CHANGES OVER TIME IN THE FREE VERBALIZATIONS OF HIGH AND AVERAGE PROBLEM ADMITTERS

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ABSTRACT

CHANGES OVER TIME IN THE FREE VERBALIZATIONS OF HIGH AND AVERAGE PROBLEM ADMITTERS

by Pamela Jackson

The present study was designed to explore the free verbalizations of high and average problem admitters on dimensions derived from Carl Rogers' conception of therapeutic process changes.

Problem admission was assessed from administration of the Mooney Problem Check List to 198 male General Psychology students. From the distribution of the number of problems checked, high problem admitters (HPA's) were chosen from the upper 15% and average problem admitters (APA's) from the middle 15%. Eighteen Ss, ten HPA's (mean number of problems checked = 86) and eight APA's (mean number of problems checked = 38) volunteered to complete eight individual free verbalization sessions lasting 20 minutes each. They were instructed to "talk about anything at all." It was expected that HPA's, as

the less well-adjusted and more anxious Ss, would talk on a more neutral, non-personal level, and would have more defensive verbalization. APA's, on the other hand, as the more well-adjusted, less anxious Ss, were expected to talk more about themselves, their feelings, and their life problems.

The dependent variable consisted of operational definitions of responses similar to those indicative of process changes found in client-centered therapy, and was measured by the use of ten coding categories. The data for each category was analyzed on the basis of the proportion of the total number of responses on a given session coded in the category.

Twenty hypotheses were made, ten of which dealt with differences between groups and ten that dealt with response changes within each group over time. Of the hypotheses concerning group differences, two were statistically significant: APA's talked more about themselves than HPA's; and HPA's talked more about others than APA's. None of the hypotheses dealing with response changes over time were significant. But unexpected significant results, some of which were contrary to

prediction, showed decreases over time for both groups on several measures of defensive verbalization.

Combining the data for both groups, the descending order of frequency of usage of the content categories was as follows: discussion of self; discussion of others; uncertain and qualified speech; silence; expression of negative feelings; discussion of problems; expression of positive feelings; and direct references. In addition, the Ss talked three to four times as frequently in the present compared to the past tense. Thus, when given instructions to "talk about anything at all," although the Ss talked more about themselves than others, and more in the present than past tense, they did not characteristically focus on more feeling and problem-oriented discussion.

Possible reasons for the lack of significant changes over time on the more positive, self-exploratory dimensions, such as expression of feelings and discussion of problems, were discussed. Also, several important variations in the design of such research were suggested.

Approved by _____
Committee Chairman

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CHANGES OVER TIME IN THE FREE VERBALIZATIONS OF HIGH AND AVERAGE PROBLEM ADMITTERS

By

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I. INTRODUCTION

Statement of the Problem

The present study was designed to explore changes in the verbal behavior of high and average problem admitters in a minimally structured free verbalization situation. The study is not of psychotherapy; rather, it is a study of the verbal behavior of "normal" subjects when alone, non-reinforced, and confronted with a therapy-related task. The findings obtained are relevant to psychotherapy research as can be understood from the following questions toward which the research was directed: If given no reinforcement or feedback, will Ss talk in a free verbalization situation? If they talk, will their talking concern personally meaningful discussion or impersonal issues? Moreover, what will be the nature of the changes in frequency of these verbalizations over time? And specifically, on all of the above questions, what will

be the differences noted between subjects distinguished on the basis of their readiness to admit problems?

Review of the Literature

The Importance of a Therapist

With the possible exception of behavior therapy, most schools of psychotherapy are explicit in advocating a positive patient-therapist relationship as a major source of personality change. Rogers has stated that " . . . significant positive personality change does not occur except in a relationship" (Rogers, 1957, p. 96), although he adds that this is an hypothesis that might be disproved. Empathic understanding, congruence, or genuineness, and a high degree of respect, liking, and regard for the client are therapist characteristics which must be perceived by the client for constructive personality change to take place (Rogers, 1957; Rogers, 1966).

In a study of the effect of therapist communication on verbal behavior, Martin, Lindy, & Lewin (1960) concluded that the responding therapist communicates positive reinforcement for behavior in the client that shows approach to

emotionally important areas, and aids in the extinction of negative affect associated with approach behavior through his non-critical, acceptant attitude.

Hobbs (1957) emphasized the point that the first source of gain in psychotherapy is the psychotherapeutic relationship itself. The impact of this relationship stems from the fact that it affords the client a sustained experience of intimacy during which he can risk being open, honest, and close, and can express his feelings freely. Intimacy, according to Hobbs, is a learned need to be close that mainly develops during the sustained period of dependency as an infant.

Similarly, Braaten (1961) noted that a significant factor for therapeutic growth involves the client's use of his relationship to his therapist as a source of new experience rather than his talking about the therapist.

Studies on Free Verbalization

Free Verbalization and the Importance of the Therapist

In the study mentioned above on the effects of therapist communication on verbal behavior, Martin, Lindy,

and Lewin (1960) used three groups of Ss selected from college students who volunteered for a brief psychotherapy experience and scored high on the Forced-Choice Manifest Anxiety Scale. One group received regular psychotherapy; another group experienced a therapist who gave only non-verbal responses; and the third group talked into a tape recorder. On the basis of intra-interview results, they found that Ss who received regular psychotherapy progressively increased in approaching emotionally important material. The "tape group," however, showed a slight non-statistically significant tendency to decrease in approaching emotionally important areas over time, although responses from this group were quite erratic. The group that spoke to the non-verbal therapist achieved changes midway between the regular and tape groups. GSR data in the above study indicated the following intra-interview results: approach behavior in the regular therapy group was accompanied by less and less of an increase in anxiety; the "tape group" showed marked increase in intra-interview anxiety as sessions progressed; and the non-verbal group showed intermediate trends. It might be reasoned from this study that the greater the amount of reinforcement from the therapist, or the greater the number of aspects

of the therapist that are present in the situation, the greater the reduction in the patient's anxiety over time.

Dimascio and Brooks (1961) had a patient free associate to a fantasied therapist behind a one-way mirror twice a week in addition to regular therapy sessions. The patient found the sessions beneficial in helping her formulate her ideas before going to her regular therapy. But she felt that the total lack of response on the therapist's part made such sessions an unsatisfactory substitute for psychotherapy. The authors reported that a definite positive transference relationship was readily evident from the patient's desire to have "him" as her therapist when her regular therapist had to terminate.

Lowinger and Huston (1955) had a therapist communicate verbally with patients through microphones and earphones, but removed his non-verbal cues by having him physically absent. He could observe the patient Ss through a one-way mirror. Ten patients were so treated during one of three therapy sessions a week for an average of 29 weeks. The following results were obtained: four patients were unchanged, four showed improvement, and two reportedly had a remission of their present problem. In this study,

as in the above (Dimascio and Brooks, 1961), a transference developed, but it was thought to be much milder than what would have developed had patient and therapist been in mutual physical presence.

Autoanalytic Studies

The term autoanalysis was coined by Guerney and Stollak (1966). It describes a situation in which the S is seated in a comfortable chair and is alone in a relatively bare room. The S is instructed to "think aloud" into a microphone, and he is informed that the E is going to listen to recordings of the free verbalizations of his thoughts. The autoanalytic situation differs from psychoanalytic free association in two ways: the therapist is absent at the time of the free verbalization; and the S is generally given a frame of reference for discussion (e.g., to concentrate on feelings, interpersonal relationships, or suggested specific topics).

The autoanalytic method was originally explored by Stollak & Guerney (1964) using institutionalized juvenile delinquents as subjects. Promising results, although not treated statistically, provided the impetus for further study of the method in order to answer such questions as

when and why therapists are needed, and how they assist the breakdown in an individual's effort to solve his own problems.

Steinberg (1966) using categories for coding autoanalytic sessions developed by Guerney and Stollak studied the effect of interpersonal suggestion and feedback on the verbal behavior of Ss thought to be of therapeutic value to them. Interpersonal suggestion and feedback did not increase any of the following verbal responses: amount of "openness" statements; the discussion of self negatively; the discussion of positive and negative feelings; or the frequency of response. Steinberg suggested that his very complex independent variable seemed to have an inhibiting effect on the extent to which a subject was open and revealing about himself.

Foley (1966) studied the relationship between verbal behavior during autoanalytic sessions and positive and negative attitudes of Ss toward the sessions. He found that there were significantly more covert resistance responses during sessions that Ss described as negative. Covert resistance responses included such responses as long pauses, topic changes, blocking, and intellectualization.

Stollak et al. (1967) did a study that provided impetus for the present one. The effects of self-ideal-self discrepancy on the content of free verbalizations during one 15 minute session were examined in two groups of Ss. One group of Ss had high self-ideal-self discrepancy (S-ISD) and the other group had Ss with low S-ISD as measured by the Leary Interpersonal Check List (Leary, 1957). The content of free verbalizations of the two groups was compared on the basis of ten coding categories, some of which are used in the present study. The results showed that low S-ISD Ss, as compared to high S-ISD Ss, talked significantly more, used the present tense more often, and made more direct references to the experimental situation in their free verbalizations.

