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Signature Raymond Robert Hedrick

Date August 2, 1971

PERSONALITY TRAITS
AND EMOTIONAL DESCRIPTION: A COMPARISON

by

Haydn Robert Hedrick

A professional paper submitted to the Graduate Faculty in
partial fulfillment of the requirements for the degree

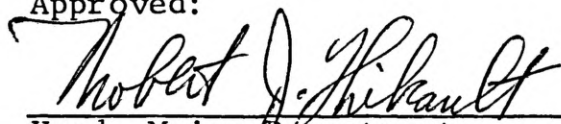
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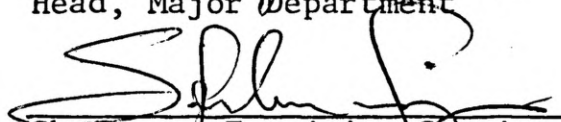
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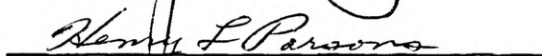
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Approved:


Head, Major Department


Chairman, Examining Committee


Graduate Dean

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ABSTRACT

The purpose of this study was to investigate possible relationships existing between a personality measure and descriptions of emotions. A Semantic Differential form for measuring the description was constructed. The form was checked for reliability, administered with The Personality Inventory, and correlations between the Semantic Differential and The Personality Inventory were computed.

Since emotions are expressions of experiential knowledge, and since release of the emotions is an essential of the therapeutic process, this investigation attempted to demonstrate the relationship of descriptive feeling to six personality factors. The six factors are described by Bernreuter as a measure of neurotic tendency (B1 - N), a measure of self-sufficiency (B2 - S) a measure of introversion-extroversion (B3 - I), a measure of dominance-submission (B4 - D), a measure of confidence in oneself (F1 - C) and a measure of sociability (F2 - S). People in the sample who scored higher than others on the Semantic Differential described the emotion in a manner that was more active, more potent and more highly valued, while persons who scored lower on the Differential form described the emotion in a less active, less potent and less valued fashion.

Sixty six correlations between ten emotions and the six personality factors were computed. Eighteen of the correlations were significant at the .05 level on a two tailed test. The null hypothesis for the forty eight correlations that were not significant was accepted. Correlations that were significant are as follows: the correlation between "fear" and (B2 - S) was .29470; the correlation between "fear" and (F2 - S) was .25369; the correlation between "sorrow" and (B1 - N) was -.25543; the correlation between "sorrow" and (B2 - S) was .40940; the correlation between "sorrow" and (B3 - I) was -.25780; the correlation between "sorrow" and (B4 - D) was .24626; the correlation between "sorrow" and (F1 - C) was -.32843; the correlation between "sorrow" and (F2 - S) was .24781; the correlation between "curiosity" and (B1 - N) was .23800; the correlation between "curiosity" and (B4 - D) was .36792; the correlation between "curiosity" and (F1 - C) was .30874; the correlation between "despair" and (B1 - N) was -.25219;

the correlation between "despair" and $(B2 - S)$ was .25629; the correlation between "despair" and $(B3 - I)$ was .23524; the correlation between "despair" and $(F1 - C)$ was .26980; the correlation between the total score on all emotions and $(B1 - N)$ was $-.27733$; the correlation between the total score on all emotions and $(B3 - I)$ was $-.23862$; the correlation between the total score on all emotions and $(B4 - D)$ was .36893; and the correlation between the total score on all emotions and $(F1 - C)$ was $-.35689$.

For the sample investigated, descriptions of several of the emotions used on the Semantic Differential and the total description score of all the emotions used show a tendency to be associated to particular personality factors.

CHAPTER I

INTRODUCTION

Undue suppression of emotion may lead to frustrated behaviour, and, as suggested by Carl Rogers, full expression of emotion provides relief from the pressure and tension felt by an individual. Rogers also feels that it is the job of the therapist to accept the client's feelings and help the client to express his emotions. (8:1-258) When this non-directive approach to therapy is considered, it seems that a great deal about the psychological state of an individual is revealed by his ability or inability to describe his feelings.

In a more specific approach to the possible connection between personality and emotion, Robert Plutchik states that personality is the outcome of an individual's exposure to persistent situations and his resulting emotional responses to these situations. Differences in personalities among individuals are explained by Plutchik as the personal differences in emotional reactions, and different personality factors in a singular individual are explained by the variety of persistent situations. (7:1-102) In respect to emotions being associated with situations, Joel R. Davitz agrees with Plutchik by stating, "When most people describe

an emotion it is done in reference to an experience."

(1:251-258)

Paul Simonav also sees emotions connected with situational experience, and he proposes an "information theory" that offers an explanation of types of emotion - positive, negative or neutral. According to Simonav a positive emotion is the result of an organism having more than enough information necessary to satisfy a need. A negative emotion is the reverse proposition - enough information is not available to satisfy the need. A neutral emotion is, of course, defined as the homeostasis state the organism experiences when the information available is equal to the information necessary for the satisfaction of a need.

(1:145-149)

STATEMENT OF THE PROBLEM

The problem of this paper is to investigate the relationship between defined personality factors and the connotative descriptions people use to describe given emotions.

