was done blind, i.e., without knowledge of what group a subject was in or what kind of instructions he had received. Fifteen percent of the subjects in Group N (4 of the 29) verbalized some kind of evaluative set. This rate very closely agrees with the 14 percent rate for "spontaneous" evaluative sets found for those subjects writing about a high salient topic under neutral conditions in Experiment Number Two (Group HN).

In a strictly post hoc analysis verbal productivity was analyzed separately for subgroups of subjects in the evaluative groups (EC and EI) who 1) did or 2) did not verbalize an evaluative set, and the means for these analyses are shown in Table 10. The difference in verbal productivity between those in Group EC who verbalized an evaluative set and those who did not is very striking; the 16 subjects in the former subgroup wrote, on the average, 351.4 words versus 237.8 for the 12 subjects in the latter subgroup ($p < .05$, two-tailed t test). One must interpret this type of selective, post hoc analysis with great caution; the results may be chance ones or they may be due to selective factors unrelated to the independent variable. In the case here one of the

TABLE 10

MEAN NUMBER OF WORDS WRITTEN BY SUBJECTS IN GROUPS EC AND EI PRESENTED SEPARATELY FOR THOSE WHO DID AND THOSE WHO DID NOT VERBALIZE AN EVALUATIVE SET

Group EC

Mean Number of Words

Verbalized Set (N = 16)	Did Not Verbalize Set (N = 12)	p
351.4	237.8	.05

Group EI

Mean Number of Words

Verbalized Set (N = 19)	Did Not Verbalize Set (N = 10)	p
280.6	267.7	

most obvious alternative interpretations for the above significant difference is that those who are by nature most verbal would also be those most likely to verbalize the evaluative set. This alternative interpretation, however, is not supported by the results for Group EI; there, the subgroup of subjects who verbalized an evaluative set wrote slightly less even than those who did not (means of 267.7 and 280.6, respectively, p not significant).

It is tempting to conclude from the above analysis that a more compatible evaluation does, after all, motivate greater verbal productivity. The post hoc nature of the analysis and the relatively small numbers involved, however, preclude any such conclusion. These results do, on the other hand, suggest that when a compatible evaluative set is prominent in the cognitive field, it may in fact motivate greater productivity. Further research, perhaps using more strongly presented sets, may answer this question.

Duration of Writing

In Experiment Number Two it was found that under non-evaluative conditions topic saliency had as strong an effect on duration of writing as it did upon verbal productivity. A similar, but negative, statement here is that the duration of writing variable was no more affected by compatibility of evaluative set than was verbal productivity. The mean duration of time spent writing for the Groups EC, EI, and N were, respectively 22.0, 20.3, and 23.1. The analysis of variance showed that there were no significant differences between groups.

Turning again to the comparison of those subgroups which did versus those which did not verbalize an evaluative set, a post hoc analysis was

performed of the duration of writing variable. The subgroup in Group EC which verbalized the evaluative set had a mean duration of writing of 22.7 minutes versus 21.2 minutes for the subgroup of those who did not verbalize an evaluation set (p not significant). Neither was there a significant difference between the subgroups of Group EI; those verbalizing an evaluative set had a mean duration of writing of 19.3 minutes versus 22.2 minutes by those not verbalizing an evaluative set (p not significant). These results are not consistent with the finding in Experiment Number Two that the greater productivity in some groups could be largely accounted for by their longer mean duration of writing. In this experiment, however, the significant difference between the subgroups of Group EC in their verbal productivity seems to be accounted for by different verbal fluency. Those verbalizing the evaluative set wrote an average of 15.8 words per minute versus only 11.1 words per minute by those who did not verbalize an evaluative set ($p < .01$, two-tailed t test). Those in the subgroup of Group EI which verbalized an evaluation set wrote, on the average, 14.1 words per minute versus 12.8 words per minute by those not verbalizing an evaluative set (p not significant).

Here again, it is unwise to base conclusions upon post hoc analyses like the above. The above results do, however, suggest that verbal fluency and duration of writing may, under different conditions, contribute to verbal productivity in different ways. This suggestion will be considered further in the next chapter.

Post-Experimental Questionnaire

Though the groups in this experiment did not differ in their verbal productivity, the question was asked how they might have differed in their subjective reactions to the topic and to the writing task. When, however, an analysis of variance was used to test for differences between groups on the post-experimental questionnaire items, no differences were found to be significant. The mean ratings did, however, show a certain consistency in that the subjects getting an incompatible evaluative set (Group EI) were always at a polar position. That is, their mean scores on the post-experimental questionnaire items always were the "most" or the "least" of the three groups. Specifically, these subjects reported:

1) the greatest difficulty in writing about the topic

2) the least uncomfortableness in discussing the topic with a stranger,

3) the least having expressed their true feelings about the topic,

4) the least having become involved in writing about the topic, and

5) the greatest effort in their attempt to write a good letter.

The mean ratings for each group on these items are shown in Table 11.

In considering the "polar" position of subjects in Group EI, one is reminded of those in Group LN in Experiment Number Two who also reported 1) the greatest difficulty in writing, 2) the least expression of true feelings, and 3) the least personal involvement in writing. Thus, subjects in Group EI,

TABLE 11

MEAN RATINGS ON THE POST-EXPERIMENTAL QUESTIONNAIRE BY SUBJECTS IN EACH OF THE THREE GROUPS FROM EXPERIMENT NUMBER THREE

I T E M	Group Means			
	Group EC	Group EI	Group N	p
Degree of difficulty in writing about the topic	2.18	2.41	2.07	
Uncomfortableness in discussing topic with stranger	2.64	2.21	2.55	
Extent of having expressed true feelings	6.07	5.59	5.96	
Extent of personal involvement felt in writing	5.54	5.31	5.96	
Amount of effort to write a good letter	4.78	4.83	4.41	

who had the lowest verbal productivity in writing in Experiment Number Three, seem to have had certain subjective perceptions in common with subjects in Group LN, who had the lowest verbal productivity in writing in Experiment Number Two. Furthermore, these two groups both reported the least willingness to come to a special session to find out about their individual performances. In this experiment 76 percent of the subjects in Group EI responded positively versus 96 percent in Group EC and 100 percent in Group N. The point at which this comparison seems to break down is the report of how uncomfortable the subject would feel in discussing the topic with a stranger. Subjects in Group EI, who wrote about a high salient topic, reported the least expected uncomfortableness while subjects in Group LN, who wrote about a low salient topic reported the most expected uncomfortableness.

The notion was advanced in the previous chapter that the subjective reports of Group LN subjects, as well as their low verbal productivity, suggested a lack of emotional and cognitive engagement with the writing task. A similar lack of engagement, though not so potent in effect, may have also characterized the subjects in Group EI of this experiment. It is thus suggested that the non-significantly lower verbal productivity in Group EI is not, in fact, due to chance. Rather, it is argued that the non-significant differences in verbal productivity and the non-significant differences in subjective experience, taken together, point to weak effect of a non-compatible evaluative set.

In retrospect, to have had the subjects in this experiment all write about a high salient topic probably tended to obscure the experimental

effects which were to be tested. In Experiment Number Two it was seen that the effects of an evaluative set were more subtle than the effects of topic saliency. That is, topic saliency appeared to be more potent both in its effects on writing behavior and the reports of subjects' subjective experiences. The relatively weak effects of an evaluative set are probably due in part to the difficulty in maintaining the cognitive prominence of the set throughout the experimental session. Given this difficulty, it is speculated that the compatibility dimension of the evaluative sets in this study would have had a stronger effect if the subjects had "paid attention" more to the instructed sets and less to the assigned topic. Had the subjects in this experiment, then, been assigned topics of low or moderate salience, the effects of evaluation may have been relatively stronger and more readily demonstrated. This notion draws some support from the finding in Experiment Number One that only 30 percent of the subjects assigned a high salient topic verbalized the evaluative set while 49 percent of those assigned a low salient topic verbalized the set.

Additional support for the above arguments comes from the post hoc analysis of post-experimental responses by those who did versus those who did not verbalize an evaluative set. Those who verbalized an evaluative set under the compatible evaluative conditions tended to show a generally more positive engagement with the task than those who did not verbalize an evaluative set. Looking at Table 12, it can be seen that subjects in Group EC who did verbalize an evaluative set, in comparison with those who did not, reported

TABLE 12

MEAN RATINGS ON THE POST-EXPERIMENTAL QUESTIONNAIRE BY SUBJECTS IN GROUPS EC AND EI OF EXPERIMENT NUMBER THREE PRESENTED SEPARATELY FOR THOSE WHO DID AND THOSE WHO DID NOT VERBALIZE AN EVALUATIVE SET

	Mean Ratings			
	Group EC		Group EI	
ITEM	Verbalized Set (N = 16)	Did Not Verbalize Set (N = 12)	Verbalized Set (N = 19)	Did Not Verbalize Set (N = 10)
Degree of difficulty in writing about the topic	1.87	2.58	2.32	2.60
Uncomfortableness in discussing topic with stranger	2.81	2.41	2.16	2.30
Extent of having expressed true feelings	6.37	5.66	5.37	6.00
Extent of personal involvement felt in writing	6.00	4.91	5.15	5.60
Amount of effort to write a good letter	5.06	4.41	4.63	5.20

1) less difficulty in writing, 2) more uncomfortableness in discussing the topic with a stranger, 3) more expression of their true feelings, 4) more personal involvement in writing, and 5) a greater attempt to write a good letter. Almost the exact opposite pattern was found for those verbalizing an evaluative set in Group EI. Compared with those who did not verbalize an evaluative set, those who did reported 1) less difficulty in writing, 2) less uncomfortableness in discussing the topic with a stranger, 3) less expression of their true feelings, 4) less personal involvement in writing, and 5) a lesser attempt to write a good letter.