Another phase of the Stollak et al. (1967) study compared the ten Ss with highest S-ISD and the highest S-APD (self-average person discrepancy) with ten Ss who had the lowest of the same discrepancy scores. It was found that those Ss who expressed satisfaction with themselves and saw themselves as similar to the average person talked more, spoke more about themselves and their feelings, used the present tense more frequently, and made more direct references than Ss who expressed

dissatisfaction with themselves and saw themselves as dissimilar to their perception of the average person. The authors speculated that " . . . one of the characteristics of psychologically healthy individuals is their ability to keep feelings and problems at the awareness level, and work through them" (Stollak, et al., 1967, p. 7). Further, the authors suggested that there is possibly a "cognitive avoidance" style of life that is characteristic of many individuals who have enduring and excessive problems in living. The present study made use of an extended free verbalization task, as suggested by Stollak et al., in order to examine the above suggestions derived from one 15 minute free verbalization session.

Beit-Hallahmi (1968), using the same Ss and procedures employed in the present study, analyzed the differences in verbal behavior of high and average problem admitters during the first three (of eight total) free verbalization sessions. Using the same ten categories for coding verbal responses that were employed in the present study, Beit-Hallahmi's only statistically significant finding was that high problem admitters had more discussion of others than average problem admitters. Beit-Hallahmi felt that group differences were not

obtained on the other categories because three sessions were not sufficiently anxiety-arousing to produce changes in the verbal behavior of the Ss. The present study differs from Beit-Hallahmi's in that all eight sessions were analyzed for changes in verbal responses over time as well as for group differences.

Free Verbalization and Defenses

Weintraub and Aronson (1962) had Ss talk into a microphone for ten minutes on any subject they chose and found significant positive and negative correlations between different categories of defensive verbalization. Their study is important because they did not use "amount of defensiveness" for the dependent variable as some Rogerians have attempted. Rather, they explicitly studied types of defensive verbalizations assessed according to objective criteria. The procedures of Weintraub and Aronson are used in the present study in the formulation of operational criteria for the "uncertain and qualified speech" coding category.

The Mooney Problem Check List

Description

The Mooney Problem Check List (MPCL) was not designed as a measuring device (Mooney and Gordon, 1950; Burgess, 1965), but was designed to facilitate understanding and communication between counselor and counselee. In an unpublished study, 92% of the college sample used reported that the listed items gave a fiarly complete picture of their problems (Mooney and Gordon, 1950).

In essence, the MPCL is a straightforward communication instrument which, according to Burgess (1965, p. 318), ". . . leaves the counselee free to communicate to the extent of his readiness to do so." Thus, it is feasible to isolate high and average problem admitters based on their readiness to admit problems on paper. It must be kept in mind that the score "number of problems checked," the basis for defining the high and average problem admitter groups in the present study, includes problems of greater and lesser significance and intensity, such that it is only a measure of readiness to admit problems.

Studies on the Mooney Problem Check List

Hammes (1959) administered a modified version of the Heineman Forced Choice Anxiety Scale to 256 college students, then chose high and low anxious Ss who were given the MPCL. He found that high anxious Ss had a greater number of personal problems and had personal problems in a greater number of behavioral areas covered in the Mooney than did low anxious Ss.

Barnett and Tarver (1959) compared the MPCL scores of 49 institutionalized delinquent and 49 non-delinquent females. The delinquent group checked over twice as many problems as the non-delinquents and checked a significantly greater number of items in every problem area covered on the Mooney except "Boy-Girl Relations."

Singer and Stefflre (1957) correlated the number of problems checked on the MPCL with scores on the Guilford-Zimmerman Temperament Survey. Using these correlations, they described high problem admitters as tending to be unsociable, subjective, withdrawn, emotionally unstable, less-cooperative and less-friendly. The authors conclude that a high score on the MPCL may indicate basic adjustment problems in the individual.

Independent Variable

The above studies indicate that high problem admission, based on the number of problems checked on the MPCL, can be used as one index of basic adjustment problems and seems to be concomitant with high anxiety in the high problem admitter.

In a discussion of the screening function of the MPCL, Mooney and Gordon (1950, p. 7) stated that "Students whose total number of problems is in the upper 25 per cent of the local distribution may be likely candidates for counseling." In a study of college students by Gordon (1950), it was found that a direct relationship exists between the desire for counseling and the number of problems checked on the MPCL. In Gordon's sample, a large majority of those students in the upper 25 per cent desired counseling, and all of those students in the upper 10 per cent desired it.

In the present study, the high problem admitter (HPA) Ss were chosen from among those in the top 15 per cent of the local distribution. On the basis of Gordon's (1950) findings, these students were among the most likely candidates for therapy in the total sample. In addition

it was assumed, as stated above, that the HPA group included the most anxious students from the tested sample and those with general adjustment difficulties.

For comparison with this "likely therapy candidate" group of HPA's, an average problem admitter (APA) group, chosen from the 45th through the 60th percentile of the local distribution, was decided upon. It was assumed that this group would be composed of the most well-adjusted, less-anxious Ss in the sample. Very low problem admitters were ruled out as the most well-adjusted Ss of the sample because their marking of very few problems could easily have been a reflection of deviant test-taking behavior and/or defensiveness.

A Conceptualization of the Free Verbalization Task

Bordin (1955) noted that the psychoanalytic rule for free association, "Tell me everything that comes into your mind," offers one of the least restrictive and most ambiguous settings for discussion. Likewise, the free verbalization instruction to talk about "anything at all" has ambiguity or lack of definitive structure as its main

quality. What are the concomitant effects of the ambiguity of this task that should be elicited in the S?

According to Bordin, the major positive function of ambiguity in a therapeutic relationship is that ". . . people invest ambiguous stimuli with their own motivational and emotional life" (Bordin, 1955, p. 13). However, Bordin's use of ambiguity refers to both the stimulus characteristics of the therapist and the therapeutic task. Thus the highly unstructured free verbalization task should lead to personal exploration--self-searching as takes place in more traditional psychotherapy settings.

A major effect of an ambiguous situation is also an increase in anxiety however. This relationship is well-established in the literature and generally accepted by proponents of the use of ambiguity in psychotherapy. The parallel of ambiguity and increased anxiety has been demonstrated by Dibner (1958) using variations in the structure of a clinical interview, and by Smith (1957) using clear and unclear role expectations in a group setting.

What will be the effect of this anxiety on the Ss? It would seem, as Dollard & Miller (1950) indicate, that if our Ss are made anxious in the situation, they will either keep silent or discuss issues that are not

anxiety provoking. In other words, either silence or discussion of non-personal, neutral topics should be the major responses to the anxiety produced by the free verbalization task.

The two expected reactions to ambiguity noted above--that of self-searching and that of anxiety and defensive responding--seem contradictory. It is obvious that Ss could not be responding both ways at the same time. As to which mode of response will take precedence, the choice apparently depends on the tolerance of the S for anxiety. That is, if a client in therapy or the S in the free verbalization situation is made anxious beyond his optimal tolerance level for anxiety in that situation, his anxiety will conflict strongly with his freedom of response and personal involvement, such that he will spend most of his time in defensive verbalization (Bordin, 1955). Bordin (1955) notes that experienced anxiety will be greater at any level of ambiguity the more intense the person's conflict and the weaker his discriminative and defensive capacities. Assuming, as we are, that Ss in the HPA group have more intense personal conflicts than APA Ss means that we would expect more defensive verbalization from

them in responding to the ambiguity of free verbalization instructions.

As part of the conceptualization of free verbalization, it is noteworthy that the present study will side-step the "placebo effect" of psychotherpay (Rosenthal & Frank, 1956). This effect, according to Rosenthal & Frank (1956) denotes therapeutic improvement attributable to the patient's faith in the efficacy of the therapist and his technique. The instructions for free verbalization, meant to insure as much freedom as possible in Ss verbal behavior, do not channel an investment on his part in "getting better."

It must be remembered, however, that the free verbalization task does place the subject in a kind of interpersonal situation. He is probably not only talking to himself, the room, or the microphone, but to his perceived "generalized other" or the subsequent listener of his verbalized thoughts. The distinguishing feature of this interpersonal situation is that immediate as well as delayed reinforcement and feedback are absent. And it may be that this feature is as powerful in arousing the S's anxiety as the general ambiguity of the task.

To summarize, the free verbalization task has ambiguity and the lack of reinforcement and feedback as its major characteristics. These characteristics are expected to arouse anxiety. Whether or not the S handles the ambiquity by being more open and personal or by defensive verbalization will depend on his typical response to anxiety evoked by similar situations. The present study assumes that HPA Ss are generally less well-adjusted and generally more anxious than APA Ss, and will thus consistently respond more neutrally or impersonally and also more defensively to the free verbalization task. It is also expected that such responses will increase over time: the room situation, task, and E's behavior remain ambiguous and should thus become more threatening.