PURPOSE

Since particular systems of psychotherapy use emotions as the basis for communication in therapy sessions, it

might be beneficial to investigate possible relationships that exist between a personality measure and an individual's description of emotions. Descriptions of emotions might help a therapist identify particular personality traits, and thereby aid in choosing a course of action. Such descriptions may also add to the client's understanding of the constitution of his own personality. Furthermore, a knowledge of any existing relationship between personality and emotional descriptions could help the therapist determine the accuracy and dimension of the client's description, and clearly identifying emotions may eventually lead to the process of changing emotional states. Andrew Salter, for example, states " . . . rather than persistently ringing standard verbal bells, the subject's (client's) individual conditionings are found and fed back to him. (9:76) Finally, such an investigation may help focus further research on particular dimensions of emotional experience.

GENERAL QUESTIONS TO BE ANSWERED

The content of this paper will attempt to answer several questions. Since an effort will be made to show a relationship between connotative descriptions of emotions and personality factors, a question asking for a theoretical concept behind the instruments used to measure this

relationship is necessary. Also implicated is a question concerning the necessity of a theoretical framework showing a connection between personality and emotion. More specific questions may be posed as follows: What are the personality factors that will be used as a comparative index for the emotion descriptions? What emotions will be used for the study? How will an objective form be designed for the purpose of accurately and systematically classifying and studying the descriptions? What relationships (if any) between the personality factors and the descriptions of the emotions will be found?

GENERAL PROCEDURE

In an effort to provide the necessary supportive data for this paper, a survey of the available literature will be taken, and similar studies and theoretical concepts within this area of study will be cited. In addition to the survey of literature, Bernreuter's The Personality Inventory will be given to two graduate classes totalling thirty two master's degree candidates in Education at Montana State University, and one class of forty graduate and undergraduate students in Education and Psychology. The Personality Inventory will then be compared to an instrument designed by the researcher and administered to

the same sample at the same time.

LIMITATIONS OF THE STUDY

The study of the problem must be limited in several ways. Information not contained in the survey of literature may exist - information that was not available or was overlooked by the researcher. Also, the type of sample used and procedure followed when collecting data place a definite restriction upon the making of any generalizations beyond the sample itself, regardless of the findings of this paper. Such restrictions are necessary since the sample used is not at all typical of the general population. More specific limitations may be stated as the use of particular instruments, The Personality Inventory and the researcher's inventory. These instruments are, of course, limiting since only the emotions given by the researcher can be compared with the specific personality factors as measured by The Personality Inventory.

SUMMARY

Since the emotions are expressions of experiential knowledge, and since release of the emotions is an essential of the therapeutic process, this paper will attempt to demonstrate the relationship of descriptive feeling to the variety of individual emotional experience.

The emotional catharsis necessary for sound mental health is helped or hindered by the individual's power of descriptive release; therefore, research will be conducted specifically to show a relationship between particular personality traits and particular descriptions of given emotions.

CHAPTER II

INTRODUCTION

Understanding emotions is of basic significance to the study of personality. Until recent years emotions were thought of as undesirable qualities that prompted conflict, disorder and imperfection. Recently, however, emotions have been viewed as a necessary part of experience, and the thought of a world of individuals devoid of emotion is inconceivable. (13:9) In fact, some theorists feel that human affect accounts for the many ways in which every man is much like other men, and conversely, the modification and development of affect through experience accounts for the many differences among men. (13:9) As Werner Wolff suggests, each individual has experiences which influence the linkage of associative ideas and feelings. (14:226)

REVIEW OF LITERATURE

According to Plutchik, eight primary emotion dimensions exist. Plutchik defines them as the functional expressions of destruction, reproduction, incorporation, orientation, protection, deprivation, rejection and exploration. Under each dimension synonyms are listed, and a polarity of opposites is formed. The dimension, the opposite and the

affect are organized by Plutchik into four pairs: protection (fear) versus destruction (anger); rejection (disgust) versus incorporation (acceptance); deprivation (sorrow) versus reproduction (joy); exploration (curiosity) versus orientation (surprise). (7:114-118) The four pairs of polar opposites produce all the common mixed emotions. For example, when "anger" is added to "joy", "pride" is produced, and when "fear" is mixed with "sorrow", "despair" results.

Wessman and Ricks believe that a variety in the conscious level of awareness of emotional responses exists for different individuals. In other words, Wessman and Ricks feel that a person can respond to an emotion and be unaware of what he is feeling, or even, in some cases, that he is responding. (13:9) In an attempt to find the possible causes for the arousal of emotion Schachter and Singer performed an experiment that perhaps also offers some explanation for different levels of awareness. Using adrenalin injections and creating situations from which subjects could make explanatory cognitions, the researchers found that emotional states may be considered a function of a state of physiological arousal and of a cognition appropriate to this state of arousal. For example, the same state of physiological arousal could be called either "joy",

"fear", or "jealousy", but the emotions are labelled according to the situations experienced at the time of physiological arousal. In summary, Schachter and Singer state, "Cognitive factors appear to be an indispensable element in any formation of emotion." (11:379-400)

Another interesting experiment which also demonstrates the plausibility of a relationship between emotions and particular situations is described by Penfield. As a surgeon, Penfield in the course of brain operations found that when different areas of his patients' brains were stimulated with an electric prod, the patients relived a specific experience. When a different area was again stimulated, the patient relived and again described in vivid detail another experience. Penfield notes that the descriptions by the patients at the time of stimulation were complete, particularly emphasizing the same emotion felt during the original experience. (6:178-195) Wessman feels that the emotional reactions to situations can be appropriate or warped. If a reaction to a situation is not appropriate and if this reaction is similar every time the situation is confronted, then an inappropriate emotional response is learned. (13:8) An example of an inappropriate response is seen when a person becomes

terrified by a situation that most people would view as harmless.