Taking into account, then, all the rather consistent patterns across and within experiments in both writing and subjective reports, the speculation appears reasonable that the compatibility of an evaluative set may affect verbal productivity after all. Further research will be needed to discover if this a posteriori speculation is correct.

Sex Differences

In the preceding experiments post hoc analyses discovered consistent sex differences in responsiveness to changes or differences in topic saliency. In the discussion of Experiment Number Two it was pointed out that women in that experiment had written more words on the average than men in three of the four experimental groups and that these differences were significant in two groups. No similar pattern was found in Experiment Number One, however. There men wrote more under two of the writing conditions while women wrote more under the other two conditions. In no case was the difference significant.

Similarly, in this experiment no significant differences were found in the verbal productivity of males and females. On the other hand, women subjects did write more than the men subjects in all three groups of Experiment Number Three. Putting all these results together, women were found to write more in seven out of the 11 writing conditions described in these experiments. Under two of these conditions (both in Experiment Number Two) the differences were significant as determined by two-tailed t tests. Under no condition did the men subjects write significantly more than the women subjects. These comparisons are summarized in Table 13.

The above findings are not accounted for by any tendency for women to spend more time writing. In Experiments Two and Three (where duration of writing was measured) women subjects actually took less time to write than did the men subjects in all but under one condition. The fact that the women wrote more in less time implies that the women's verbal fluency was substantially greater than the men's. That this is the case can be seen from inspection of Table 14. In this table the mean duration of writing and the mean number of words written per minute are presented separately for men and women subjects for each group in Experiments Two and Three. It can be seen by inspecting this table that women's fluency was greater than men's under every one of the seven conditions and that, furthermore, the differences were significantly different under five of the writing conditions. There is, thus, no doubt that women's greater verbal fluency accounts for their tendency toward greater verbal productivity, as shown in Table 13. Even though they tended to write

TABLE 13

MEAN NUMBER OF WORDS WRITTEN IN EACH GROUP OF EXPERIMENTS ONE, TWO, AND THREE PRESENTED SEPARATELY FOR MEN AND WOMEN

	Mean Number of Words		
Experiment Number One	Men	Women	p
Group A, high salient topic	271.1	245.4	
Group A, low salient topic	175.4	169.6	
Group B, high salient topic	265.2	269.0	
Group B, low salient topic	203.0	245.1	
Experiment Number Two	Men	Women	p
Group HE	243.4	261.7	
Group LE	198.1	254.4	.05
Group HN	252.5	239.9	
Group LN	180.0	239.9	.05

Continued

Table 13 - Continued

	Mean Number of Words		
Experiment Number Three	Men	Women	p
Group EC	288.2	315.4	
Group EI	256.4	286.9	
Group N	300.8	339.2	

TABLE 14

MEAN DURATIONS OF WRITING AND MEAN FLUENCY OF GROUPS FROM EXPERIMENTS TWO AND THREE PRESENTED SEPARATELY FOR MEN AND WOMEN SUBJECTS

	Mean Duration of Writing in Minutes			Mean Fluency of Writing in Words per Minute		
	Men	Women	p	Men	Women	p
Experiment Number Two						
Group HE	22.2	19.4		11.0	14.8	.05
Group LE	19.4	19.3		10.6	13.5	.01
Group HN	22.5	19.9		11.9	12.2	
Group LN	17.3	19.5		10.7	12.8	.05

Continued

TABLE 14 - Continued

	Mean Duration of Writing in Minutes			Mean Fluency of Writing in Words per Minute		
	Men	Women	p	Men	Women	p
Experiment Number Three						
Group EC	23.5	20.8		12.1	15.3	.05
Group EI	21.1	19.5		12.6	14.6	
Group N	25.4	20.7		11.8	16.4	.01

for shorter durations, their strikingly superior fluency resulted in their being more productive than men subjects.

SUMMARY

In the first experiment it was found that verbal productivity was high or low depending upon how topic assignments matched previous ratings of topic saliency. In this third experiment an analogous type of matching was used; evaluative set instructions were assigned in a way such that subjects got either a good match (compatible) or a poor (incompatible) match of evaluative criteria to what they had previously rated as important goals in their own individual writing. Three groups of subjects all wrote letters about topics which were chosen to be highly salient for each subject. Subjects in two of the groups were given one of several possible instruction forms which stated that their letters would be used to evaluate some criterion of ability to write well--good form, clarity, informativeness, etc. Only in one of these groups (Group EC) did a subject get evaluative instructions which were compatible with what he had previously indicated were important goals in his writing. In the other evaluative group (Group EI) the instruction form chosen for a subject stressed evaluation criteria which were incompatible with his previously stated goals in writing. A third group of subjects (Group N) got only neutral instructions. It was hypothesized that verbal productivity would be greater under compatible conditions (Group EC) than under either incompatible conditions or neutral conditions (Group N).

The results did not support the above hypothesis; verbal productivity was not significantly different from one group to another. Similarly, neither did the duration of writing vary significantly from one group to

another. A post hoc analysis of verbal productivity was made for those who did versus those who did not verbalize an evaluative set. The results of this analysis supported the notion that a stronger presentation of the evaluative sets might have resulted in a positive demonstration that compatibility of criteria affects productivity.

In this chapter data were also brought together from the three experiments bearing on the issue of sex differences in verbal productivity. It was shown that women subjects did tend to write more than the men subjects. This general finding was shown to be accounted for by women subjects' much greater fluency in writing.

DISCUSSION AND CONCLUSIONS

MAJOR RESULTS

In the introductory chapter it was pointed out that theorists in the field of personality agree that careful study and analysis of a person's verbalization and other overt behavior can reveal valid information about the individual's underlying attitudinal and motivational state. The results of Experiment Number One suggest verbal productivity in writing can serve as a channel of information about the endogenous motivational set labeled "salience" in this study. It was pointed out in the first chapter that salience is related to other motivational or attitudinal variables used by personality and social psychologists (i.e., Jung's "complex," Kerlinger's "criteriality," Allport's "value-direction," etc.). Thus, verbal productivity in writing may prove to be a valuable channel of information about other endogenous motivational or attitudinal variables in addition to salience. *

In Experiment Number Two the results cross-validate those from Experiment Number One; under non-evaluative conditions greater verbal productivity was associated with higher topic saliency. Of primary interest in this study, however, was the effect of external evaluation on verbal productivity as an expressive behavior and as a channel of communication about the individual. As hypothesized, differences due to topic saliency tended to be smaller under the evaluative conditions. The particular evaluative conditions chosen were appropriate for the experimental setting -- students in English composition classrooms were told that their written production would be used to evaluate them for their "creative writing ability" as an index of their "intellectual

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* This corroborates an earlier finding in our laboratory in which a somewhat different writing task was used (Wiens, Jackson, Manaugh, & Matarazzo, 1969).

capacity." Thus, the most obvious implication of the results is that external evaluation may tend to mask individuality of expression in writing. English teachers have apparently been aware of this for some time, judging from their anecdotal observations about the effects of grades on students' writing.

It is probably true that the particular evaluative set used in Experiment Number Two could have stressed criteria of importance in other life areas and had the same kind of effect. Psychotherapists, for example, would perhaps have expected somewhat similar effects if their patients were instructed that they were to write a letter that would be used to evaluate their sanity. Indeed, it seems reasonable to believe that such effects might occur in any situation explicitly or implicitly involving the evaluation of a communicator. Other examples are letters from probation applicants to a judge, from job applicants to an employer, or from prospective students to an admissions committee.

Any of the above conditions could be expected to have more profound effects than the one found in Experiment Number Two where no rewarding or punishing consequences were expected to follow the evaluation. Certainly the average in-class essay is performed under a more potent evaluative set than the one used in Experiment Number Two, especially since the students were anonymous. Given that a masking effect occurred and that evaluative conditions in the experiment were mild, then it follows that verbal productivity, as an expressive variable, is sensitive to external evaluation. Using the more evocative term, it is "fragile."

If it is assumed that the results of Experiment Number Two are reliable and have some generality, then they tend to support the notions of Rogers and others about conditions which facilitate individuality and honesty (or congruity) in communication. These characteristics of communication would, presumably, be no more likely to be masked under the mild evaluative set used in this study than they would under an evaluative condition in the therapist's office.

Rogers' theory of personality, however, does not emphasize the importance of individuality and honesty merely to improve the accuracy of communication. Rather, these characteristics are said to be basic to healthy personality functioning. The results of Experiment Number Two provide rather meager information pertinent to this point. It can be noted, however, that the subjective experiences of the subjects were not less positive under evaluative conditions. Actually, the group of subjects which reported the least positive subjective experiences were those who wrote about a low salient topic under neutral conditions: they reported the greatest difficulty in writing, the least expression of true feelings, and the least involvement felt in writing. Furthermore, they were less likely than subjects in the other groups to report willingness to return for further information about their performance in the experiment. These self-reports as well as, perhaps, the lower verbal productivity of this group suggested that they were generally less "satisfied" with the experimental task and their part in it. Certainly these data do not provide evidence that "freedom from evaluation" was a particularly positive experience for these subjects.

Pertinent to the above observations may be the speculation by Matarazzo, Weitman, Saslow, and Wiens (1961) about why, under some experimental conditions, verbal productivity of interviewees increases. They found that interviewees would, on the average, double the durations of their utterances when the interviewer would, himself, talk in longer durations. Matarazzo et al. suggested that the interviewees may have talked more because they experienced "more satisfaction" as a result of the experimenter's greater verbal participation. Lennard and Bernstein (1960, pp. 182-188) reported that patients reported greater satisfaction with individual therapy sessions in which the therapist was more verbally active. One of the possible sources of satisfaction for those patients might have been, according to Lennard and Bernstein, that therapist feedback tends to counter the patient's substantive problem: " . . . disorientation with respect to the therapeutic system as well as with respect to the major role systems in which he participates outside of therapy."