Dependent Variable

Theoretical Background of Predictions

The most recent direction of research in client-centered therapy has been the assessment of process changes by which personal growth takes place (Rogers,

1958; Rogers, 1966; Walker, Rablen, and Rogers, 1959). Rogers has derived seven "strands" or salient features of the process continuum which illustrates therapeutic change. In general, as regards these continua, the client changes from a static, rigid, impersonal type of psychologic functioning to a level characterized by immediate experiencing, flexibility, and change (Rogers, 1958 & 1966). The seven "strands" or dimensions through which change can be seen are specifically labeled as follows by Rogers (1966):

1. one's relationship to his feelings
2. the manner of experiencing
3. the degree of incongruence between experience and awareness
4. changes in communication of the self
5. the manner in which experience is construed
6. one's relationship to problems
7. the manner of relating to others

For the present study, the E felt that there is a good deal of overlap in the above dimensions which are still only loosely conceived of by Rogerians in the operational realm. For example, moving toward immediate experiencing seems to be the same as coming to express owned, ever-changing feelings in the present. That is, "to be" in present experience is to be the feelings of that moment. The latter is essentially congruent with a change in the perception of the self as an object to ". . . a self which is synonomous with experience, being the subjective awareness of that experience" (Rogers, 1961, p. 38).

Thus it was decided that categories coding the discussion of feelings, discussion of the self, discussion of others, and the extent to which one talks in the past or present tense were congruent with the three dimensions of process changes discussed above.

A category for coding defensive verbalization called "uncertain and qualified speech" was used to assess changes related to the strand "degree of incongruence," since as one becomes more congruent, contradictions in the personality become less threatening and defenses lessen.

For the dimension "relationship to problems" a category dealing with Ss' discussion of problems was used.

Two of the dimensions associated with process changes in client-centered therapy were not assessed in the present study. They are "the manner in which experience is construed," and "the manner of relating to others."

The following are the coding categories used for measuring verbal behavior changes in the free verbalization sessions derived from Rogers' seven strands of therapeutic growth in process:

1. Expression of positive feelings
2. Expression of negative feelings
3. Discussion of others
4. Discussion of self
5. Discussion in past tense
6. Discussion in present tense
7. Direct references to the experiment, the E, the immediate physical surroundings
8. Discussion of problems

9. Uncertain of qualified speech

10. Silence

Predictions

Rogers (1958) reported that unpublished findings indicated that we have little success in helping clients initially rated low on the process scales. A validation study of the process scale by Tomlinson and Hart (1962) supported Rogers' statement. Tomlinson and Hart, using a multicriteria success score distinguished five "more" and five "less" successful cases in order to code segments of an early and late interviews on the basis of expected process changes. Four of their findings are directly related to predictions used in the present study: When compared to less successful cases, most successful cases (1) almost invariably started therapy at higher stages of process (2) ended up at significantly higher levels of process, and (3) showed greater movement in process changes during the period of therapy. Also, a generally increasing linear trend in process ratings as a function of time and success was found for both groups.

Relatedly, Barron (1953) studied test correlates of response to psychotherapy using the Wechsler-Bellevue, MMPI, Rorschach, and the Ethnocentrism Scale. He found that the tendency toward change was positively related to the initial level of integration on test measures. That is, those assessed as better off to begin with were those who improved the most.

In making the findings of Tomlinson & Hart and Barron relevant to the present study, it was assumed that Ss in the HPA group would be initially lower on the process "strands" of therapeutic growth than APA Ss. It was also assumed that HPA Ss were generally less well-adjusted. Thus the findings pertaining to "less successful" and "less well integrated" in the studies reviewed above were deemed applicable to HPA Ss.

From the above, and from our conceptualization of what the characteristics of the free verbalization process elicit in most Ss, the following hypotheses are made.

Hypotheses

1. Compared to HPA Ss, APA Ss will respond to the free verbalization task by using the following coding categories more frequently (Hypotheses 1a through 1e):

    a. Expression of positive feelings
    b. Expression of negative feelings
    c. Discussion of self
    d. Discussion in present tense
    e. Discussion of problems

2. APA Ss will increase over time in the use of verbal responses coded in the above categories (Hypotheses 2a through 2e).

3. Compared to APA Ss, HPA Ss will respond to the free verbalization task by using the following coding categories more frequently (Hypotheses 3a through 3e):

    a. Discussion of others
    b. Discussion in past tense

c. Direct references to the experiment, E, or the immediate physical surroundings

d. Uncertain and qualified speech

e. Silence

4. HPA Ss will increase over time in the use of verbal responses coded in the above categories (Hypotheses 4a through 4e).

II. METHOD

The Mooney Problem Check List

The Mooney Problem Check List (College Form L. 1950) consists of 330 listed potential common problems (Appendix I). The Ss were asked to select from the list those items which corresponded to problems troubling them at that time. Because no norms are available, the E followed the authors' suggestion to use local norms (Mooney & Gordon, 1950), and thus isolated high and average problem admitters.

Subjects and Subject Selection Procedure

One hundred ninety-eight male volunteer Ss from Introductory Psychology were administered the MPCL. For each S the total number of problems checked was computed and a distribution of scores was compiled.

Group I (High Problem Admitters). The Ss for this group (HPA) were selected from among those whose total

number of problems checked fell between the 85th and 99th percentiles of the distribution.

Group II (Average Problem Admitters). The Ss for this group (APA) were selected from among those whose total number of problems checked fell between the 45th and 60th percentiles of the distribution.

Appendix II shows the mean, standard deviation, and range of the number of problems checked by the total sample of 198 males. On the basis of this distribution and the above criteria, two potential groups of 30 students each were contacted for participation in the free verbalization task. It was anticipated that the time consuming nature of the task would make it difficult to obtain, at least, 20 volunteer Ss wanted for the second phase of the experiment.

To avoid recognition of the S by the E as belonging to the HPA or APA group, the list of 60 student numbers (those who met the criteria) was given to a faculty member who returned the students' names. A letter (Appendix III) inviting these students to participate offered required research credit as the major incentive.

A positive response to the recruiting letter was given by 11 Ss meeting the HPA group criterion and nine

Ss meeting the APA group criterion. However two Ss, one from each group, failed to complete eight free verbalization sessions and had to be dropped. Thus the final number of Ss who completed all eight sessions and with which this experiment is concerned is as follows:

Group I (HPA)	N = 10
Group II (APA)	N = 8

The remarkably low return rate is perhaps explained by the fact that the incentive "research credit" was not sufficiently motivating. Some possible volunteers had already met the research credit requirement; many needed credit, but not as much as given by four hours of participation required by the present study. Also, when talking to potential Ss on the phone, the E found that many of them were lost because of the fact that it was too much bother and/or inconvenience for them to set apart half hour sessions twice a week: some students showed no interest in the experiment as described; others stated that they had too many previous committments during their "free time."

Table 1 shows the means, standard deviations, and ranges of numbers of problems checked on the MPCL by the

two groups. The table also includes the mean ages for the Ss in each group.

TABLE 1.--Means, medians, standard deviations, and ranges of Mooney scores for the two groups. Mean age of subjects in each group.

Group	Mean	Median	Range	S. Deviation	Mean Age
HPA	85.7	74	65-140	25.6[1]	19 yr. 7 mo.
APA	37.6	38	34-40	1.9	19 yr. 9 mo.

[1]The E was concerned about the wide discrepancy in the standard deviation for the two groups. The number of problems checked by the APA group had a range of six points. For the HPA group, the range for six Ss was 11 points (65-76); however, the scores of the other four Ss were 86, 99, 113, and 140, making the total range 75 points. Thus, the standard deviation for the HPA group was quite large.

Setting

The free verbalization sessions took place in a small (10 X 10) soundproof, windowless room. The furniture in the room included a small table, an ash tray, and an aluminum and saran cord reclining lounge chair. A tape recorder for recording free verbalizations was placed outside the room. The microphone was suspended on a cord around the S's neck and was comfortably placed on his chest.

Procedure

Each S had eight individual free verbalization sessions of 20 minutes duration. The sessions were generally scheduled two or three times per week.

After the E had comfortably seated the S and placed the microphone around his neck, the following instructions were read aloud by the E preceding the first session:

> We are interested in obtaining information about the free associations of college students. We would like you to sit here alone for the next 20 minutes and say aloud whatever comes into your mind. There are no restrictions as to language used, topics, problems, or issues discussed.
>
> Some people have difficulty talking aloud alone, so if you do have difficulty, just sit back, try to relax, and something will come to you to talk about.
>
> Again, feel free to talk about anything at all. As you can see by this microphone, we are tape recording your talk and will analyze it later. To preserve confidentiality, when I leave and knock on the door, state your student number, session number, and today's date and then begin. I will knock again at the end of the 20 minutes. Are there any questions?

On sessions subsequent to the first, only the essence of the instructions, to "say aloud whatever comes into your mind" or to "talk about anything at all" was stated by E, along with the date and session number.

The signal for Ss to begin the session was two knocks on the door shortly after E had left the room and turned on the recorder. At the end of the 20 minutes, the E knock on the door as a signal to end talking, and entered the room.