Andrew Salter describes and interprets an experiment done by Diven. During the experiment, subjects were asked to give associations to a list of words, and whenever the word "barn" appeared on the list, a shock was given the subject. (The subject's reaction was measured on a galvanometer). When the subject was again asked to read the list of words and make associations, he responded, this time without the shock, not only to the word "barn" but also to all other rural words on the list - "hay", "cow" and "pasture". (9:24-25)

The importance of words as descriptions of emotions is expressed by Davitz as a way of labelling different emotional states. (1:251-258) If a person can describe emotions in relation to participating in a particular experience, then a certain amount of awareness is present. Wessman feels that words play an important role in generalizing between affects and their objects and affects themselves. According to Wessman, any affect can be activated and maintained by words and by what the words symbolize. Thus, speech enables an individual to express and intensify or reduce emotions in other people. (13:8) Plutchik sees

the role of words as being important to therapy. He feels that in the course of therapy it is likely that some mixed emotions separate and become stable, and perhaps then, mix differently. Furthermore, Plutchik states that the process of emotional change in therapy proceeds from negative mixed emotions, to ambivalence, to positive mixed emotions.

(7:157)

In another study, Jack Block cites evidence compiled by administering Osgood's semantic differential to forty college male and forty eight college female students. Block found that men and women students in his study described emotions (limited by the possible descriptions on the instrument) in a highly similar way. The descriptions given by men, correlated with the women's descriptions, ranged from 0.84 to 0.98, with the exception of "guilt" which was 0.66. "Guilt", for women, was described as "low", "green", "weak", "smooth" and "rounded". For men, however, it was described as "high", "red", "strong", "rough" and "angular". (3:358-363)

According to Wessman, the primary aim of therapy, particularly with depressed people, may be the investigation of insight seen through the state of awareness during

depression, or elation in more ordinary states. (13:175)
A study done by Kellerman demonstrates that, for the patients tested, the more maladjusted patients restricted their expression of emotion far greater than moderately maladjusted or "normal" groups. (1:3-22) Perhaps, then, the simple description of emotion may have therapeutic value.

In an experiment by Plutchik a group of experienced clinicians were asked to indicate the extent to which a series of diagnostic constructs is associated with a sample of traits and emotions. For example, for a diagnostic concept such as paranoia, ratings were obtained from the judges on the extent to which it implies the existence of such traits as "kind", "assertive" or "suppressive" on emotions such as "joyful", "angry" or "sad". A good basis was found for assuming that the descriptive association of the relations between the hundreds of traits and emotions terms exists. Of course, this has implications for therapeutic practice as well as personality test construction. (1:3-22)

As an example of what might be done in the way of testing, a system developed by Wynne involves tabulating

the number and intensity of subjective feeling in three early memories written by an individual. The memories are scored for the intensity of each of Plutchik's dimensions from 0 to 9. The scores are summed over all three early memories and each dimension receives a score ranging from 0 to 27. Eight additional scores are derived. Early memories affect scores from 100 college females and 52 college males were correlated with several personality measures. For example, Minneapolis Multiphasic Personality Inventory scales fear versus hysteria $r = 0.49$. Wynne and Schaffzinger suggest that their system might be used for analysis of other kinds of thematic materials. (15:933-934)

CONSTRUCTION OF THE INSTRUMENT

Davitz lists four dimensions of emotional meaning, each dimension having a positive and negative connotation. His four dimensions are labelled as "activation", "relatedness", "hedonictone" and "competence". For "activation", the positive factor would be "activation", while the negative factor would be "hypoactivation" and "hyperactivation" (moving away, moving against). The dimension of "relatedness" is characterized positively by "moving towards" and

the negative is characterized again, by "moving away" or "moving against". The "hedonictone" dimension is labelled as positive by the associated meaning of "comfort" and is negatively labelled by "discomfort" or "tension". "Competence" is Davitz's fourth dimension, and he characterizes it positively by "enhancement" and negatively by "incompetence", and "inadequacy". (4:142-143)

Words, according to Osgood, represent things because they produce in people a reaction that is similar to the actual behaviour that occurred when the original stimulation or situation was experienced. He further explains this replica of behaviour as a mediating process. To Osgood the mediating process is a fractional part of the total behaviour elicited by the significate - a stimulus which, in a given situation, regularly and reliably produces a predictable pattern of behaviour. (5:7) In agreement, Andrew Salter more clearly states that an individual forms associations between words and sensations. "The word as a conditioned stimulus can call forth the reaction which is evoked by the situation which the word describes." (9:24)

Osgood constructed as a measuring device for meaning the Semantic Differential. The construction of this

measuring device is explained by Osgood as follows: (5:20)

"The semantic differential is essentially a combination of controlled association and scaling procedures. We provide the subject with a concept to be differentiated and a set of bipolar adjectival scales against which to do it, his task being to indicate, for each item (pairing of a concept with a scale), the direction of his association and its intensity on a seven step scale."

What Osgood describes is a phenomenon that suggests that particular sensations that belong to one concept (sense mode) attach themselves to particular sensations that belong to another concept. When the later concept is stimulated, responses from the first concept occur. As examples of this phenomenon, Osgood illustrates that a happy man is said to feel "high", a sad man "low"; people should travel "up" to the good place and "down" to the bad place. (5:21) Werner Wolff further suggests that emotional associations point toward a definite emotional temperament. (14:232)

According to Werner, words which signify emotions and attitudes generally arouse individual associations (14:225) and in a sense these associations (which are applicable to the Semantic Differential Form) label themselves as to content. Thus, administration of the Semantic Differential Form to groups of individuals might reveal individual

differences, and also these differences might be generalized into particular factors of content.