Following the above reasoning, it might be said about Experiment Number Two that lack of evaluative standards may have caused the subjects under neutral conditions to feel relatively disoriented in the experimental situation. The evaluative set, then, rather than being conflictual or stressful may do just the opposite; the subject may perceive the entire experimental situation as more meaningful and comfortable when evaluative instructions place him into a familiar role, that of testee.

From the above observations it might be argued that an evaluative set is not necessarily destructive or disruptive. The mild evaluative set

given in Experiment Number Two was probably neither stressful nor conflictual; no punishing consequences would follow a negative evaluation, and the goals of creativity and intellectualness in writing were presumably compatible with subject's endogenous goals as college students. In Experiment Number Three the problem was taken up of how the compatibility of an evaluative set could affect verbal productivity. No significant differences were found as a function of the compatibility of the evaluative sets used. The non-significant results were, however, in the expected direction. Under the low compatibility condition subjects tended to write less and their subjective perceptions tended to be less positive.

Interestingly, there have been several studies which have shown that evaluative responses from therapists can affect the verbal productivity of their patients. Craig (1966) found that patients talked more and did so after longer reflection following accurate as opposed to inaccurate statements about their personality. Isaacs and Haggard (1966) found that when therapists responded to patient affect, the subsequent patient responses were longer. Sklansky, Isaacs, and Haggard (1960), found that patients discontinued talking about topics to which the therapist responded at a manifest level but ignored the latent meanings. Similarly, Tourney et al. (1960) discovered that patient verbal productivity decreased in relationship to therapist errors of commission. These results suggest that both the relevance and accuracy of therapist evaluations affect the patient's verbal productivity.

OTHER RESULTS

In the first study it was found that verbal productivity was affected by the order in which a topic was written. Interestingly, this effect was limited to low salient topics; subjects tended to write less about a low salient topic if they had written about a high salient topic just prior. This, however, did not occur for the high salient topic; subjects wrote as much about it, on the average, whether it preceded or followed the low salient topic. An effect just opposite to this apparently occurred in a recent study by Jackson, Wiens, Manaugh, and Matarazzo (1971). There it was found that interviewees would tend to talk in longer average durations during the second of a two period interview. This effect was most pronounced when the topic of the second period was of low salience as compared with a low salient topic in the first period. So, while under interview conditions a "warm-up" effect augments productivity for low salient topics, in writing a "fatigue effect" is more potent for low salient topics. These differences suggest different strategies, then, for interviewers versus dispensers of writing tasks. To get better productivity about low salient topics in interviews, the interviewer should "work up" to them. In writing however, the low salient topic should be written about first to elicit greater verbal productivity.

The sex differences found in this study were large, especially with regard to the verbal fluency variable. Such differences reflect a female superiority in verbal ability which has been extensively documented in the psychological literature for some time (cf. Tyler, 1965, p. 244). It may be that

women's superior verbal fluency causes their performance to be less sensitive to their motivational state. Bayley (1968) presented evidence suggesting that sex differences in verbal performance scores are probably more profoundly and more permanently affected for men than women by early emotional climate. These findings roughly parallel the ones presented here in that the male's verbal productivity more precisely reflected their motivational set. It may be that women's greater fluency makes writing generally less effortful for them and, therefore, less sensitive to highs and lows in motivational state.

Given a certain freedom in time allowance, verbal productivity is a function of the time spent writing and the average writing speed during that time. In Experiment Number Two difference in productivity between groups was closely matched by comparable changes in duration of writing, thus suggesting that verbal productivity in this case was largely affected by a persistence at the task. Under other motivational conditions one might find that fluency would increase while duration of writing decreased (e.g., the note written on a postcard at a train stop). Under other circumstances fluency may be very low -- for example, when writing a letter of condolence where each sentence would provoke strong emotions of regret. It is expected that attention to these variables may provide useful information about the writer's emotional state. In general, the results of this study support the premise that verbal behavior can serve as a useful channel of information about the individual's endogenous motivation as well as the effects of exogenous motivation.

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APPENDICES

Appendix A

Copy of the Topic Importance Scale

Name xxxxxxxxxxxxxOMITxxxxxxxxxxxxxxxxxxxxxxxxx Date _____

RATING SCALE

Instructions

We are attempting to find out what college students are most interested in, informed about, involved with, and feel most strongly about in their daily lives. In other words, what is most important in your current life situation. This is why we are asking for your help today.

Please read through the lists of topics on the following pages. Then rate each topic for its pertinence in your current life situation on the scales associated with it.

A rating of 7 indicates the topic is extremely important in your current life situation; a rating of 1 indicates little or no importance in your current life situation; and a rating between 7 and 1 indicates lesser extremes of topic importance. For example, a rating of 4 indicates moderate importance for a topic in your current life.

Appendix A--Continued

		LOW			SOME			HIGH
1.	Vietnam War							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
2.	The Military Draft							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
3.	The Negro Plight							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
4.	Pre-marital sex							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
5.	Marital sex							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
6.	College major							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
7.	Career plans							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
8.	Use of drugs							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7

Appendix A--Continued

		LOW			SOME			HIGH
9.	Relationship with parents							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
10.	Relationship with opposite sex							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
11.	Role of religion							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
12.	Role of science							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
13.	Feelings about myself							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
14.	Food preferences							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
15.	Current living setting							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
16.	Air pollution							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7

Appendix A--Continued

		LOW			SOME			HIGH
17.	Music							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
18.	Art							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
19.	Goals in life							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
20.	Cars							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
21.	Sports							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
22.	Personal responsibility							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
23.	Grades in college							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
24.	Marital relationship							
	A Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7

Appendix A--Continued

		LOW			SOME			HIGH
25.	Weather							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
26.	Personal appearance							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
27.	Personal finances							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
28.	Government spending							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
29.	Interior decorating							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
30.	Travel							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
31.	Birth control							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
32.	Welfare programs							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7

Appendix A--Continued

		LOW			SOME			HIGH
33.	Communism							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
34.	Hippies							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
35.	Student Government							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
36.	Movies							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
37.	Interpersonal relations							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
38.	Public school system							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
39.	"Alienation"							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
40.	Supreme Court							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7

Appendix A--Continued

		LOW			SOME			HIGH
41.	Parking at Portland State							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
42.	Smoking							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
43.	Having children							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
44.	Employer-employee relations							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7
45.	Hobby (Please specify_____)							
	A. Interested or concerned about this topic	1	2	3	4	5	6	7
	B. Informed about this topic	1	2	3	4	5	6	7
	C. Actively involved with this topic	1	2	3	4	5	6	7
	D. Have strong feelings about this topic	1	2	3	4	5	6	7

Now would you please go back and look at all those topics which received your highest ratings and select the 3 which you feel are most important in your current life situation.

1st_____

2nd_____

3rd_____

Now look at all those topics which received your lowest ratings and select the 3 which you feel are least important in your current life situation. Rank them in the space below.

45th_____

44th_____

43rd_____

Appendix B

Copy of the Biographical Questionnaire

BACKGROUND QUESTIONNAIRE

Initials of Mother's

1. Maiden Name: _____ 2. Age ____ 3. Sex _____

4. Address xxxxxxxxxxOMITxxxxxxxxxxxxxxxxxxxx 5. Phone xxxxxxOMITxxxxxxxxxxx

6. Year in school: F S Jr. Sr. Grad.

7. Marital status: S M D W

8. Major _____ 9. Minor _____

10. What other subjects have you considered for your college major: A. _____

B. _____ C. _____ D. _____

11. Approximate Accumulative GPA _____

12. Where are you currently living: A. With Parents B. Dorm C. Apartment

D. House E. Other

13. Highest grade father completed _____

14. Highest grade mother completed _____

15. Father's occupation _____

16. Mother's occupation _____

17. Ages of brothers _____ 18. Ages of sisters _____

19. Population of city or area you grew up in: A. 500,000+ B. 100,000 to 500,000

C. 50,000 to 100,000 D. 10,000 to 50,000 E. Less than 10,000

20. What is your current status in relationship to the military service:

A. 1 A B. Student deferment C. Reserve or National Guard D. Discharged

E. Other _____

21. List any school activities and/or organizations in which you are active

_____

22. List any other activities you are involved in (i.e., Church, neighborhood groups, etc.):

_____

23. What are your primary interests and hobbies?

_____

Appendix B--Continued

24. Work History: List the last three jobs you have held.

Type of Firm	Job Title or Duties	Length of Employment

Appendix C

A Copy Showing Letter Format

Dear _____ ,

In this letter I am going to write about a topic that is on my mind today. It is

Appendix D

Post-Experimental Questionnaire for Experiment Number One

Initials of mother's maiden name:_____

A. The first topic about which you wrote was_____.
(please fill in)

B. How <u>difficult was it to write</u> about the first topic?

(please check one number)

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Not at all difficult			Moderately difficult			Extremely difficult

Please explain:

C. How <u>uncomfortable would you find it to discuss</u> the first topic with a fellow student you have just met for the first time in the PSU cafeteria?

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Not at all uncomfortable			Moderately uncomfortable			Extremely uncomfortable

Please explain:

D. To what extent did you <u>express your true feelings</u> about the first topic?

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Not at all			Somewhat			A great extent

E. To what extent did you <u>feel yourself become personally involved in the writing</u> as you wrote about the first topic?