Two E's (Pamela Jackson and Benjamin Beit-Hallahmi) alternately ran all of the Ss and they had only formal and minimal contact with them. Most Ss wanted to know what the experiment was "all about." To all such questions the answer given was a phrase or idea from the instructions, such as, "We are interested in the free associations of college students," or "to see what people talk about when alone."

Coding

The coding of free verbalizations was done as follows: each twenty-minute sessions was divided into 80 intervals of 15 seconds duration. During a given 15-second interval, any and possibly all categories could be scored; but no one category could be scored more than once. The criterion of silence was 15 seconds of silence only, such

that no other category was coded if the silence criterion was met.

Categories and Reliability

The reliability criterion used for the categories was a percentage of agreement between the two coders above .80. The reliability figures reported in Table 2 were obtained after 24 hours of training, practice, and review of the meanings of categories using data obtained in a previous study. The category "Active coping with problems" had to be dropped because too few responses obviated meaningful reliability. Thus E was unable to really assess relationship to problems as discussed by Rogers (1961). But we will obtain information on whether Ss categorized as high and average problem admitters on the basis of a paper and pencil measure behave accordingly during free verbalization sessions.

The ten categories which met the reliability criterion and were used in coding the free verbalization tapes are as follows:

TABLE 2.--Percentage of agreement between two coders on each category.

Category	Percentage of Agreement
Expression of positive feelings	92
Expression of negative feelings	90
Discussion of others	96
Discussion of self	91
Discussion in past tense	85
Discussion in present tense	94
Direct references to experiment, experimenter, or setting	100
Discussion of problems	98
Active coping with problems (dropped)	no scores
Uncertain and qualified speech	84
Silence	100

Consistency of Responses over Session Blocks

Mean correlation coefficients of the verbal responses in each category over the four session blocks were

obtained for both groups separately. The correlation coefficients were transformed into reliability coefficients, reported in Table 3, using the Spearman-Brown formula. Table 3 shows that within both groups the reliability coefficients ranged from .61 to .98, with 17 of the 20 coefficients above .80. Thus the Ss in both groups were quite consistent in the verbal behavior measured.

TABLE 3.--Reliability coefficients for the 10 categories over the four session blocks.

Category	HPA (N = 10)	APA (N = 8)
I. Positive feelings	.74	.61
II. Negative feelings	.82	.83
III. Others	.82	.93
IV. Self	.87	.80
V. Past tense	.92	.81
VI. Present tense	.93	.94
VII. Direct references	.93	.77
VIII. Problems	.89	.87
IX. Uncertain and qualified speech	.95	.94
X. Silence	.93	.98

III. RESULTS

Procedure for the Analysis of the Data

There were two Ss in the APA group who hardly talked throughout the eight free verbalization sessions. Also, individual Ss varied quite widely in the amount of talking done from session to session. It was reasoned therefore that the use of raw scores in the data analysis would be highly contaminated by the amount of talking done, making group comparisons much less meaningful. Had baselines for the amount of talking during free verbalization been established for college students designated as HPA's and APA's, the discrepancy between Ss within the two groups could be more meaningfully dealt with. However, because the discrepancy between groups in the amount of silence behavior was attributable to two relatively silent APA Ss, it was felt that differential amounts of talking over time for both a given S and across Ss could be corrected for. The following correction was felt to offer a more accurate basis for data analysis: for each S, the

proportion of the total verbal responses coded in a given category was calculated from raw scores for the eight sessions individually by dividing the frequency obtained in a category by the total number of verbal responses for the session. For the silence category, the ratio of silence responses to the total number of coded verbal responses was obtained for each session.

The proportion data for each S was regrouped for an analysis based on separate categories. All subsequent analyses of the data were performed on the mean proportions of two session blocks. That is, the proportion data was analyzed for each category using the means of the following: sessions 1 and 2, sessions 3 and 4, sessions 5 and 6, and sessions 7 and 8. These group sessions will be referred to as Blocks (or Session Blocks) 1, 2, 3, and 4, respectively.

After the proportion data was regrouped into Session Blocks 1 through 4, an arc sin transformation (Winer, 1962, p. 221) was performed on all categories except Category 10 (Silence) in order to stabilize the variances. The data for Category 10 was not transformed because the ratios of silence to total verbal responses

was frequently greater than one[1] for the two APA Ss mentioned above.

An analysis of variance for repeated measures (Edwards, 1960, p. 224) was performed for each category. From this analysis, group differences were obtained in order to test hypotheses 1a through 1e and 3a through 3e. Where significant or borderline significant Blocks differences and Groups X Blocks interactions ($P < .10$) were obtained, analyses of variance for the simple effect of Session Blocks were calculated for each group (Winer, 1962, p. 233). The latter simple effect analysis showed whether the significant main effect of Blocks was attributable to both groups or to one of the two groups. Subsequent trend analyses (Winer, 1962, p. 132) were performed on categories where the simple effects of Session Blocks were significant or of borderline significance ($P < .10$) for either or both groups. The trend analyses afforded

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[1]The arc sin transformation is only useful for proportions less than 1. For the two relatively silent APA Ss, the ratio of silence responses to total responses ranged from .79 to 7.34. It is noteworthy that for both groups, the variance of silence responses is greater than that for any other category. Inspection of the data for all Ss except the two mentioned above showed that the proportion of silence responses to total responses on individual Blocks had a total range of .005 to .450.

tests of hypotheses 2a through 2e and 4a through 4e dealing with verbal response changes over time.

General Overview of Results

Inspection of the graphs showing mean proportions of verbal responses across Session Blocks (Figure 1) shows that for some categories, quite divergent overall group differences in response were obtained, while on other categories, response frequencies for the two groups were quite similar. The trend of responses over time can be seen to change according to prediction for some categories; but unhypothesized trends and seemingly minimal group differences and trends for many categories also seem frequent. The following is a detailed analysis of results for individual categories.

Analysis of Results by Category

Complete analyses of the data for each category can be found in Appendix V (analyses of variance for repeated measures, simple effects, and trends).

Figure 1.--Mean proportions (%) of the total verbal responses (R) in each category across session blocks for HPA and APA subjects. (_____HPA subjects, N = 10; -------APA subjects, N = 8)

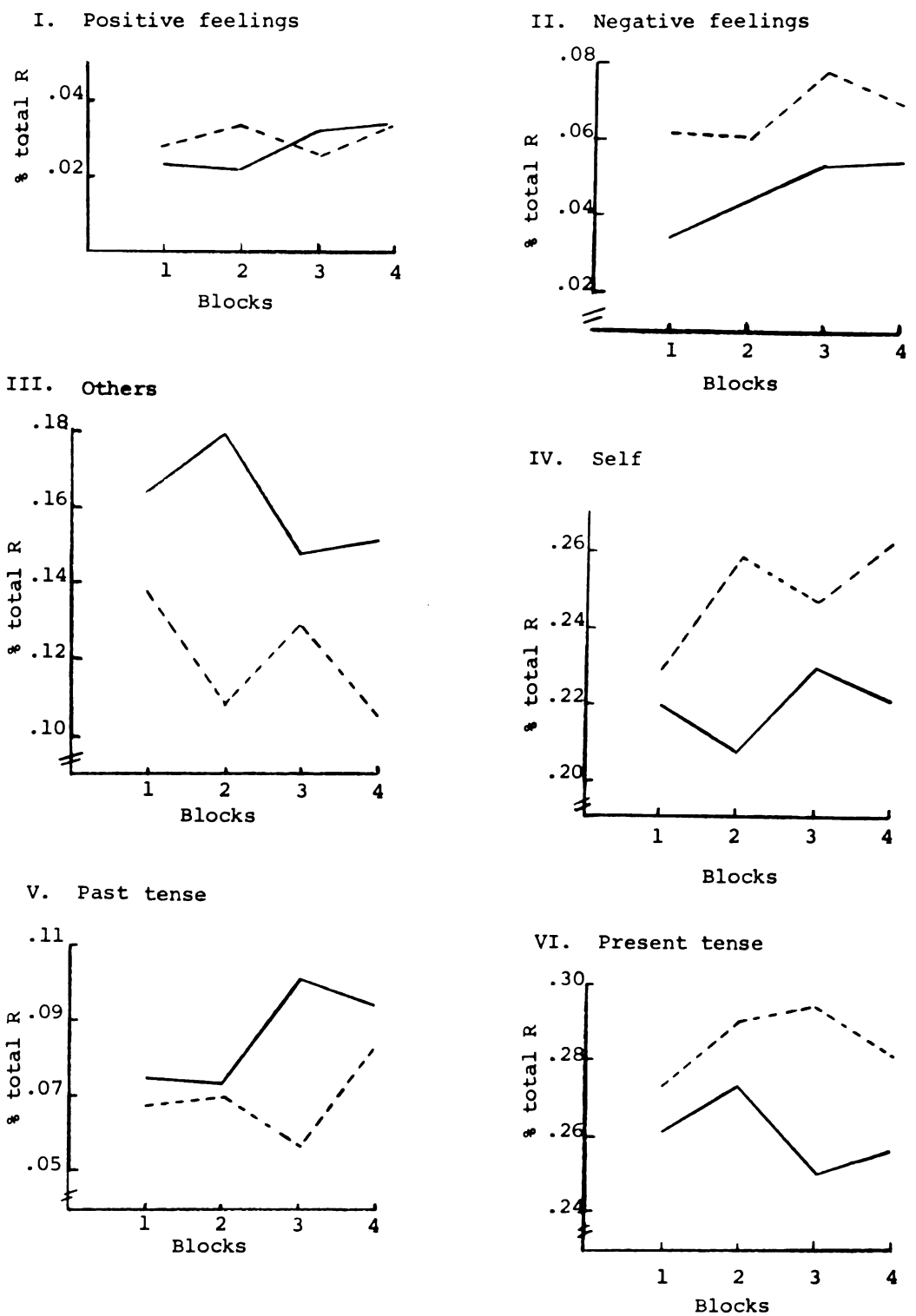
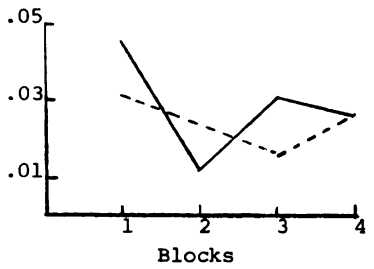
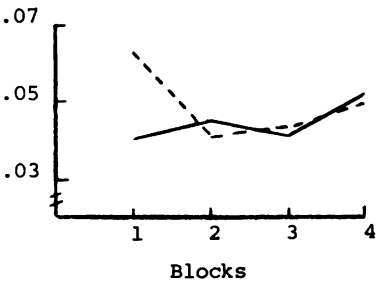