Osgood lists three clearly identifiable factors relating to polar opposite adjectives - "evaluation", "potency" and "activity". (5:36-38) For the purposes of the investigator's instrument, four evaluative opposites, and three potency opposites were chosen. The four evaluative opposites "light" - "dark", "dirty" - "clean", "high" - "low" and "sweet" - "bitter" were chosen because of their evaluative nature in determining the connotative descriptions of emotions and because of their definite "weighting" properties (from positive to negative).

The three "potency" opposites also were chosen because of the ease of assigning a positive or negative weight to each part of each opposite. For example, the space designed for the intensity of "strong" was assigned a positive weight, while "weak" space was given a negative value; "large" was weighted positively, "small" negatively; "full" positively, "empty" negatively. Besides potency, all three of the above opposites also contain evaluative factors.

Generally speaking, The Personality Inventory measures an individual's level of inhibition or excitation. Bernreuter's questions and question weights suggest that the well adjusted person is active, open and assertive. Such assumptions about the nature of the healthy personality warranted the choice of "active - passive" and "open-closed" as polar opposites on the Semantic Differential, and furthermore, made the weight assignment of a positive value for "open" and "active" and negative value for "closed" and "passive" possible. All potency opposites and their subsequent weights may also be individually viewed as positive or negative according to their assertive nature. "Hot - cold" and "active - passive" are, according to Osgood, activity factors. (5:181-185) "Hot - cold", however, was chosen by the investigator since previous investigation into personal differences in description of emotions indicated a general use of temperature as a descriptive device. "Hot" space was assigned a positive value since it possesses something that "cold" does not (this is true of almost all of the chosen opposites), and "cold" space was assigned a negative weight since it can be defined as an absence of heat.

For the purpose of scoring the investigator's instrument the total of all positive and negative scores, determined by the direction and intensity of the subject's choice for each of the ten polar opposites, are accumulated for each emotion. A high positive score on a particular emotion should indicate associations that are positively evaluative, potent and active. A negative score for an emotion should indicate the reverse proposition - that an individual makes associations that are negative in evaluation, impotent, and passive.

SUMMARY

Learning as the source of emotional reactions, and the learning of whether reactions and expressions of emotions are accepted or disapproved, has an immense impact on personality formation. Initially, the flexibility of such learning is great, but later, errors that have been learned are not easily corrected. However, what has been learned can be "unlearned." Words are representative of behaviour that has been learned. Perhaps through words that which has been learned can be discovered, and perhaps through words that which has been incorrectly learned can be extinguished.

CHAPTER III

INTRODUCTION

As previously stated, the problem of this paper is to investigate the relationship between personality factors and the connotations people use to describe given emotions. The Bernreuter's Personality Inventory will be used to define personality factors, and a Semantic Differential will be used to measure the connotative meanings people apply to specific emotions. This chapter, then, will include a description of the population to be studied, the definition of the categories used for the comparison, the method of data collection and the method of data analysis.

POPULATION DESCRIPTION AND SAMPLING PROCEDURE

Since as large a number of subjects as possible is desirable for the purpose of collecting data for this study, a cluster sampling procedure will be used. The clusters will consist of graduate students in Education and Psychology and undergraduate students in Education, Sociology and Psychology who are enrolled during summer quarter classes at 2:20 p.m. Many of the students used for data collection will be teachers returning to Montana State University for advanced degrees or recertification

in their respective fields. Some will be working for degrees which will enable them to find employment in areas associated with their field of study. For example, some students may seek vocations in social work, industry or extension services. More specifically, the sample may be described as consisting of thirty five males and thirty six females. Seven juniors, twenty seniors and forty four graduate students were administered both instruments. Fifty two of the students were in Education, seven were in Psychology, six in Sociology, three were in Nursing, two were in Accounting and one student was in Zoology.

DEFINITION OF CATEGORIES

The Bernreuter Personality categories used in this paper as a means of comparing the connotations of specific emotions are described as a measure of neurotic tendency, a measure of dominance-submission, a measure of self-sufficiency, a measure of introversion or extroversion, a measure of confidence in oneself and a measure of sociability. Persons scoring high on the neurotic scale tend to be emotionally unstable, while those scoring low tend to be well balanced emotionally. High scores on the self-sufficiency scale indicate persons who prefer to be alone and who

seldom seek the advice of others. Persons scoring high on the introversion-extroversion scale tend to be imaginative and to live within themselves, while those scoring low are extroverted. The persons who score high on the dominance-submission tend to dominate others, and those scoring low tend to be submissive. A high score on the confidence scale may indicate persons who are self-conscious, and those scoring low tend to be self-confident and well-adjusted. Persons scoring high on the sociability scale tend to be non-social, while those scoring low tend to be sociable. (2:1-3)

The specific emotions used for this investigation are as follows: "disgust", "fear", "sorrow", "acceptance", "joy", "surprise", "anger", curiosity, "pride" and "despair". Osgood's form for examining connotative meanings and for rating the connotative descriptions of the emotions previously cited is the method employed for the design of the investigator's instrument. (10:256) The opposites chosen by the investigator and used in the Semantic Differential Form are: light-dark, active-passive, dirty-clean, hot-cold, full-empty, small-large, closed-open, weak-strong, high-low, sweet-bitter.