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Felt little involvement			Felt Some involvement			Felt a great involvement

F. How hard did you <u>try to write a good letter</u> about the first topic?

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Not at all			Some			Tried very hard

G. Have you <u>read or talked about this topic</u> in the last week?

___ yes ___ no

Appendix D--Continued

Initials of mother's maiden name:_____

H. The second topic about which you wrote was_____.
(please fill in)

I. How difficult was it to write about the second topic?
(please check one number)

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Not at all difficult			Moderately difficult			Extremely difficult

Please explain:

J. How uncomfortable would you find it to discuss the second topic with a fellow student you have just met for the first time in the PSU cafeteria?

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Not at all uncomfortable			Moderately uncomfortable			Extremely uncomfortable

Please explain:

K. To what extent did you express your true feelings about the second topic?

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Not at all			Somewhat			A great extent

L. To what extent did you feel yourself become personally involved in the writing as you wrote about the second topic?

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Felt little involvement			Felt some involvement			Felt a great involvement

M. How hard did you try to write a good letter about the second topic?

___	___	___	___	___	___	___
1	2	3	4	5	6	7
Not at all			Some			Tried very hard

N. Have you read or talked about this topic in the last week?

___ yes ___ no

Appendix E

Evaluation Set Instructions for Experiment Number Two

INSTRUCTIONS

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. Past research has shown that people who have creative ability in writing also tend to have high intelligence. The particular study for today involves an extension of this previous research. We will be evaluating your letter for creative ability as an index to your intellectual capacity. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

Appendix F

Neutral Instructions for Experiments Number Two and Number Three

INSTRUCTIONS

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. There is typically quite a bit of diversity in the backgrounds of students of courses in English composition.* That is one reason we have asked for your cooperation. This section in introductory composition** contains quite a diversity with respect to the background of the people in the class. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

* Read "...students who take courses in speech" in Experiment Number Three.

** Read "...introductory speech..." in Experiment Number Three.

Appendix G

Post-Experimental Questionnaire for Experiment Number Two

Initials of mother's maiden name:_____

The purpose of this experiment is:

My evidence for believing this is:

Appendix G--Continued

Initials of mother's maiden name:_____

A. The topic about which you wrote was_____.
(please fill in)

B. How difficult was it to write about the topic?
(please check one number)

1	2	3	4	5	6	7
Not at all difficult			Moderately difficult			Extremely difficult

Please explain:

C. How uncomfortable would you find it to discuss the topic with a fellow student you have just met for the first time in the PSU cafeteria?

1	2	3	4	5	6	7
Not at all uncomfortable			Moderately uncomfortable			Extremely uncomfortable

Please explain:

D. To what extent did you express your true feelings about the topic?

1	2	3	4	5	6	7
Not at all			Somewhat			A great extent

E. To what extent did you feel yourself become personally involved in the writing as you wrote about the topic?

1	2	3	4	5	6	7
Felt little involvement			Felt some involvement			Felt a great involvement

F. How hard did you try to write a good letter about the topic?

1	2	3	4	5	6	7
Not at all			Some			Tried very hard

G. Have you read or talked about this topic in the last week?

yes no

Appendix G--Continued

H. If a special session were scheduled next quarter (not during a class hour), would you want to come to find out about your individual performance in this experiment?

___ Yes ___ No

I. Comments about the experiment (optional):

Appendix H

Intercorrelation Matrix for Group A, Experiment Number One

The following intercorrelation matrix and the one in Appendix I were formed from the variables that are listed below. Decimal points were omitted to allow more space between the computed values, which are all Pearson r's.

Biographical Variables

1. Age in Years
2. Sex (Male = 1, Female = 2)
3. Year in School (Freshman = 1, Sophomore = 2, etc.)
4. Grade point average on a four-point scale
5. Years of Father's Education
6. Years of Mother's Education
7. Father's Occupational Status:

   1 = High executive, lawyer, doctor, proprietor of large business

   2 = Executive, teacher, accountant, proprietor

   3 = Salesman, bookkeeper, foreman

   4 = Skilled laborer

   5 = Unskilled laborer
8. Birth Order
9. Number of Children in Family including Subject
10. Size of Home Town

    1 = Less than 10,000 population

2 = 10, 000 to 50, 000

3 = 50, 000 to 100, 000

4 = Above 100, 000

11. Outdoor and Sports Interests as Indicated by Reported Activities, Interests, and Hobbies

1 = Little or None

2 = Moderate

3 = Outdoor/Sports Interest Dominant

Post-Experimental Questionnaire Variables

12. Rating of difficulty in writing about the high salient topic

(1 = Not at all, 7 = Extremely difficult)

13. Same as 12, but for low salient topic

14. Rating of uncomfortableness in discussing the high salient topic with a stranger (1 = Not at all uncomfortable, 7 = Extremely uncomfortable)

15. Same as 14, but for low salient topic

16. Rating of extent of having expressed true feelings about the high salient topic (1= Not at all, 7 = A great extent)

17. Same as 16, but for low salient topic

18. Rating of extent of personal involvement felt in writing about the high salient topic (1 = Felt little involvement, 7 = Felt a great involvement)

19. Same as 18, but for a low salient topic

20. Rating of amount of effort to write a good letter about the high salient topic (1 = Not at all, 7 = Tried very hard)

21. Same as 20, but for a low salient topic

22. Answer to whether the subject had read or talked about the high salient topic in the last week (Yes = 2, No = 1)

23. Same as 22, but for a low salient topic

Writing variables

24. Number of words written about the high salient topic.

25. Number of words written about the low salient topic

26. Total number of words written (high plus low salient topic word counts)

27. Ratio: Number of words written about the high salient topic divided by the number written about the low salient topic.

Appendix H -- Continued

Group A

	Age	Sex -- M=1, F=2	Year in College	Grade Point Average	Father's Education	Mother's Education	Father's (lower) Occupational Status	Later Birth Order	Number of Children in Family	Home Town Size	High Outdoor/Sports Interests	High Salient Topic: How Difficult to Write	Low Salient Topic: How Difficult to Write	High Salient Topic: How Uncomfortable to Discuss	Low Salient Topic: How Uncomfortable to Discuss	High Salient Topic: Extent Express True Feelings	Low Salient Topic: Extent Expressed True Feelings	High Salient Topic: Extent of Involvement in Writing	Low Salient Topic: Extent of Involvement in Writing	High Salient Topic: Extent of Try to Write Good Letter	Low Salient Topic: Extent of Try to Write a Good Letter	High Salient Topic: Recently Read or Talked About (Y=2, N=1)	Low Salient Topic: Recently Read or Talked About (Y=2, N=1)	High Salient Topic Word Count	Low Salient Topic Word Count	Total Word Count	Word Count Ratio: High/Low Salient Topics
(1) Age	100	-6	58	-18	-14	-7	-34	-27	3	-19	-4	-16	-6	-5	-6	-2	20	-2	10	10	6	25	23	-25	12	-10	6
(2) Sex -- M=1,F=2	-6	100	9	22	-11	-8	-10	9	15	31	-32	40	40	20	35	-38	17	-2	25	-14	22	22	-28	-15	-4	-13	-14
(3) Year in College	58	9	100	4	-3	-2	-23	-10	-7	-16	-6	0	7	-16	26	-7	17	25	-20	11	-34	40	2	-10	-12	-14	39
(4) Grade point average	-18	22	4	100	-16	-9	8	-3	14	27	-13	38	-20	12	11	-10	1	-13	-20	0	-19	-6	15	35	1	25	21
(5) Father's Education	-14	-11	-3	-16	100	56	-48	10	12	29	1	-13	-7	34	-2	-6	15	-19	-4	-37	-17	-6	8	14	-53	-23	33
(6) Mother's Education	-7	-8	-2	-9	56	100	-42	-39	-8	11	14	7	2	-7	-3	-22	-3	10	-10	-36	-25	-9	21	10	-48	-23	22
(7) Father's (lower) Occupational Status	-34	-10	-23	8	-48	-42	100	11	-1	-17	2	-1	39	-21	36	8	-54	-23	-37	-14	-17	-17	-1	23	32	37	-23
(8) Later Birth Order	-27	9	-10	-3	10	-39	11	100	58	0	-27	17	13	22	-4	-26	1	5	20	13	20	6	7	11	10	14	-18
(9) Number of Children in Family	3	15	-7	14	12	-8	-1	58	100	-5	-12	1	36	34	6	-22	3	1	18	19	12	3	-3	27	-17	8	7
(10) Home Town Size	-19	31	-16	27	29	11	-17	0	-5	100	-7	27	9	1	40	-34	-21	-32	-11	-1	-9	-24	-25	-21	-19	-26	-9
(11) High Outdoor/Sports Interests	-4	-32	-6	-13	1	14	2	-27	-12	-7	100	4	-6	-31	9	21	-23	-16	-21	13	-9	-55	-34	5	-20	-9	31
(12) High Salient Topic: How Difficult to Write	-16	40	0	38	-13	7	-1	17	1	27	4	100	10	-13	23	-64	-3	-37	-8	-29	-7	-31	-8	-1	-16	-10	5
(13) Low Salient Topic: How Difficult to Write	-6	40	7	-20	-7	2	39	13	36	9	-6	10	100	-5	57	-20	-48	-14	-18	-27	-20	5	-17	14	-12	2	-17
(14) High Salient Topic: How Uncomfortable to Discuss	-5	20	-16	12	34	-7	-21	22	34	1	-31	-13	-5	100	-17	18	33	1	49	4	44	11	-5	10	-12	0	-7
(15) Low Salient Topic: How Uncomfortable to Discuss	-6	35	26	11	-2	-3	36	-4	6	40	9	23	57	-17	100	-20	-28	-9	-28	-8	-33	-14	-27	-11	-41	-32	33
(16) High Salient Topic: Extent Expressed True Feelings	-2	-38	-7	-10	-6	-22	8	-26	-22	-34	21	-64	-20	18	-20	100	7	24	15	35	17	6	-12	26	28	34	-4
(17) Low Salient Topic: Extent Expressed True Feelings	20	17	17	1	15	-3	-54	1	3	-21	-23	-3	-48	33	-28	7	100	21	65	15	44	33	-2	-8	-12	-13	26
(18) High Salient Topic: Extent of Involvement in Writing	-2	-2	25	-13	-19	10	-23	5	1	-32	-16	-37	-14	1	-9	24	21	100	27	43	6	41	5	-10	-3	-9	15
(19) Low Salient Topic: Extent of Involvement in Writing	10	25	-20	-20	-4	-10	-37	20	18	-11	-21	-8	-18	49	-28	15	65	27	100	22	90	3	1	-17	16	-2	-28
(20) High Salient Topic: Extent of Try to Write Good Letter	13	-14	11	0	-37	-36	-14	13	19	-1	13	-29	-27	4	-8	35	15	43	22	100	24	11	-39	-3	22	11	13
(21) Low Salient Topic: Extent of Try to Write Good Letter	6	22	-34	-19	-17	-25	-17	20	12	-9	-9	-7	-20	44	-33	17	44	6	90	24	100	-13	-5	-27	32	1	-47
(22) High Salient Topic: Recently Read or Talked About(Y=2, N=1)	25	22	40	-6	-6	-9	-17	6	3	-24	-55	-31	5	11	-14	6	33	41	3	11	-13	100	18	7	5	8	4
(23) Low Salient Topic: Recently Read or Talked About(Y=2, N=1)	23	-28	2	15	8	21	-1	7	-3	-25	-34	-8	-17	-5	-27	-12	-2	5	1	-39	-5	18	100	23	26	32	-13
(24) High Salient Topic Word Count	-25	-15	-10	35	14	10	23	11	27	-21	5	-1	14	10	-11	26	-8	-10	-17	-3	-27	7	23	100	21	81	25
(25) Low Salient Topic Word Count	12	-4	-12	1	-53	-48	32	10	-17	-19	-20	-16	-12	-12	-41	28	-12	-3	16	22	32	5	26	21	100	74	-59
(26) Total Word Count	-10	-13	-14	25	-23	-23	37	14	8	-26	-9	-10	2	0	-32	34	-13	-9	-2	11	1	8	32	81	74	100	-18
(27) Word Count Ratio: High/Low Salient Topics	6	-14	39	21	33	22	-23	-18	7	-9	31	5	-17	-7	33	-4	26	15	-28	13	-47	4	-13	25	-59	-18	100