Figure 1.--continued

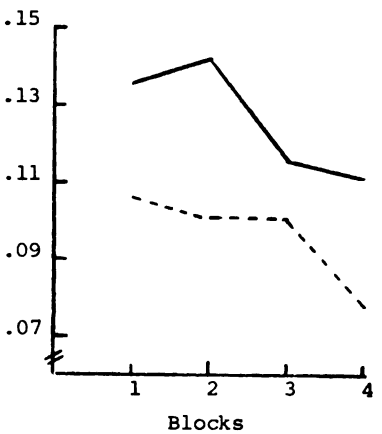
VII. Direct references



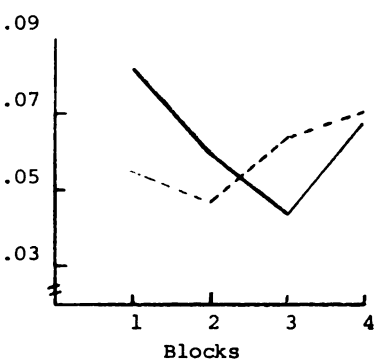
VIII. Problems



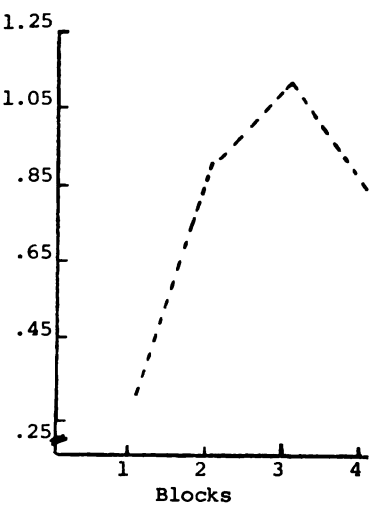
IX. Uncertain & qualified speech



X. Silence*



X. Silence**



*-------APA subject responses, N = 6; for explanation see text.
**-------APA subject responses, N = 8.

Category I. Expression of Positive Feelings.--As can be seen in Figure 1, the expression of positive feelings was very similar for both groups over time: the APA group did not consistently express more positive feelings than the HPA group ($F = .02$, $df = 1, 16$, $P > .10$), and the performance of both groups was quite stable, showing only negligible changes over Blocks ($F = .39$, $df = 3, 48$, $P > .10$). Thus the hypotheses that APA Ss would express more positive feelings than HPA Ss and would increase over time in the expression of positive feelings were not supported.

Category II. Expression of Negative Feelings.--Figure 1 shows that APA Ss consistently expressed more negative feelings as expected. However, the overall difference between groups was not significant ($F = 2.47$, $df = 1, 16$, $.10 < P < .25$). Thus the hypothesis that APA Ss would express more negative feelings than HPA Ss was not supported.

Both groups tended to increase over time in the expression of negative feelings, as can be seen from Figure 1. The Blocks difference ($F = 2.34$, $df = 3, 48$) and Groups X Blocks interaction ($F = 2.80$, $df = 3, 48$) were both of borderline significance ($.05 < P < .10$). However, the hypothesis that APA Ss would increase over time in

expression of negative feelings was not confirmed. The unexpected finding was a significant increase in expression of negative feelings for the HPA group: the simple effects analysis showed a borderline significant Blocks effect for the HPA only ($F = 2.46$, $df = 3, 48$, $.05 < P < .10$); and the unhypothesized result was that the increase in expression of negative feelings for HPA Ss had a significant linear trend ($F = 6.84$, $df = 1, 48$, $P < .025$).

Category III. Discussion of Others.--HPA Ss consistently had more discussion of others than APA Ss over time, as can be seen from Figure 1. The overall Group difference was significant ($F = 5.86$, $df = 1, 16$, $P < .05$) such that the hypothesis that HPA Ss would have more discussion of others than APA Ss was supported.

An unexpected finding was that both groups tended to decrease in their discussion of others over Session Blocks. The hypothesis that HPA Ss would increase in discussion of others over time was therefore not supported. The Blocks difference ($F = 3.57$, $df = 3, 48$, $P < .025$) and Groups X Blocks interaction ($F = 7.83$, $df = 3, 48$, $P < .005$) were significant. An analysis of simple effects showed a significant Blocks effect for both groups (HPA: $F = 3.28$, $df = 3, 48$, $P < .05$; APA: $F = 4.55$, $df = 3, 48$, $P < .01$);

although the Blocks effect was stronger for the APA group. For both groups the trend in performance was both linear (HPA: $F = 4.21$, $df = 1, 48$, $p < .05$; APA: $F = 6.55$, $df = 1, 48$, $P < .025$) and cubic (HPA: $F = 5.06$, $df = 1, 48$, $P < .05$; APA: $F = 7.11$, $df = 1, 48$, $P < .025$).

Category IV. Discussion of Self.--As can be seen from Figure 1, APA Ss consistently had more discussion of self over Session Blocks than HPA Ss. The overall difference between groups was significant ($F = 6.82$, $df = 1, 16$, $P < .025$) such that the hypothesis that APA Ss would have more discussion of self than HPA Ss was supported.

The Blocks difference ($F = 1.51$, $df = 3, 48$, $P > .10$) and Groups X Blocks interaction ($F = 1.49$, $df = 3, 48$, $P > .10$) were not significant. Thus the hypothesis that APA Ss would increase in the discussion of self over time was not supported. However, Figure 1 shows that in accordance with expectations, a greater increase over time in the amount of discussion of self is apparent (although not statistically significant) in the performance of APA Ss as compared to HPA Ss.

Category V. Discussion in Past Tense.--Figure 1 shows that HPA Ss consistently had more past tense discussion than APA Ss as expected. However, the overall Group

difference was not significant ($F = 1.20$, $df = 1, 16$, $P > .10$). Thus the hypothesis that HPA Ss would have more past tense discussion than APA Ss was not supported.

A significant Groups X Blocks interaction was obtained ($F = 3.73$, $df = 3, 48$, $P < .025$). But the Blocks difference was not significant ($F = 1.14$, $df = 3, 48$, $P > .10$); and the hypothesis that HPA Ss would increase in past tense discussion over time was therefore not supported. Inspection of Figure 1 shows that both groups tended to increase in past tense discussion, and as expected, the increase for HPA Ss tended to be greater and more consistent (although not of statistical significance).

Category VI. Discussion in Present Tense.--APA Ss consistently had more discussion in present tense than HPA Ss over time as can be seen from Figure 1. However, the overall Group difference was not significant ($F = .97$, $df = 1, 16$, $P > .10$). The hypothesis that APA Ss would have more present tense discussion than HPA Ss was therefore not supported.

The hypothesis that APA Ss would increase in present tense discussion over time was also not supported. Neither the Blocks difference ($F = .75$, $df = 3, 48$,

$P > .10$) nor the Groups X Blocks interaction ($F = 1.49$, $df = 3, 48$, $P > .10$) were significant. Figure 1 shows that over time there was only a very slight tendency for APA Ss to increase in present tense discussion; and HPA Ss tended to decrease slightly in present tense discussion over time.

Category VII. Direct References to the Experiment, E, or the Immediate Physical Surroundings.--Inspection of Figure 1 shows that HPA Ss had no consistent tendency to use more direct references than APA Ss. The Group difference in the number of direct references was negligible ($F = .05$, $df = 1, 16$, $P > .10$). Thus the hypothesis that HPA Ss would use more direct references than APA Ss was not confirmed.