METHOD OF COLLECTING DATA

In an effort to control several variables, time, place and procedure, both The Personality Inventory and the investigator's instrument will be administered together, and all students will be tested simultaneously. Several graduate students, who are not a part of the population, will administer the instrument to the different classes. These proctors will be trained to give the same directions and to follow the same procedures as the investigator, who will also administer the instruments to one class.

In an effort to check the reliability of the investigator's instrument, a separate class of undergraduate students enrolled in a testing and measurements course will be given the instrument during Spring Quarter of 1971. After two weeks the same instrument will be given to the same class, and the results of the first test will be compared with the results of the second in both separate situations.

The reliability and validity of The Personality Inventory are discussed and are presented in table form in the Bernreuter Manual.

METHOD OF ORGANIZING DATA

All data collected and presented in this paper will be displayed in table form, and written explanations of each comparison will also be given. The data will be organized with respect to the order of the emotions on the investigator's instrument. For example, the scores on the neurotic scale will be compared to each of the ratings compiled on the Semantic Differential for each of the fifteen emotions.

ANALYSIS OF DATA

The statement of the null hypothesis for all correlations using Pearson Product Moment are as follows:

Variables Correlated with "Disgust"

Ho: the correlation between "disgust" and B1 - N = 0
 Ho: the correlation between "disgust" and B2 - S = 0
 Ho: the correlation between "disgust" and B3 - I = 0
 Ho: the correlation between "disgust" and B4 - D = 0
 Ho: the correlation between "disgust" and F1 - C = 0
 Ho: the correlation between "disgust" and F2 - S = 0

Variables Correlated with "Fear"

Ho: the correlation between "fear" and B1 - N = 0
 Ho: the correlation between "fear" and B2 - S = 0
 Ho: the correlation between "fear" and B3 - I = 0
 Ho: the correlation between "fear" and B4 - D = 0
 Ho: the correlation between "fear" and F1 - C = 0
 Ho: the correlation between "fear" and F2 - S = 0

Variables Correlated with "Sorrow"

Ho: the correlation between "sorrow" and B1 - N = 0
 Ho: the correlation between "sorrow" and B2 - S = 0
 Ho: the correlation between "sorrow" and B3 - I = 0
 Ho: the correlation between "sorrow" and B4 - D = 0
 Ho: the correlation between "sorrow" and F1 - C = 0
 Ho: the correlation between "sorrow" and F2 - S = 0

Variables Correlated with "Acceptance"

Ho: the correlation between "acceptance" and B1 - N = 0
 Ho: the correlation between "acceptance" and B2 - S = 0
 Ho: the correlation between "acceptance" and B3 - I = 0
 Ho: the correlation between "acceptance" and B4 - D = 0
 Ho: the correlation between "acceptance" and F1 - C = 0
 Ho: the correlation between "acceptance" and F2 - S = 0

Variables Correlated with "Joy"

Ho: the correlation between "joy" and B1 - N = 0
 Ho: the correlation between "joy" and B2 - S = 0
 Ho: the correlation between "joy" and B3 - I = 0
 Ho: the correlation between "joy" and B4 - D = 0
 Ho: the correlation between "joy" and F1 - C = 0
 Ho: the correlation between "joy" and F2 - S = 0

Variables Correlated with "Surprise"

Ho: the correlation between "surprise" and B1 - N = 0
 Ho: the correlation between "surprise" and B2 - S = 0
 Ho: the correlation between "surprise" and B3 - I = 0
 Ho: the correlation between "surprise" and B4 - D = 0
 Ho: the correlation between "surprise" and F1 - C = 0
 Ho: the correlation between "surprise" and F2 - S = 0

Variables Correlated with "Anger"

Ho: the correlation between "anger" and B1 - N = 0
Ho: the correlation between "anger" and B2 - S = 0
Ho: the correlation between "anger" and B3 - I = 0
Ho: the correlation between "anger" and B4 - D = 0
Ho: the correlation between "anger" and F1 - C = 0
Ho: the correlation between "anger" and F2 - S = 0

Variables Correlated with "Curiosity"

Ho: the correlation between "curiosity" and B1 - N = 0
Ho: the correlation between "curiosity" and B2 - S = 0
Ho: the correlation between "curiosity" and B3 - I = 0
Ho: the correlation between "curiosity" and B4 - D = 0
Ho: the correlation between "curiosity" and F1 - C = 0
Ho: the correlation between "curiosity" and F2 - S = 0

Variables Correlated with "Pride"

Ho: the correlation between "pride" and B1 - N = 0
Ho: the correlation between "pride" and B2 - S = 0
Ho: the correlation between "pride" and B3 - I = 0
Ho: the correlation between "pride" and B4 - D = 0
Ho: the correlation between "pride" and F1 - C = 0
Ho: the correlation between "pride" and F2 - S = 0

Variables Correlated with "Despair"

Ho: the correlation between "despair" and B1 - N = 0
Ho: the correlation between "despair" and B2 - S = 0
Ho: the correlation between "despair" and B3 - I = 0
Ho: the correlation between "despair" and B4 - D = 0
Ho: the correlation between "despair" and F1 - C = 0
Ho: the correlation between "despair" and F2 - S = 0

Variables Correlated with
the Total Semantic Differential Scores

Ho: the correlation between the total score and B1 - N = 0
Ho: the correlation between the total score and B2 - S = 0
Ho: the correlation between the total score and B3 - I = 0
Ho: the correlation between the total score and B4 - D = 0
Ho: the correlation between the total score and F1 - C = 0
Ho: the correlation between the total score and F2 - S = 0

The alternative to the preceding null hypothesis would be the rejection of it, significant at the 0.05 level for a two tailed test.