Appendix I

Intercorrelation Matrix for Group B, Experiment Number One

The following intercorrelation matrix was formed from 27 variables. Decimal points were omitted to allow for more space between the computed values, all of which are Pearson r's. See Appendix H for details about the variables in the matrix.

Appendix I -- Continued

Group B

	Age	Sex -- M=1, F=2	Year in College	Grade point average	Father's Education	Mother's Education	Father's (lower) Occupational Status	Later Birth Order	Number of Children in Family	Home Town Size	High Outdoor/Sports Interests	High Salient Topic: How Difficult to Write	Low Salient Topic: How Difficult to Write	High Salient Topic: How Uncomfortable to Discuss	Low Salient Topic: How Uncomfortable to Discuss	High Salient Topic: Extent Expressed True Feelings	Low Salient Topic: Extent Expressed True Feelings	High Salient Topic: Extent of Involvement in Writing	Low Salient Topic: Extent of Involvement in Writing	High Salient Topic: Extent of Try to Write Good Letter	Low Salient Topic: Extent of Try to Write Good Letter	High Salient Topic: Recently Read or Talked About(F=2, M=1)	Low Salient Topic: Recently Read or Talked About(F=2, M=1)	High Salient Topic Word Count	Low Salient Topic Word Count	Total Word Count	Word Count Ratio: High/Low Salient Topics
Age	100	9	17	15	-9	-10	25	9	0	-33	-9	-11	28	-22	-5	-1	-48	9	0	-37	4	8	33	-5	-10	-14	3
Sex -- M=1, F=2	9	100	-12	1	-30	-22	33	-9	16	-30	-2	34	9	30	-26	-4	-12	-17	-8	-3	12	-23	-30	3	28	23	-19
Year in College	17	-12	100	17	10	6	-26	32	9	-36	33	9	-22	27	21	-4	-12	-11	-37	-12	-21	0	-25	9	-10	-1	18
Grade point average	15	1	17	100	-4	18	-12	-3	-23	-9	10	13	-25	16	-10	-43	-23	-43	-39	-22	-2	-33	12	-4	12	5	-3
Father's Education	-9	-30	10	-4	100	36	-72	-1	17	7	2	1	-5	-9	-3	-16	-3	-12	15	2	-1	-15	19	20	19	31	-8
Mother's Education	-10	-22	6	18	36	100	2	8	26	27	-6	-7	6	-3	-4	-38	16	-39	-36	-24	0	20	27	26	-20	3	30
Father's (lower) Occupational Status	25	33	-26	-12	-72	2	100	6	13	-31	3	-3	6	-13	-24	-3	-8	-8	1	-21	9	14	7	-17	-8	-17	-6
Later Birth Order	9	-9	32	-3	-1	8	6	100	27	-29	28	-6	-8	-7	36	8	-9	4	8	18	39	20	4	23	-10	1	23
Number of Children in Family	0	16	9	-23	17	26	13	27	100	3	21	14	26	2	36	25	0	14	6	26	29	-2	0	19	-12	1	11
Home Town Size	-33	-30	-36	-9	7	27	-31	-29	3	100	-13	-29	21	3	-3	24	25	23	-6	19	-7	14	7	25	-36	-14	37
High Outdoor/Sports Interests	-9	-2	33	10	2	-6	3	28	21	-13	100	22	-6	29	-8	-13	-16	-10	-17	4	-4	-8	-2	-13	11	-10	-22
High Salient Topic: How Difficult to Write	-11	34	9	13	1	-7	-3	-6	14	-29	22	100	-42	64	-20	-20	-9	-2	-26	0	-26	-36	-30	-29	22	1	-31
Low Salient Topic: How Difficult to Write	28	9	-22	-25	-5	6	6	-8	26	21	-6	-42	100	-46	1	11	-4	3	-22	-8	9	18	-5	6	-48	-44	27
High Salient Topic: How Uncomfortable to Discuss	-22	30	27	16	-9	-3	-13	-7	2	5	29	64	-46	100	-13	-5	-8	3	-22	7	-2	-12	-45	-28	36	12	-33
Low Salient Topic: How Uncomfortable to Discuss	-5	-26	21	-10	-3	-4	-24	36	36	-3	-8	-20	1	-13	100	19	10	12	19	18	47	16	-12	37	-10	19	33
High Salient Topic: Extent Expressed True Feelings	-1	-4	-4	-43	-16	-38	-3	8	25	24	-13	-20	11	-5	19	100	39	88	31	66	16	-2	-6	27	-9	7	25
Low Salient Topic: Extent Expressed True Feelings	-48	-12	-12	-23	-3	16	-8	-9	0	25	-16	-9	-4	-8	10	39	100	20	-9	39	6	-9	6	25	5	26	21
High Salient Topic: Extent of Involvement in Writing	9	-17	-11	-43	-12	-39	-8	4	14	23	-10	-2	3	3	12	88	20	100	23	63	3	13	-2	13	-7	0	16
Low Salient Topic: Extent of Involvement in Writing	0	-8	-37	-39	15	-36	1	8	6	-6	-17	-26	-22	-22	19	31	-9	23	100	25	43	1	29	-6	42	33	-38
High Salient Topic: Extent of Involvement in Writing	-37	-3	-12	-22	2	-24	-21	18	26	19	4	0	-8	7	18	66	39	63	25	100	32	-1	-10	11	23	21	-6
Low Salient Topic: Extent of Try to Write Good Letter	4	12	-21	-2	-1	0	9	39	29	-7	-4	-26	9	-2	47	16	6	3	43	32	100	-7	4	4	35	28	-20
High Salient Topic: Extent of Try to Write Good Letter	8	-23	0	-33	-15	20	14	20	-2	14	-8	-36	18	-12	16	-2	-9	13	1	-1	-7	100	15	12	-12	-3	17
Recently Read or Talked About(F=2, M=1)	33	-30	-25	12	19	27	7	4	0	7	-2	-30	-5	-45	-12	-6	6	-2	29	-10	4	15	100	10	13	15	-8
Low Salient Topic: Recently Read or Talked About(F=2, M=1)	-5	3	9	-4	20	26	-17	23	19	25	-13	-29	6	-28	37	27	25	13	-6	11	4	12	10	100	-19	50	76
High Salient Topic Word Count	-10	28	-10	12	19	-20	-8	-10	-12	-36	11	22	-48	36	-10	-9	5	-7	42	23	35	-12	13	-19	100	72	-74
Low Salient Topic Word Count	-14	23	-1	5	31	3	-17	1	1	-14	-10	1	-44	12	19	7	26	0	33	21	28	-3	15	50	72	100	-11
Total Word Count	3	-19	18	-3	-8	30	-6	23	11	37	-22	-31	27	-33	33	25	21	16	-38	-6	-20	17	-8	76	-74	-11	100
Word Count Ratio: High/Low Salient Topics																											

Appendix J

Intercorrelation Matrices from Experiment Number Two

The following intercorrelation matrices were formed from the variables that are listed below. Decimal points were omitted to allow more space between the computed values, which are all Pearson r's.