An unexpected finding was a slight decrease over time in the number of direct reference responses for both groups. But inspection of Figure 1 shows that the decrease was somewhat greater for HPA Ss who started at a higher frequency level. The Blocks difference ($F = 3.05$, $df = 3, 48$, $P < .05$) and Groups X Blocks interaction ($F = 5.78$, $df = 3, 48$, $P < .005$) were both significant. An analysis of simple effects showed a significant Blocks effect for the HPA Group ($F = 3.16$, $df = 3, 48$, $P < .05$) and a

borderline significant Blocks effect for the APA group ($F = 2.62$, $df = 3, 48$, $.05 < P < .10$). The trend in performance over sessions was quadratic ($F = 4.17$, $df = 1, 48$, $P < .05$) and cubic ($F = 5.31$, $df = 1, 48$, $P < .05$) for the HPA group, and quadratic ($F = 4.50$, $df = 1, 48$, $P < .05$) for the APA group. Because, contrary to expectation, HPA Ss showed a significant decrease over time in the number of direct references made, the hypothesis that HPA Ss would increase in the number of direct references responses was not supported.

Category VIII. Discussion of Problems.--Figure 1 shows that APA Ss had more discussion of problems during Block 1 than HPA Ss after which the performance of the groups showed much overlap and very small differences. The hypothesis that APA Ss would have more discussion of problems than HPA Ss was not supported since the overall difference ($F = .12$, $df = 1, 16$, $P > .10$) was negligible.

The Blocks difference ($F = 1.65$, $df = 3, 48$, $P > .10$) was not significant; however, the Groups X Blocks interaction was significant ($F = 3.28$, $df = 3, 48$, $P < .05$). Figure 1 shows that there was a slight overall tendency for HPA Ss to increase in discussion of problems; whereas APA Ss, contrary to prediction, showed a slight decrease in the

same. Thus the hypothesis that APA Ss would increase in discussion of problems over time was not confirmed.

Category IX. Uncertain and Qualified Speech.--HPA Ss consistently used more uncertain and qualified speech than APA Ss as can be seen in Figure 1, and the Group difference was of borderline significance ($F = 3.60$, $df = 1, 16$, $.05 < P < .10$). Thus the hypothesis that HPA Ss would use more uncertain and qualified speech than APA Ss was only weakly supported by the data.

Contrary to expectation, both groups showed a definite decrease in uncertain and qualified speech over Session Blocks, as can be noted by inspection of Figure 1. Thus the hypothesis that HPA Ss would increase in the use of uncertain and qualified speech over time was not supported. The Blocks difference ($F = 12.68$, $df = 3, 48$, $P < .005$) and Groups X Blocks interaction ($F = 14.97$, $df = 3, 48$ $P < .005$) were both highly significant; and the simple effects analysis showed that the Blocks effect was significant for both groups (HPA: $F = 6.32$, $df = 3, 48$, $P < .005$; APA: $F = 8.65$, $df = 3, 48$, $P < .005$). The trend in performance was a strong linear decrease for the HPA group ($F = 13.87$, $df = 1, 48$, $P < .005$) and the APA group ($F = 20.65$, $df = 1, 48$, $P < .005$) with the addition

of a significant cubic component in the trend of the HPA group performance ($F = 4.39$, $df = 1, 48$, $P < .05$).

Category X. Silence.--The difference between groups in silence responses was so great that the data were separately graphed in Figure 1. APA Ss consistently had much larger proportions of silence responses compared to HPA Ss, contrary to expectation. However, the Group difference only approached borderline significance ($F = 2.19$, where 2.21 has $P \leq .10$) due to the very large within subject variance of the APA group. Thus the hypothesis that HPA Ss would have more silence responses than APA Ss was not supported. When the means across Session Blocks were computed without using the data of the two nearly silent APA Ss, the groups showed quite similar performance: HPA Ss had a higher proportion of silence responses during Block 1 but practically the same proportion of silence responses during Block 4; and the overall mean proportion of silence responses was .06 for both groups. The silence responses for the APA group, excluding the two nearly silent APA Ss, were graphed on the same axis as the data for the HPA group.

The Blocks difference was not significant ($F = 1.05$, $df = 3, 48$, $P > .10$) but the Groups X Blocks interaction

was of borderline significance ($F = 2.64$, $df = 3, 48$, $.05 < P < .10$). Thus the hypothesis that HPA Ss would increase in their use of silence over time was not supported. Using the data for all Ss, the following (statistically non-significant) trends were obtained: from Blocks 1 to 3, HPA Ss decreased in the use of silence responses and APA Ss increased in the number of silence responses; but after Block 3, the opposite of these results occurred.

Overall Mean Response Proportions

Table 4 shows the overall or grand mean proportions of the total response attributable to each category. In other words, the figures stated are the means of the four Block means for each category. The table offers a comparative picture of the general content and style of free verbalizations for the two groups. As to the style of the verbalizations, both groups talked in the present tense three to four times as much as in the past tense.

TABLE 4.--Mean proportions of the total coded responses attributable to each category over all four blocks and for all subjects.

	Category	HPA N = 10	APA N = 8
I.	Expression of positive feelings	.03	.03
II.	Expression of negative feelings	.05	.07
III.	Discussion of others	.16	.12
IV.	Discussion of self	.22	.25
V.	Discussion in past tense	.09	.07
VI.	Discussion in present tense	.26	.29
VII.	Direct references	.03	.02
VIII.	Discussion of problems	.05	.05
IX.	Uncertain and qualified speech	.13	.10
X.	Silence	.06	.80 (.06)*

*For explanation see text.

Before examining the relative frequency of usage of different categories, an explanation of the grand mean proportion of silence responses for the APA group is in order. The high ratio obtained (.80) is a reflection of

the behavior of the two relatively silent Ss for whom the ratio of silence responses ranged from .79 to 7.34 for different Session Blocks. With the silence response data for these two Ss excluded, the grand mean proportion of silence responses for the APA group is .06, the same as for the HPA group. This figure, .06, will be used in the following general picture of content category usage, since it is assumed to be much more representative of the majority of Ss in the APA group.

Combining the data for both groups, the descending order of frequency of usage of the content categories was as follows: discussion of self; discussion of others; uncertain and qualified speech; silence; expression of negative feelings; discussion of problems; expression of positive feelings; and direct references.

It is difficult to draw conclusions from the above since comparison of proportion frequencies cannot be substantiated by general relative expected frequencies of response for each category. Certain broad patterns can be noted, however, and are stated with the above limitation in mind.

Most of the Ss' verbalizations involved themselves and others. There was much more discussion of self than

others, and the only content category proportion close to that for discussion of others was uncertain and qualified speech. Since uncertain and qualified phrases generally occurred over twice as frequently as expression of positive or negative feelings, it is concluded that defensive responses much more frequently accompanied the discussion of self and others than the expression of feelings.

In general, there were twice as many uncertain and qualified comments than silence responses, which suggests that Ss more frequently used verbal means of defense rather than silence. Silence and the expression of negative feelings occurred at nearly the same frequency: they occurred slightly more frequently than the discussion of problems and twice as frequently as the expression of positive feelings. Apparently the free verbalization situation generally tended to evoke more negative as compared to positive affect. The two most infrequent types of responses during the free verbalization sessions were expressions of positive feeling and direct references.

TABLE 5.--Summary of results.

Supported hypotheses:

1. HPA Ss will have more discussion of others than APA Ss ($P < .05$).

2. APA Ss will have more discussion of self than HPA Ss ($P < .025$).

Weakly supported hypothesis:

1. HPA Ss will use more uncertain and qualified speech than APA Ss ($.05 < P < .10$).

Significant results: unhypothesized

1. HPA Ss increased over time in the expression of negative feelings (linear trend, $P < .025$).

2. APA Ss decreased over time in the discussion of others (linear and cubic trend, $P < .025$).

3. APA Ss decreased over time in the use of uncertain and qualified speech (linear trend, $P < .025$).

Significant results: direction opposite prediction

1. HPA Ss decreased over time in discussion of others (linear and cubic trend, $P < .05$).

2. HPA Ss decreased over time in the use of direct references (quadratic and cubic trend, $P < .05$).

3. HPA Ss decreased over time in the use of uncertain and qualified speech (linear trend, $P < .005$; cubic trend, $P < .05$).

Table 5.--Cont.

Unsupported hypotheses: results in predicted direction

1. APA Ss expressed more negative feelings than HPA Ss and increased slightly in the expression of negative feelings over time. (However, the increase was less than that for HPA Ss.)

2. APA Ss increased over time in discussion of self.

3. HPA Ss had more past tense discussion than APA Ss, and they increased in past tense discussion over time.

4. APA Ss had more present tense discussion than HPA Ss, and they tended to increase slightly in present tense discussion over time.

Unsupported hypothesis: results in direction opposite prediction

1. HPA Ss tended to decrease over time in the number of silence responses.

Unsupported hypotheses: results show no consistent trends

1. APA Ss will express more positive feelings than HPA Ss and will increase over time in the expression of positive feelings.