PRECAUTIONS TAKEN FOR ACCURACY

Responses to The Personality Inventory will be put on I.B.M. answer sheets and will be machine scored. Responses to the investigator's instrument will be marked on the instrument itself, and will then be scored and organized for computer computation.

SUMMARY

Two instruments, The Bernreuter Personality Inventory and the investigator's Semantic Differential, will be administered to students at Montana State University in an effort to investigate the relationship between emotional connotations and personality factors, and correlations between the two instruments will be computed. The collected data will be compiled and an analysis of the findings will be presented.

CHAPTER IV

RESULTS

INTRODUCTION

The results of this paper have been presented in table form with a written explanation following each table. An asterisk has been placed after each correlation that meets the critical value for significance. Since significant correlations can be discussed by comparing the direction of Semantic Differential scores with the Bernreuter Scales or by comparing the direction of Bernreuter Scales with the Semantic Differential scores, the investigator has described the results by comparing the rise of Semantic Differential with the rising or lowering tendency of the Bernreuter Scales. The investigator has also represented the Bernreuter Scales in a manner that is consistent with the profile depicted on The Personality Inventory. For example, (B1 - N) refers to a measure of neurotic tendency, (B2 - S) is synonymous with a measure of self-sufficiency, (B3 - I) is the symbolic representation of a measure of introversion-extroversion, (B4 - D) refers to a measure of dominance-submission, (F1 - C) represents a measure of confidence in oneself and (F2- S) refers to a measure of sociability.

ANALYSIS OF RESULTS

Table I

Correlations between "Disgust"
and the Six Bernreuter Scales

Variables Correlated with "Disgust"		r
1.	B1 - N	-.17760
2.	B2 - S	.05493
3.	B3 - I	-.17119
4.	B4 - D	.11402
5.	F1 - C	-.18060
6.	F2 - S	-.02487

Critical values for $\alpha = .05$ on a two tailed test, $df=69$, are + .2340.

For the sample investigated, none of the correlations between "disgust" and the six scales of Bernreuter's The Personality Inventory are significant; therefore, the null hypothesis for "disgust" with each of the six Bernreuter Scales was accepted.

Table II
Correlations between "Fear"
and the Six Bernreuter Scales

Variables Correlated with "Fear"		r
1.	B1 - N	-.03723
2.	B2 - S	.29470*
3.	B3 - I	-.04618
4.	B4 - D	.03490
5.	F1 - C	-.08886
6.	F2 - S	.25369*

Critical values for $\alpha = .05$ on a two tailed test, $df = 69$, are $\pm .2340$.

Two of the correlations between "fear" and the Bernreuter Scales, "fear" compared with self sufficiency and "fear" compared with sociability, are significant at the .05 level. Both correlations indicate a tendency for the scores on the two Bernreuter Scales to rise as the scores for "fear" on the Semantic Differential rise. For the sample studied, then, persons who seldom seek advice and prefer to be alone have a tendency to describe the emotion "fear" in a way that is more active, more highly valued and more potent than those persons whose scores are lower on the self sufficiency scale. Also, persons in the sample

who are more non-social and independent have a tendency to view the emotion "fear" as being more active, more highly valued and more potent than those persons in the sample who are more sociable and gregarious. The null hypothesis for the other four correlations was accepted.

Table III
Correlations between "Sorrow"
and the Six Bernreuter Scales

Variables Correlated with "Sorrow"		r
1.	B1 - N	-.25543*
2.	B2 - S	.40940*
3.	B3 - I	-.25780*
4.	B4 - D	.24626*
5.	F1 - C	-.32843*
6.	F2 - S	.24781*

Critical values for $\alpha = .05$ on a two tailed test, $df = 69$, are $\pm .2340$.

For the sample investigated, all six variables correlated with "sorrow" are significant at the .05 level. Persons who viewed "sorrow" as more active, highly valued and potent tend to be more well balanced emotionally than those persons who are more emotionally unstable. Persons who viewed

"sorrow" as active, highly valued and potent are more self-sufficient than those who viewed the emotion as being less active, less valued and less potent. Those persons in the sample who described the emotion as highly valued, active and potent had more of a tendency to be extroverted than those who viewed the emotion in a less valued, less active and less potent manner. Persons who scored higher on "sorrow" tend to be more dominant than those who scored low. Higher scores on "sorrow" tend to be more closely associated with those persons who scored lower on the scale for confidence (indicating people who are more self-confident) than those persons who scored high (indicating people who are self-conscious). Persons who had a tendency to view the emotion as active, highly valued and potent also had a tendency to be more solitary and independent than those who scored lower on the Semantic Differential.

TABLE IV
Correlations between "Acceptance"
and the Six Bernreuter Scales

Variables Correlated with "Acceptance"		r
1.	B1 - N	-.10965
2.	B2 - S	-.11417
3.	B3 - I	-.06245
4.	B4 - D	.22046
5.	F1 - C	-.14503
6.	F2 - S	-.12986

Critical values for $\alpha = .05$ on a two tailed test, $df = 69$, are $\pm .2340$.