Biographical Variables

1. Age in Years
2. Sex (Male = 1, Female = 2)
3. Year in School (Freshman = 1, Sophomore = 2, etc.)
4. Grade point average on a four-point scale
5. Years of Father's Education
6. Years of Mother's Education
7. Father's Occupational Status:

   1 = High executive, lawyer, doctor, proprietor of large business

   2 = Executive, teacher, accountant, proprietor

   3 = Salesman, bookkeeper, foreman

   4 = Skilled laborer

   5 = Unskilled laborer
8. Birth Order
9. Number of Children in Family including Subject
10. Size of Home Town

    1 = Less than 10, 000 population

2 = 10, 000 to 50, 000

3 = 50, 000 to 100, 000

4 = Above 100, 000

11. Outdoor and Sports Interests as Indicated by Reported Activities, Interests, and Hobbies

1 = Little or None

2 = Moderate

3 = Outdoor/Sports Interest Dominant

Post-Experimental Questionnaire Variables

12. Whether Subject Verbalized an Evaluative Set (Yes = 2, No = 1)

13. Rating of difficulty in writing about the topic (1 = Not at all, 7 = Extremely difficult)

14. Rating of uncomfortableness in discussing the topic with a stranger (1 = Not at all uncomfortable, 7 = Extremely uncomfortable)

15. Rating of extent of having expressed true feelings about the topic (1 = Not at all, 7 = A great extent)

16. Rating of extent of personal involvement felt in writing about the topic (1 = Felt little involvement, 7 = Felt a great involvement)

17. Rating of amount of effort to write a good letter about the topic (1 = Not at all, 7 = Tried very hard)

18. Answer to whether the subject had read or talked about the topic in the last week (Yes = 2, No = 1)

19. Whether the subject reported willingness to attend a special session,

should one be scheduled, to find out more about his performance in the experiment.

20. Number of words written about the topic.

21. Duration of writing time

22. Fluency as measured by the number of words written divided by the duration of writing.

Appendix J -- Continued

Group HE

	Age	Sex -- M=1, F=2	Year in College	Grade Point Average	Father's Education	Mother's Education	Father's (lower) Occupational Status	Later Birth Order	Number of Children in Family	Home Town Size	High Outdoor/Sports Interests	Verbalized Evaluation Set (Y=2, N=1)	How Difficult to Write about the Topic	How Uncomfortable to Discuss the Topic	Extent Express True Feelings	Extent of Involvement in Writing	Extent of Try to Write a Good Letter	Recently Read or Talked about Topic	Desire for More Information re Performance	Word Count	Duration of Writing	Fluency (Words/Minute)
(1) Age	100	-3	59	-3	-38	-18	1	-3	-24	12	-19	-8	-9	-22	-48	-3	0	7	11	-14	-25	10
(2) Sex	-3	100	2	40	15	10	-13	4	7	-1	-11	14	-12	9	-6	-11	12	4	1	11	-20	36
(3) Year in College	59	2	100	-22	-15	-19	-7	-4	-32	9	-16	-22	0	-15	-15	-4	4	15	12	-13	-37	31
(4) Grade Point Average	-3	40	-22	100	-9	-14	16	-21	-15	-6	5	4	-18	41	-5	-30	5	0	-7	8	-21	31
(5) Father's Education	-38	15	-15	-9	100	38	-63	-14	11	-9	11	18	41	28	5	-16	10	-21	-23	-16	2	-19
(6) Mother's Education	-18	10	-19	-14	38	100	-13	-21	9	-31	-9	-14	38	7	-5	-1	-6	7	-8	-14	-3	-18
(7) Father' (lower) Occupational Status	1	-13	-7	16	-63	-13	100	17	0	-6	31	-22	-24	-9	-16	-10	-19	13	-4	-10	-4	-7
(8) Later Birth Order	-3	*	-*	-21	-14	-21	17	100	56	-1	8	-17	5	-9	4	3	4	-20	11	25	27	-7
(9) Number of Children in Family	-24	7	-32	-15	11	9	0	56	100	-8	-3	2	17	25	3	1	12	-17	15	4	25	-26
(10) Home Town Size	12	-1	9	-6	-9	-31	-6	-1	-8	100	17	12	-19	-7	-2	-1	3	-4	-17	11	14	6
(11) High Outdoor/Sports Interests	-19	-11	-16	5	11	-9	31	8	-3	17	100	-10	-22	-8	-16	-2	11	1	3	-1	23	-16
(12) Verbalized Evaluation Set (Y=2, N=1)	-8	1*	-22	*	18	-14	-22	-17	2	12	-10	100	-7	14	-6	28	3	-13	6	13	22	-9
(13) How Difficult to Write about the Topic	-9	-12	0	-18	*1	38	-24	5	17	-19	-22	-7	100	3	4	-39	-33	-46	-30	-26	-15	-23
(14) How Uncomfortable to Discuss the Topic	*22	9	-15	*1	28	7	-9	-9	25	-7	-8	14	3	100	16	8	5	-17	0	7	6	5
(15) Extent Expressed True Feelings	**8	-6	-15	-5	5	-5	-16	4	3	-2	-16	-6	4	16	100	29	5	-7	5	35	20	13
(16) Extent of Involvement in Writing	-3	-11	-*	-30	-16	-1	-10	3	1	-1	-2	28	-39	8	29	100	32	7	19	32	37	-3
(17) Extent of Try to Write a Good Letter	0	12	*	5	10	-6	-19	4	12	3	11	3	-33	5	5	32	100	11	45	32	33	6
(18) Recently Read or Talked about Topic	7	*	15	0	-21	7	13	-20	-17	-*	1	-13	-46	-17	-7	7	11	100	28	10	-3	20
(19) Desire for More Information re Performance	11	1	12	-7	-23	-8	-*	11	15	-17	3	6	-30	0	5	19	45	28	100	27	39	-13
(20) Word Count	-1*	11	-13	8	-16	-14	-10	25	*	11	-1	13	-26	7	35	32	32	10	27	100	52	*9
(21) Duration of Writing	-25	-20	-37	-21	2	-3	-*	27	25	1*	23	22	-15	6	20	37	33	-3	39	52	100	-42
(22) Fluency (Words/Minute)	10	36	31	31	-19	-18	-7	-7	-26	6	-16	-9	-23	5	13	-3	6	20	-13	*9	-*2	100

Appendix J -- Continued

Group LE

	Age	Sex -- M=1, F=2	Year in College	Grade Point Average	Father's Education	Mother's Education	Father's (lower) Occupational Status	Later Birth Order	Number of Children in Family	Home Town Size	High Outdoor/Sports Interests	Verbalized Evaluation Set (Y=2, N=1)	How Difficult to Write about the Topic	How Uncomfortable to Discuss the Topic	Extent Express True Feelings	Extent of Involvement in Writing	Extent of Try to Write a Good Letter	Recently Read or Talked about Topic	Desire for More Information re Performance	Word Count	Duration of Writing	Fluency (Words/Minute)
Age	(1)	100	-21	+9	-13	-2	0	-11	-22	-21	10	18	22	-21	-16	14	0	-17	-6	-9	-18	-23	4
Sex -- M=1, F=2	(2)	-21	100	+	+7	10	7	-14	15	-2	13	-9	-28	-34	-35	19	44	10	5	40	37	0	43
Year in College	(3)	+9	+	100	15	25	10	-4	-8	-9	7	-11	14	-32	-32	16	-18	3	24	-5	17	25	-4
Grade Point Average	(4)	-13	+7	15	100	16	-8	-2	10	-12	-1	-7	-12	-24	-39	19	25	-5	1	10	21	-8	32
Father's Education	(5)	-2	10	23	16	100	23	-5+	6	15	-10	12	25	-5	-35	6	1	27	22	28	24	22	13
Mother's Education	(6)	0	7	10	-8	23	100	-21	-2	-1	-5	-29	-21	-24	-33	-9	-17	16	-3	29	11	4	10
Father' (lower) Occupational Status	(7)	-11	+1+	-+	-2	-5+	-21	100	5	2	21	-14	11	-15	4	-12	-6	-9	28	-5	-35	-25	-13
Later Birth Order	(8)	-22	15	-8	10	6	-2	5	100	60	2	-1	-28	-5	-9	9	4	7	7	23	-12	-28	17
Number of Children in Family	(9)	-21	-2	-9	-12	15	-1	2	60	100	-7	-8	2	-10	-3	-31	-7	-5	-4	16	-9	-16	8
Home Town Size	(10)	10	13	7	-1	-10	-5	21	2	-7	100	-28	14	-3	-10	12	33	17	13	-6	-4	-3	1
High Outdoor/Sports Interests	(11)	18	-9	-11	-7	12	-29	-1+	-1	-8	-28	100	-3	9	8	-3	-25	-11	6	-28	-16	-11	-2
Verbalized Evaluation Set (Y=2, N=1)	(12)	22	-28	1+	-12	25	-21	11	-28	2	1+	-3	100	17	-4	14	10	6	7	13	3	15	-16
How Difficult to Write about the Topic	(13)	-21	-3+	-32	-2+	-5	-2+	-15	-5	-10	-3	9	17	100	73	8	-23	6	-8	-8	-12	-1	-16
How Uncomfortable to Discuss the Topic	(14)	-16	-35	-32	-39	-35	-33	4	-9	-3	-10	8	-4	73	100	-15	-17	-16	-27	-35	-21	-15	-10
Extent Express True Feelings	(15)	.1+	19	16	19	6	-9	-12	9	-31	12	-3	14	8	-15	100	40	35	3	-1	0	5	-7
Extent of Involvement in Writing	(16)	0	++	-18	25	1	-17	-6	4	-7	33	-25	10	-23	-17	40	100	28	5	28	25	5	24
Extent of Try to Write a Good Letter	(17)	-17	10	3	-5	27	16	-9	7	-5	17	-11	6	6	-16	35	28	100	27	22	37	31	15
Recently Read or Talked about Topic	(18)	-6	5	2+	1	22	-3	28	7	-4	13	6	7	-8	-27	3	5	27	100	29	28	33	-2
Desire for More Information re Performance	(19)	-9	+0	-5	10	28	29	-5	23	16	-6	-28	13	-8	-35	-1	28	22	29	100	33	1	34
Word Count	(20)	-18	37	17	21	24	11	-35	-12	-9	-4	-16	3	-12	-21	0	25	37	28	33	100	63	50
Duration of Writing	(21)	-23	0	25	-8	22	+	-25	-28	-16	-3	-11	15	-1	-15	5	5	31	33	1	63	100	-33
Fluency (Words/Minute)	(22)	+	+3	-+	32	13	10	-13	17	8	1	-2	-16	-16	-10	-7	24	15	-2	34	50	-33	100