2. HPA Ss will use more direct references than APA Ss.

3. APA Ss will have more discussion of problems than HPA Ss and will increase over time in discussion of problems.

IV. DISCUSSION

The purpose of the present experiment was to explore the free verbalizations of college students on dimensions indicative of process changes hypothesized by Rogers (1961) to occur in client-centered therapy. The specific interest was in whether or not average and high problem admission on a paper and pencil test was related to content differences between groups, and content changes over time during free verbalization sessions. High problem admitters (HPA) Ss were considered less well-adjusted and more anxious than average problem admitters (APA) Ss; and it was hypothesized that the content of the verbalizations of HPA's would be more impersonal and defensive than that of APA's, and become increasingly so with time. APA's, on the other hand, were assumed to be higher on the "strands" of therapeutic growth than HPA's (more well-adjusted and less anxious) such that their verbal behavior was expected to be less defensive, more self-involved and feeling oriented than that of HPA's, and to become increasingly so with time.

The results will be discussed first in terms of the group differences in verbalized content obtained, and then with respect to content changes over time for the two groups.

Group Differences in Free Verbalization and the Relative Use of Categories

Of the hypothesized differences between the groups on the ten categories, two were statistically significant and one was of borderline significance. It was found that APA's had more discussion of themselves than HPA's; and HPA's had more discussion of others than APA's. Thus the more well-adjusted Ss chose to discuss themselves more than the less well-adjusted Ss; whereas the converse was true for discussion of others.

Several studies of client-centered therapy, such as that of Braaten (1961), that more well-adjusted Ss ("successful" therapy cases) made significant changes from non-self and ambivalent self-references to self-references carrying varying degrees of personal involvement and confrontation. However, the results of these studies are not directly comparable to the present study because of the

great differences in experimental designs and the task of the Ss.

It should be noted that discussion of self was the most frequently coded content category for both groups. The latter finding is congruent with discussion of self-results obtained in the autoanalytic studies by Foley (1966) and Steinberg (1966). Table 4 shows that for APA's, the number of self-references was over twice the number of references to others; whereas for HPA's, the relative ratio of "self" to "others" references was not as large.

The hypothesis that HPA's would have more uncertain and qualified speech than APA's was weakly supported. Unexpected changes over time, which will be discussed below, were obtained in this category for both groups. Uncertain and qualified speech was a measure of defensive verbalization as can be readily noted by examining the operational definition of this category in Appendix IV. Examination of the definition of Category IX shows that HPA's tended to make more defensive statements of an "undoing" nature than APA's. It is interesting to note that for both groups, uncertain and qualified speech was used, on the average, at approximately the same frequency as discussion of others and over twice as frequently as discussion of feelings.

Thus both groups tended to make many more defensive statements ("undoing" with indefiniteness and vagueness) than feeling statements in discussing themselves and others.

Of the seven other categories for which group differences were hypothesized, the results for four categories yielded non-significant, inconsistent group differences, and the results for the other three were non-significant group differences that were in the predicted direction. The four categories for which the group difference results were non-significant and inconsistent were as follows: expression of positive feelings, direct references, discussion of problems, and silence.

Expression of positive feelings and direct references were the two most infrequent types of responses made (see Table 4). The latter is interesting because the two categories can be viewed as the extremes of a "freedom of self-expression and self-involvement" continuum: expression of positive feelings was indicative of a maximal amount of freedom in expression of and involvement in self; whereas direct references to the experiment, E, or the immediate physical surroundings were the most self-avoidant verbal responses measured during the sessions. Apparently the free verbalization task was neither an extremely anxiety

provoking experience nor a notably self-involving one for most Ss. Rather it tended to evoke more moderate verbal behavior between the extremes of freedom and constriction of self-expression. And whether a S was a high or an average problem admitter had no relevance to his being more expressive of positive feelings, or more avoidant of meaningful discussion with defensive direct references.

It is interesting that there was no significant group difference in discussion of problems. Only during Block 1 did APA's discuss more problems than HPA's as hypothesized (although the difference was not significant). The differences between the group mean proportions in the silence category after Block 1 were, in fact, smaller than the differences obtained on any of the other nine categories, as can be seen in Figure 1. Evidently, admitting to an "average" number of problems on paper was not related to more freedom to discuss problems during free verbalization. APA's were thought to be less anxious than HPA's because they had fewer problems; and the expectation was that APA's would therefore be more open in discussing their problems. A possible fault with the latter reasoning is that the independent variable measured readiness to admit problems but did not measure intensity of the problems

admitted. It is quite probable that anxiety regarding one's problems is less related to the number of problems one has than to the intensity or threat evoked by a few specific and related problems or a general problem area.

However, as regards HPA's, we note that a readiness to admit a lot of problems on paper also does not imply the freedom or willingness to discuss problems when alone and given the choice to "talk about anything at all."

Lastly, as regards discussion of problems, we should note that the category was only an assessment of when problems were mentioned or discussed in any of a number of ways varying in degree of superficiality (see Appendix IV). It did not deal with whether or not Ss coped with their problems for good or ill. We were unable to include a measure of active coping with problems (see Appendix IV) because too few responses were of this sort. Apparently the Ss did not perceive the free verbalization sessions as conducive to their working on their problems. Or maybe the Ss were unwilling to commit themselves to actively dealing with personal problems because of the vagueness of the instructions given.

The group difference on the silence category was very surprising in that APA's, contrary to expectation,

had much higher mean proportions over all session blocks than HPA's. The difference between groups in silence responses was not significant, however, due to the large subject variation in the APA group. And when the data for two relatively silent APA's Ss was excluded, the mean proportions across Session Blocks were quite similar for both groups. It was felt that the exclusion of the silence response data for these two Ss made for more representative group comparisons. Thus the results show that admitting to a high rather than average number of problems did not necessitate the more frequent and consistent use of silence; and silence was the most overtly defensive maneuver available to the Ss.

The three categories for which non-significant but consistent group differences were obtained were as follows: expression of negative feelings, discussion in past tense, and discussion in present tense. For all three categories, the group differences were not significant, but were in the predicted direction; APA's consistently had more present tense discussion and discussion of negative feelings than APA's; and HPA's consistently had more past tense discussion than APA's. These results showed a direction congruent with hypothesized higher process stage

(discussion of negative feelings and discussion in present tense) and lower process stage (discussion in past tense) verbalizations predicted for the APA and HPA groups respectively.

In summary, analyzed group differences show that APA's focused more on themselves than HPA's during free verbalization, while HPA's were more involved in discussion of others than APA's. Also, APA Ss had a higher ratio of discussion of self to discussion of others than HPA Ss. Other group differences, although not statistically significant, showed that the verbal behavior of APA's was somewhat more indicative of the higher stages of therapeutic process than that of HPA's: APA's, in addition to being more involved with themselves than others, tended to be more concerned with the present than the past; they tended to make fewer qualified and vague statements; and they tended to express more negative feelings than HPA's.

An interesting finding in the area of expression of feelings was that, in general, twice as many negative feelings than positive feelings were expressed by both groups. The latter may have been a function of the free verbalization task. However, since the instructions were to "talk about anything at all," it is speculated that in

expressing twice as many negative as positive feelings, the Ss were carrying over a general communicative pattern to the free verbalization sessions. That is, people in a real life situation who are free to talk about anything at all generally seem to be more in tune with and/or more communicative about their negative as compared to their positive feelings.

Changes in Free Verbalizations over Time

None of the hypotheses based on changes over time in the content of free verbalizations were supported. The results based on two hypotheses that were not supported yielded no consistent trend of response change: APA's did not increase in the expression of positive feelings, and they did not increase in discussion of problems. The number of responses of APA's in these two categories was quite stable and showed the least change as compared to the other eight categories. Thus APA's were not increasingly able to express positive feelings and discuss problems. The latter expectations were based on Rogers' hypotheses of the changes that take place in "successful"

therapy cases. Three possible explanations for not obtaining the expected results are offered. Either average problems admitters are not similar enough to "successful" client-centered therapy cases to expect the positive therapeutic outcomes of increased discussion of problems and expression of positive feelings. Or an increase in discussion of problems and expression of positive feelings over time was not forthcoming during free verbalization sessions for APA's because a positive therapist-patient relationship is particularly necessary for such change. It might also be that increases were not obtained in these responses because the instructions did not call for them. Probably all of the explanations have merit and neither is singly sufficient.

For one unsupported hypothesis about response change over time, the results, although not statistically significant, were in the direction opposite that predicted. HPA Ss tended to use less silence responses over time. APA Ss on the other hand showed an overall tendency to increase in the number of silence responses over time. Thus, contrary to prediction, Ss admitting to a large number of problems tended to decrease in the use of the silence defense.

Three significant results were found in response changes over time that were in a direction opposite the predicted direction: HPA Ss decreased over time in the use of direct references, uncertain and qualified speech, and discussion of others. Further unhypothesized results were a significant decrease over time for APA Ss in both discussion of others and the use of uncertain and qualified speech.