For the sample used in the investigation and for the particular dimensions used in the Semantic Differential, none of the correlations between "acceptance" and the six scales of Bernreuter's The Personality Inventory are significant; therefore the null hypothesis for "acceptance" with each of the six Bernreuter Scales was accepted.

TABLE V
Correlations between "Joy"
and the Six Bernreuter Scales

Variables Correlated with "Joy"		r
1.	B1 - N	-.03342
2.	B2 - S	-.14602
3.	B3 - I	-.03933
4.	B4 - D	.10199
5.	F1 - C	-.07516
6.	F2 - S	-.05797

Critical values for $\alpha = .05$ on a two tailed test, $df = 69$, are $\pm .2340$.

For the sample used in the investigation and for the particular dimensions used in the Semantic Differential, none of the correlations between "joy" and the six scales of Bernreuter's The Personality Inventory are significant; therefore, the null hypothesis for "joy" with each of the six Bernreuter Scales was accepted.

TABLE VI
Correlations between "Surprise"
and the Six Bernreuter Scales

Variables Correlated with "Surprise"		r
1.	B1 - N	-.16718
2.	B2 - S	.00723
3.	B3 - I	-.13850
4.	B4 - D	.19063
5.	F1 - C	-.20816
6.	F2 - S	.00646

Critical values for $\alpha = .05$ on a two tailed test, $df = 69$, are $\pm .2340$.

For the sample used in the investigation and for the particular dimensions used in the Semantic Differential, none of the correlations between "surprise" and the six scales of Bernreuter's The Personality Inventory are significant; therefore, the null hypothesis for "surprise" with each of the six Bernreuter Scales was accepted.

TABLE VII
Correlations between "Anger"
and the Six Bernreuter Scales

Variables Correlated with "Anger"		r
1.	B1 - N	-.06885
2.	B2 - S	.12360
3.	B3 - I	-.08477
4.	B4 - D	.15492
5.	F1 - C	-.12780
6.	F2 - S	.23216

Critical values for $\alpha = .05$ on a two tailed test, $df = 69$, are $\pm .2340$.

For the sample investigated and in consideration of the meaning dimensions used in the construction of the Semantic Differential, none of the correlations between "anger" and the six Bernreuter Scales are significant; therefore, the null hypothesis for "anger" with each of the six Bernreuter Scales was accepted.

Table VIII
Correlations between "Curiosity"
and the Six Bernreuter Scales

Variables Correlated with "Curiosity"		r
1.	B1 - N	-.23800*
2.	B2 - S	.12559
3.	B3 - I	-.17818
4.	B4 - D	.36792*
5.	F1 - C	-.30874*
6.	F2 - S	.02890

Critical values for $\alpha = .05$ on a two tailed test, $df = 69$, are $\pm .2340$.

In consideration of the sample investigated, persons who viewed "curiosity" as more active, highly valued and potent, tend to be more well balanced emotionally than those persons who are more emotionally unstable. Persons in the sample who viewed the emotion as highly valued, active and potent had more of a tendency to be dominant than those who scored lower on the Semantic Differential. Also, persons who scored higher on the Semantic Differential had a tendency to be more self-confident than those who viewed the emotion in a less active, less valued and less potent

manner. The null hypothesis for the other three correlations ("curiosity" with B2 - S, "curiosity" with B3 - I and "curiosity" with F2 - S) was accepted.

Table IX
Correlations between "Pride"
and the Six Bernreuter Scales

Variables Correlated with "Pride"		r
1.	B1 - N	.00977
2.	B2 - S	-.07277
3.	B3 - I	.03393
4.	B4 - D	.10445
5.	F1 - C	-.03386
6.	F2 - S	.09817

Critical values for $\alpha = .05$ on a two tailed test, df - 69, are $\pm .2340$.

For the sample investigated and in consideration of the meaning dimensions used in the construction of the Semantic Differential, none of the correlations between "pride" and the six Bernreuter Scales are significant; therefore, the null hypothesis for "pride" with each of the six Bernreuter Scales was accepted.

TABLE X

Correlations between "Despair"
and the Six Bernreuter Scales

Variables Correlated with "Despair"		r
1.	B1 - N	-.25219*
2.	B2 - S	.25629*
3.	B3 - I	-.23524*
4.	B4 - D	.23158
5.	F1 - C	-.26980*
6.	F2 - S	.20612

Critical values for $\alpha = .05$ on a two tailed test, $df = 69$, are $\pm .2340$.

As scores on the measure for neurotic tendency lower, scores on the Semantic Differential rise. Thus, persons who had a tendency to describe "despair" as being highly valued, active and potent tend to be more emotionally well balanced than those persons who scored lower on the Semantic Differential. Persons who viewed "despair" as active, highly valued and potent have a tendency to be more self-sufficient than those who viewed the emotion as being less active, less valued and less potent. Those persons in the sample who viewed "despair" as highly valued, active and potent had more of a tendency to be extroverted than those

who viewed the emotion in a less valued, less active and less potent manner. Higher scores on the Semantic Differential for "despair" tend to be more closely associated with those persons who scored lower on the scale for confidence than those persons who described "despair" in a less active, less valued and less potent way. A low score on the measure for confidence in oneself indicates those who are well adjusted to their environment. The null hypothesis for correlations between "despair" with (B3 - I) and "despair" with (F2 - S) are accepted.