Appendix J -- Continued

Group HN

	Age	Sex — M=1, F=2	Year in College	Grade Point Average	Father's Education	Mother's Education	Father's (lower) Occupational Status	Later Birth Order	Number of Children in Family	Home Town Size	High Outdoor/Sports Interests	Verbalized Evaluation Set (Y=2, N=1)	How Difficult to Write about the Topic	How Uncomfortable to Discuss the Topic	Extent Expressed True Feelings	Extent of Involvement in Writing	Extent of Try to Write a Good Letter	Recently Read or Talked about Topic	Desire for More Information re Performance	Word Count	Duration of Writing	Fluency (Words/Minute)
Age	100	10	97	-12	-52	-29	28	-4	13	-24	-5	0	-17	-19	14	18	5	13	-28	7	0	13
Sex — M=1, F=2	10	100	17	45	-4	-13	30	-9	18	-13	-14	25	5	-34	21	30	15	4	-10	-8	-24	5
Year in College	97	17	100	0	-52	-28	25	-2	12	-24	0	-7	-16	-16	12	16	1	12	-34	11	-8	18
Grade Point Average	-12	45	0	100	14	-10	-15	17	1	-20	-20	0	-19	16	14	16	8	30	2	27	-22	29
Father's Education	-52	-4	-52	14	100	41	-66	-32	-9	3	-13	17	10	37	-30	-9	9	-7	12	24	21	2
Mother's Education	-29	-13	-28	-10	41	100	-34	-34	-43	4	-12	0	36	29	-23	-10	13	-17	-18	1	12	-8
Father' (lower) Occupational Status	28	30	25	-15	-66	-34	100	-18	-19	-8	-9	-6	-5	-22	31	49	17	-7	-19	-15	-11	-1
Later Birth Order	-4	-9	-2	17	-32	-34	-18	100	57	1	-3	-9	-4	-5	14	18	-8	11	13	21	15	5
Number of Children in Family	13	18	12	1	-9	-43	-19	57	100	17	-11	-2	7	-30	19	6	-5	-6	-1	-6	5	-9
Home Town Size	-24	-13	-24	-20	3	4	-8	1	17	100	3	-1	5	-15	-27	-33	-4	-31	-4	-18	7	-19
High Outdoor/Sports Interests	-5	-1	0	-20	-13	-12	-9	-3	-11	3	100	-21	-23	-10	-7	-27	-42	-7	-17	6	-8	10
Verbalized Evaluation Set (Y=2, N=1)	0	25	-7	0	17	0	-6	-9	-2	-1	-21	100	8	-28	23	17	-7	-4	20	-15	13	-16
How Difficult to Write about the Topic	-17	5	-16	-19	10	36	-5	-4	7	5	-23	8	100	11	-11	-9	8	-16	-23	-27	3	-29
How Uncomfortable to Discuss the Topic	-19	-34	-16	16	37	29	-22	-5	-30	-15	-10	-28	11	100	-34	1	4	-7	-29	13	-2	7
Extent Expressed True Feelings	14	21	12	14	-30	-23	31	14	19	-27	-7	23	-11	-34	100	64	25	11	27	16	12	10
Extent of Involvement in Writing	18	30	16	16	-9	-10	49	18	6	-33	-27	17	-9	1	64	100	36	-4	8	31	20	18
Extent of Try to Write a Good Letter	5	15	1	8	9	13	17	-8	-5	-4	-42	-7	8	4	25	36	100	2	15	14	6	14
Recently Read or Talked about Topic	13	4	12	30	-7	-17	-7	11	-6	-31	-7	-4	-16	-7	11	-4	2	100	36	39	5	31
Desire for More Information re Performance	-28	-10	-34	2	12	-18	-19	13	-1	-4	-17	20	-23	-29	27	8	15	36	100	25	20	13
Word Count	7	-8	11	27	24	1	-15	21	-6	-18	6	-15	-27	13	16	31	14	39	25	100	22	74
Duration of Writing	0	-24	-8	-22	21	12	-11	19	5	7	-8	13	3	-2	12	20	6	5	20	22	100	-44
Fluency (Words/Minute)	13	5	18	29	2	-8	-1	5	-9	-19	10	-16	-29	7	10	18	14	31	13	74	-44	100

Appendix J -- Continued

Group LN

	Age	Sex -- M=1, F=2	Year in College	Grade Point Average	Father's Education	Mother's Education	Father's (lower) Occupational Status	Later Birth Order	Number of Children in Family	Home Town Size	High Outdoor/Sports Interests	Verbalized Evaluation Set (Y=2, N=1)	How Difficult to Write about the Topic	How Uncomfortable to Discuss the Topic	Extent Express True Feelings	Extent of Involvement in Writing	Extent of Try to Write a Good Letter	Recently Read or Talked about Topic	Desire for More Information re Performance	Word Count	Duration of Writing	Fluency (Words/Minute)
Age	100	-33	73	-39	-14	27	-7	-7	5	20	6	-23	-6	-42	35	0	-8	-13	-21	-18	-23	4
Sex -- M=1, F=2	-33	100	-31	23	33	-2	-25	35	14	15	-25	8	-2	4	-21	-1	6	10	-21	38	18	30
Year in College	73	-31	100	-57	13	13	0	4	6	20	26	-20	-39	-39	32	21	4	8	10	-5	-18	17
Grade Point Average	-39	23	-57	100	3	-25	2	-1	-8	-17	4	8	24	22	-16	-6	-12	22	-30	14	30	-15
Father's Education	-14	33	13	3	100	32	-63	19	1	1	-1	-17	-13	26	10	12	1	25	0	20	4	29
Mother's Education	27	-2	13	-25	32	100	-21	10	-6	-20	-8	-25	-3	9	26	1	-4	-30	-11	-5	-3	3
Father's (lower) Occupational Status	-7	-25	0	2	-63	-21	100	2	3	-12	19	-10	-17	-23	-13	-21	-28	-11	1	2	13	-15
Later Birth Order	-7	35	4	-1	19	10	2	100	49	2	11	-8	-25	4	13	1	6	-6	-2	15	-2	28
Number of Children in Family	5	14	6	-8	1	-6	3	49	100	10	-5	-1	-7	12	21	-14	5	-9	20	6	-8	19
Home Town Size	20	15	20	-17	1	-20	-12	2	10	100	-16	-4	-7	0	31	12	37	24	12	24	-23	49
High Outdoor/Sports Interests	6	-25	26	4	-1	-8	19	11	-5	-16	100	2	-38	-2	4	14	-13	5	-4	10	15	-2
Verbalized Evaluation Set (Y=2, N=1)	-23	8	-20	8	-17	-25	-10	-8	-1	-4	2	100	-5	0	-9	21	22	-9	-3	19	37	-10
How Difficult to Write about the Topic	-6	-2	-39	24	-13	-3	-17	-25	-7	-7	-38	-5	100	25	-31	-50	-18	-22	-23	-31	-22	-26
How Uncomfortable to Discuss the Topic	-2	4	-39	22	26	9	-23	4	12	0	-2	0	25	100	-11	-30	-7	-34	8	-4	-18	13
Extent Express True Feelings	35	-21	32	-16	10	26	-13	13	21	31	4	-9	-31	-11	100	45	39	6	28	10	-12	20
Extent of Involvement in Writing	0	-1	21	-6	12	1	-21	1	-14	12	14	21	-50	-30	45	100	53	24	44	37	30	20
Extent of Try to Write a Good Letter	-8	6	4	-12	1	-4	-28	6	5	37	-13	22	-18	-7	39	53	100	24	38	44	27	20
Recently Read or Talked about Topic	-13	10	8	22	25	-30	-11	-6	-9	24	5	-9	-22	-34	6	24	24	100	6	20	17	3
Desire for More Information re Performance	-21	-21	10	-30	0	-11	1	-2	20	12	-4	-3	-23	8	28	44	38	6	100	0	-18	20
Word Count	-18	38	-5	14	20	-5	2	15	6	24	10	19	-31	-4	10	37	44	20	0	100	59	59
Duration of Writing	-23	18	-18	30	4	-3	13	-2	-8	-23	15	37	-22	-18	-12	30	27	17	-18	59	100	-26
Fluency (Words/Minute)	4	30	17	-15	29	3	-15	28	19	49	-2	-10	-26	13	20	20	20	3	20	59	-26	100

Appendix K

Summary of Spontaneously Specified Goals(from Literature Class)

ELEMENTS OF WRITING
- (3)*good spelling
- (2) good punctuation
- (1) good grammar
- (1) good penmanship
- (1) disregard of formal rules

STYLE OF PRESENTATION
- (9) clarity (lucidity)
- (8) concise (succinct, to the point, does not beat around the bush, direct, brevity, pithy, not to wordy)
- (3) spontaneity (naturalness, as though talking)
- (3) organization of thoughts (orderliness, continuity)
- (3) descriptive
- (2) understandable (readable)
- (1) reification
- (1) summarization
- (1) good composition
- (1) metaphorical
- (1) simplicity
- (1) precise

CHARACTERISTICS OF TOPIC DEVELOPMENT
- (6) informative (concrete details, background, facts and issues, exact)
- (5) communicates a definite point of view (says something, own point of view, not a letter of general day-to-day happenings)

IMPACT OF WRITING ON READER
- (4) elicits reader involvement (shows mutual concerns, use of questions, tailored to the specific reader)
- (4) interesting (entertaining)

COMMUNICATION OF WRITER CHARACTERISTICS
- (6) warmth (cordiality, friendliness, positiveness, eagerness to communicate, care for and interest in the reader)
- (5) self-expressive (express my frame of mind, says what I want to say, conveys recent moods in my way of life, feelings and emotions)
- (4) honesty (sincerity)
- (4) humor (wit)
- (3) intelligence (originality, command of the situation, thoughtfulness, depth, insight)
- (2) objectivity (not one-sided)

* Indicates number of subjects who specified this characteristic or quality or some variation (synonym) of this characteristic.