TABLE XI

Correlations between the Total Scores on the Semantic Differential and the Six Bernreuter Scales

Variables Correlated with "Total Scores"		r
1.	B1 - N	-.27733*
2.	B2 - S	.17687
3.	B3 - I	-.23862*
4.	B4 - D	.36893*
5.	F1 - C	-.35689*
6.	F2 - S	.15113

Critical values for $\alpha = .05$ on a two tailed test, $df = 69$, are $\pm .2340$.

The persons in the sample who viewed all of the emotions on the Semantic Differential in a way that was more highly valued, more active and more potent tended to receive lower scores on the measure for neurotic tendency than those who viewed the emotions in a less valued, less active and less potent fashion. Persons who scored higher than others in the sample tend to score lower on the measure for introversion-extroversion than those persons who scored lower on the Semantic Differential. In comparison to persons who scored lower on Semantic Differential, persons who viewed all of the emotions as more highly valued, more potent and more active tend to rarely worry and seldom suffer emotional upsets. Higher scores on the total Semantic Differential were more closely associated with persons in the sample who were more dominant than those with lower total scores.

Persons who described all of the emotions in a highly valued, active and potent manner had a tendency to be more self confident than those who scored lower on the Semantic Differential. The null hypotheses for the correlation between total scores and (B2 - S) and the correlation between total scores and (F2 - S) are accepted.

RELIABILITY

Using the test - retest method for checking the reliability of the Semantic Differential, the following correlations were computed: test - retest correlation for total scores on the Semantic Differential was .84194; test - retest correlation for scores on "disgust" was .48750; test - retest correlation for scores on "fear" was .67634; test - retest correlation for scores on "sorrow" was .62238; test - retest correlation for scores on "acceptance" was .72117; test - retest correlation for scores on "joy" was .82703; test - retest correlation for scores on "surprise" was .75568; test - retest correlation for scores on "anger" was .79574; test - retest correlation for scores on "curiosity" was .70374; test - retest correlation for scores on "pride" was .63320; test - retest correlation for scores on "despair" was .69431.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The problem of the paper was to investigate the relationship between defined personality factors and the connotative descriptions people use to describe given emotions. Relationship between nineteen of the emotions and personality factors used by the investigator were found to be significant. Since the sample used for the investigation was not typical of the general population, generalizations applicable to the general population cannot be made. However, the six significant correlations indicate that persons in the sample who described sorrow in a highly valued, active, and potent manner are associated with the "healthy personality." Similar associations were found in correlations between descriptions of "curiosity" and low neurotic tendency and descriptions of "curiosity" and a tendency to be dominating and self confident. Positive significant correlations between descriptions of "fear" and two personality factors, a measure of self-sufficiency and a measure of self confidence, were also found. Descriptions of despair were also significantly correlated with a low neurotic tendency, self sufficiency,

extroversion and self confidence. Furthermore, total descriptive scores on all emotions were significant when correlated with low neurotic tendency, dominance and confidence in oneself. Thus, for the sample investigated, descriptions of emotions on a Semantic Differential form might reveal a tendency toward particular personality traits.

RECOMMENDATIONS

Most of the recommendations by the investigator concern possible ways of referring the Semantic Differential form for the measurement of descriptions of emotions. First, the investigator recommends that other emotions be substituted for those emotions that did not reveal significant correlations with the six scales on The Personality Inventory. Furthermore, the investigator recommends that the adjectival polar opposites used to describe the emotions be separated into three distinct dimensions of meaning. For example, opposites used for a specific emotion should be of one type, either completely related to activity, completely related to value or completely related to potency, rather than a combination of all three meaning dimensions for describing a specific emotion.

For the purpose of further study, the investigator also recommends that other personality inventories be used to find possible correlations between Semantic Differential description and personality factors that may not be included on The Personality Inventory. The investigator also recommends that a sample be chosen which is more applicable to the general population than the sample used in this study. Furthermore, the investigator suggests that a discussion of the dimension of meaning in relation to the opposites chosen for the Semantic Differential form could include the dimensions of "relatedness", hedonictone" and "competence" as described by Davitz (4:142-143).

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APPENDIX

APPENDIX A

A SEMANTIC DIFFERENTIAL FOR EMOTIONS

Male: _____ Female: _____ Curriculum _____

Educational Status: Junior: _____ Senior _____ Grad. _____

Each of the ten emotions found below is followed by ten word opposites. The word opposites are separated by seven blank spaces which indicate the degree of meaning you feel best describes the emotion. For every pair of opposites place a check mark in the space which best describes the emotion for you.

Example:

ANGER

black $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: $\frac{\quad}{0}$: $\frac{\quad}{1}$: $\frac{X}{2}$: $\frac{\quad}{3}$: white

In the above example a check mark was placed in a position that indicates a connotative feeling of "anger". "Anger" in this example is "white" but it is not completely "white".

I. DISGUST

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter

II. FEAR

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter

III. SORROW

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter

IV. ACCEPTANCE

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter

V. JOY

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter

VI. SURPRISE

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter

VII. ANGER

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter

VIII. CURIOSITY

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter

IX. PRIDE

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter

X. DESPAIR

a. light	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	dark
b. active	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	passive
c. dirty	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	clean
d. hot	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	cold
e. full	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	empty
f. small	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	large
g. closed	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	open
h. weak	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	strong
i. high	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	low
j. sweet	$\frac{3}{3}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{0}{0}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{3}{3}$	bitter