Appendix L

Form Used to Elicit Subjects' Rankings of Writing Goals in Experiment Number Three

Imagine this scene. You have just finished writing a letter to a good friend. The letter was about a topic that you think is important. Before mailing the letter you decide to read it a final time.

Think now about the characteristics or qualities that a letter such as yours should have. Below are listed nine characteristics or qualities that could be used to describe your letter. Please indicate the one characteristic you would most like to find descriptive of your letter by writing a "1" beside it. Indicate the next most desirable characteristic by placing a "2" beside it. Please continue in this manner until you have written a "9" beside that characteristic or quality you judge least desirable among those listed.

___good form (grammar, spelling, punctuation)

___clarity (lucidity)

___concise (succinct, to the point, not too wordy, direct)

___informative (background developed, concrete details used, facts and issues stated)

___communicates a point of view (says something, reflective, persuasive techniques and arguments used, conclusions and suggestions stated)

___elicits reader's involvement(mutual concerns of writer and reader developed, questions used, message tailored to the specific reader)

___interesting(entertaining)

___warmth (friendliness, positiveness, care for and interest in the reader)

___self-expressive (says what the writer wants to say, expresses the writer's frame of mind, conveys recent moods, feelings, and emotions)

APPENDIX M

Test-Retest Reliability of Rankings for Goals in Writing

Below are listed the rankings given on the writing goals scale by the same subjects on two different occasions. The 29 subjects were volunteers from a class of nursing students, and they participated during two class sessions, the second session six weeks after the first. The lower numbers in each row below are the rankings given by the subject on the second administration of the scale. Also shown for each subject is the rank-correlation coefficient (r_s) which serves as indication of test-retest reliability (Dixon & Massey, 1957). It can be seen that the reliability was generally quite high with the correlations having a mean of .74; the rank-correlation coefficients were significant ($p < .05$, one-tailed test) for 25 of the 29 subjects.

	ITEM									
Subject	Good Form	Clarity	Concise	Informative	Communicates a point of view	Elicits reader's involvement	Interesting	Warmth	Self-Expressive	r_s
# 1	9_9	7_7	8_8	6_6	5_5	3_2	4_4	1_1	2_3	.98***
# 2	9_9	2_1	3_2	1_4	4_3	6_7	8_5	7_8	5_6	.80**

APPENDIX M - Continued

Subject	Good Form	Clarity	Concise	Informative	Communicates a point of view	Elicits reader's involvement	Interesting	Warmth	Self-Expressive	r_s
# 3	9_9	7_5	4_3	8_7	6_8	3_4	5_6	1_1	2_2	.90***
# 4	7_8	8_7	9_9	3_2	1_1	2_3	6_6	4_4	5_5	.97***
# 5	9_9	4_6	7_7	8_3	5_2	3_4	6_8	2_5	1_1	.57*
# 6	8_9	7_5	9_8	5_6	6_7	1_1	4_4	3_2	2_3	.92***
# 7	9_9	6_7	8_4	5_8	7_6	3_3	4_5	1_2	2_1	.77**
# 8	8_8	7_7	9_9	5_6	6_5	3_1	4_4	1_2	2_3	.93***
# 9	9_9	4_8	6_5	5_4	2_2	3_3	8_7	7_6	1_1	.83**
# 10	8_8	5_3	7_7	6_1	3_9	4_4	9_6	2_5	1_2	.30
# 11	9_8	5_7	7_4	6_9	8_6	2_5	1_1	3_2	4_3	.68*
# 12	9_9	6_8	8_7	7_6	5_5	1_1	4_3	2_2	3_4	.93***
# 13	9_8	8_9	7_4	5_2	4_3	2_7	6_6	1_1	3_5	.58*
# 14	9_9	6_5	5_4	7_8	4_7	2_2	8_6	3_3	1_1	.87**
# 15	9_9	6_5	5_7	4_6	8_8	2_1	7_4	3_3	1_2	.83**
# 16	1_5	6_6	8_7	5_2	9_9	7_8	4_4	3_1	2_3	.73**

APPENDIX M - Continued

Subject	Good Form	Clarity	Concise	Information	Communicates a point of view	Elicits reader's involvement	Interesting	Warmth	Self-Expressive	r_s
# 17	8_8	7_7	9_9	6_5	5_6	3_4	4_3	1_1	2_2	.97***
# 18	7_9	6_7	9_8	8_6	3_4	2_2	5_5	4_3	1_1	.90***
# 19	9_9	6_8	7_7	5_3	2_4	1_2	8_5	4_6	3_1	.75**
# 20	7_9	8_7	9_8	3_4	5_2	6_3	4_6	2_5	1_1	.68*
# 21	9_9	6_2	4_4	7_8	8_3	3_7	5_6	2_5	1_1	.43
# 22	9_9	3_7	4_6	2_2	7_3	5_4	8_5	6_8	1_1	.58*
# 23	9_9	7_7	8_8	2_2	5_3	3_5	6_5	4_4	1_1	.92***
# 24	7_9	4_7	9_8	6_4	8_1	5_2	3_6	2_5	1_3	.18
# 25	7_9	5_6	6_7	9_8	8_5	3_1	2_3	1_2	4_4	.82**
# 26	6_5	4_4	7_9	5_7	9_8	3_3	8_6	2_1	1_2	.87**
# 27	9_9	6_5	7_7	5_6	2_1	4_3	8_8	3_4	1_2	.95***
# 28	9_9	7_1	8_3	6_4	5_8	4_5	1_6	2_7	3_2	-.25
# 29	9_9	4_6	8_7	7_8	5_5	2_2	6_4	3_3	1_1	.92***

* p .05
** p .01
*** p .001

Appendix N

The eight forms shown in the following pages all give instructions to write a letter "to your best friend." The forms differ only in the evaluative set given in the second paragraph.

Appendix N -- Continued

INSTRUCTIONS *

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. Your letter when analysed will be used to help develop methods of measuring the ability of a person to write with good form. Thus, your letter will be evaluated for qualities such as good spelling, good punctuation, and good grammar. Please keep this criterion of good form in mind while writing. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

*Good Form

Appendix N -- Continued

INSTRUCTIONS *

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. Your letter when analysed will be used to help develop methods of measuring the ability of a person to write clearly. Thus, your letter will be evaluated for the quality of clarity or lucidity as it is demonstrated in your writing. Please keep this criterion of clarity in mind during your writing. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

*Clarity

Appendix N -- Continued

INSTRUCTIONS *

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. Your letter when analysed will be used to help develop a way to measure ability to be informative in writing. Thus, your letter will be evaluated for qualities such as development of background, use of concrete details, and statement of facts and issues. Please keep this in mind while writing. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

*Informative

Appendix N -- Continued

INSTRUCTIONS *

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. Your letter when analysed will be used to help develop a way to measure ability to communicate a point of view in writing. Thus, your letter will be evaluated for use of persuasive techniques and arguments and statement of conclusions and suggestions. Please keep this in mind while writing. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

*Point of view

Appendix N -- Continued

INSTRUCTIONS *

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. Your letter when analysed will be used to help develop a way to measure ability to elicit reader involvement in writing. Thus, your letter will be evaluated for development of mutual concerns and tailoring the message to the specific reader. Please keep this criterion in mind while writing. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

*Elicit reader involvement

Appendix N -- Continued

INSTRUCTIONS *

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. Your letter when analysed will be used to help develop a way to measure the ability of a person to write interestingly. Thus, your letter will be evaluated for the quality of interestingness or entertainingness in your writing. Please keep this criterion of interestingness in mind while writing. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

* Interesting

Appendix N -- Continued

INSTRUCTIONS*

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. Your letter when analysed will be used to help develop a way to measure ability to communicate warmth in writing. Thus, your letter will be evaluated for the qualities of friendliness, positiveness, and care for and interest in the reader. Please keep this criterion in mind while writing. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

*Warmth

Appendix N -- Continued

INSTRUCTIONS *

Your task will be to write a letter to your best friend who is in another city. The letter has already been begun for you. It shows the topic we want you to write about. Please continue the letter and write about the topic as you would write about such a topic to your best friend. Use the paragraph style you would use in an ordinary letter. Avoid outlining. If at all possible, refer to one or more specific experiences of your own, or experiences of somebody you know, which have helped to shape your ideas and feelings about the topic.

Thank you for volunteering for this research study. Your letter when analysed will be used to help develop a way to measure ability to be self-expressive in writing. Thus, your letter will be evaluated for the qualities of saying what the writer wants to say and conveying recent moods and feelings. Please keep this in mind during your writing. There is a questionnaire to be filled out after the writing task, and we will be interested in any comments you might have about this experiment.

*Self-expressive