The significant decrease in uncertain and qualified speech and discussion of others was somewhat larger for the APA group. However, two important findings in the HPA group results are especially noteworthy: HPA's, contrary to prediction, did not become increasingly defensive in their verbal behavior. Rather, they used increasingly fewer verbal defenses, as did APA's, on the categories mentioned. Moreover, HPA's showed a general decrease in verbal defenses over a wider area of response types than APA's, since they also decreased (significantly) in the use of direct references and tended to decrease in the use of silence responses. HPA's decreased their responses over time in every category measuring defensive means of verbalizing except discussion in past tense; although on all these categories, they had higher frequency levels

than APA's on Block 1. Apparently, even for less well-adjusted Ss, the free verbalization sessions became increasingly less anxiety provoking with time. The latter inference is given additional support by another unexpected finding: HPA's had a significant increase in negative feeling responses over time.

The results related to four unsupported hypotheses showed verbal response changes in the predicted direction: APA's increased over time in discussion of self, and they increased slightly in negative feeling and present tense responses; HPA's tended to increase in past tense discussion. Thus APA's were consistently more "self" and "present" oriented in their discussion, while HPA's were more "others" and "past" oriented, even though only the discussion of self and others dimensions showed significant group differences. Although APA's generally expressed more negative feelings than HPA's, they did not show the significant increase in negative feeling responses found for HPA's. Since the increase in expression of negative feelings for HPA's was not accompanied by more self-references, however, the result of increased negative feeling responses does not appear to have been a positive therapeutic outcome of the free verbalization sessions.

Reactions of the Subjects to the Free Verbalization Task

It is helpful, from a phenomenological standpoint, to note some of the verbatim comments of Ss from both groups who had favorable and unfavorable reactions to the experiment. These comments were recorded during the coding of the free verbalization tapes.

Favorable reactions:

> "This experiment is like talking to somebody."
>
> "Free association may have helped me unknowingly . . . beats crackin' up and getting ulcers." (Session 8)
>
> "I'd like to summarize my feelings about myself." (Beginning of Session 8)
>
> "It feels good to be able to talk about anything you want and not worry about what anybody's gonna think.(Session 1) "I'm really gonna miss this." (Session 8)
>
> "It's kinda wild to sit back and talk. If it wasn't so far out, I wouldn't mind comin' every day just to get a chance to talk."
>
> "It's kinda fun sittin' here--thinking about what you're thinking about."

Unfavorable reactions:

> "They might find I'm crazy." (Session 5) I bet they find I'm crazy. (Session 6).
>
> "I don't like this experiment. It would be better if I had someone to talk to. You lied about this experiment."

"It's like being in jail . . . this bare room . . ."

Most of the unfavorable subject reactions were not as direct as the above. A few of the more indirect, uncoded signs of displeasure were the following: deep sighs, yawning, singing, playing with the microphone, playing with and looking at watches, groaning, and undecipherable mumbling. It was observed by E that those Ss who really seemed to enjoy the experiment and were less concerned about why they were asked to volunteer for free association were also the Ss who became much more personally involved during the sessions, using them more like therapy sessions. On the basis of recorded comments and reactions of the Ss, E suggests that of the 18 Ss who participated in all eight sessions, eight Ss (five HPA's and three APA's) seemed to consistently enjoy the sessions and talked about personally meaningful material to a greater extent than the other Ss. Four Ss, one HPA and three APA's, maintained unfavorable attitudes toward the experiment, said as little as possible, and apparently, continued to come to the sessions because they had said they would and needed the research credit. Thus the most favorable reactions to and enjoyment of free verbalization

seemed to come from HPA's. Perhaps HPA's were more responsive because they were the most likely therapy candidates in the sample of tested students. However, it would have been helpful if the Ss had been given questionnaires regarding their experience as a supplement to E's assumptions based on their spontaneous comments.

Summary of the Discussion of Results

In summary, the following comments can be made concerning the general pattern of results. HPA's made a greater number of defensive responses than APA's on all categories except silence. However, both groups made significant, unhypothesized decreases in defensive verbalization as measured by a number of categories.

Although ambiguity is a primary characteristic of free verbalization sessions as structured in the present experiment, it apparently did not cause the expected increase in anxiety over time for HPA's since they did not generally increase their responses in most measures of defensive verbalization. Thus the admission of a large number of problems did not necessitate the increased use

of the most directly defensive responses. The ambiguity of the free verbalization task seemed to generally elicit more neutral or general and abstract discussion for both groups over time, rather than personal, feeling oriented discussion, or the increased use of defensive statements.

It is suggested that the ambiguity involved in the free verbalization task could be more easily adapted to than that of therapy: the ambiguous elements of therapy are in constant flux because of direct interpersonal interaction. During free verbalization, the task structure is more constant, and whatever interpersonal implications the S imposes on the situation are also likely to be more constant than the flux of implications steming from relationship changes in therapy. Thus it is reasoned that any anxiety resulting from the free verbalization task was generally strongly diminished over time for most Ss.

The results also showed that the verbal behavior of APA's was more like that of "successful" therapy cases at higher stages of positive process change than that of HPA's. APA's discussed themselves more and others less than HPA's; and they tended to talk more in the present and less in the past tense than HPA's. An important finding is that on the more directly positive dimensions of

therapeutic change--discussion of feelings and problems--APA's did not give significantly more responses than HPA's, nor did they increase substantially in such responses over time as expected. Three possible explanations, all of which are probably relevant, are offered for these findings. Firstly, APA's may not have been sufficiently similar to "successful" therapy cases to expect them to increasingly express their feelings and discuss more problems. Secondly, the free verbalization instructions were so non-specific that APA's may have felt it inappropriate to "personalize" the sessions with self-confrontation rather than general statements about themselves. Thirdly, it is quite possible that a positive therapist-client relationship is necessary for an increase in expression of feelings and discussion of problems. The latter possibility may in fact have resulted even if Ss had been instructed to use the free verbalization sessions as a means of becoming more aware of their feelings and coping with their problems.

Critique of the Present Study and Suggestions for Future Research

It is quite probable that the small number of Ss used in the present experiment contributed to the failure to obtain many of the hypothesized results. However, it also seems that the Ss used and the task instructions were important variables contributing to the failure to obtain verbal behavior indicative of positive therapeutic changes.

As mentioned above, a majority of Ss continued to question, "Why me?" throughout the experiment and remained wary of the purpose of the task, since it was never clear to them why they were selected to volunteer. This initial and continued wariness, and the fact that the instructions mentioned that the tapes would be "analyzed later" probably contributed heavily to the Ss' concentration on non-personal and neutral topics in their discussion.

Also, it is unlikely that Ss with a mean age of approximately 20 years, many of whom were undergoing their initial exposure to psychology, would feel free enough to initiate introspection and verbalization about their personal feelings and problems, especially without specific instructions to that end. Relatedly, even if such behavior occurred to them, they may have felt it inappropriate or

unnecessarily revealing, since the task instructions did not request it.

The major goal of the present study was to assess whether or not changes in verbal behavior similar to those that take place during client-centered therapy would occur during free verbalization sessions. To that end, and in light of the difficulties encountered with Ss discussed above, the following seems evident: rather than differentiating Ss on the basis of problem admission, Ss should have been chosen who differed in their motivation to understand their thoughts and feelings and change their behavior. Specifically, it would have been much more suitable to use prospective therapy clients, for example, and compare their verbal behavior with "normals" (not seeking therapy) after both groups had been matched on both major problem areas and problem intensity. Problem intensity might have been assessed by Ss' rating of the degree of threat or anxiety they experienced from different problems. The point is that had the independent variable included more elements related to the dependent variable as assessed in the present experiment, the study would have been more meaningful. And such related elements would result, in a future study, if Ss differed in their motivation to "get into" themselves

(as prospective therapy clients are hopefully motivated) rather than their readiness to admit problems on paper.

Another point of revision of the present experiment would be the free verbalization instructions. Although the aim of the present study was to assess changes without a therapist, the task as presented to the Ss need not have been so far removed from specifying therapy-related behavior. In other words, we used clinically derived dimensions similar to those used by Rogers for assessing verbal behavior in a task giving vague instructions centered around "talk about anything at all." In light of the dependent variable, it would have been more reasonable to include a statement in the instructions requesting Ss to focus on some or all of the following: feelings, thoughts, behavior, problems, and relationships with others. In addition, the instructions would have had to specify an interest of E in therapy-related behavior in addition to free association. If the type of Ss suggested above were used in conjunction with the latter sketch of free verbalization instructions, the exploration of process changes during free verbalization would be made more obviously relevant to psychotherapy research.

With such specifics in the instructions, Ss would have much less doubt about what the experiment is "all about." Also, providing the Ss a more specific set with the implicit goal of self-confrontation might compensate for the lack of feedback and reinforcement from E. Rather than working toward some positive end, many Ss in the present experiment seemed to have become bored because of the vagueness of instructions in which no specific aim was implied.

It should also be noted that several of the categories measuring process changes would have to be expanded in order to be more meaningfully related to the dimensions of therapeutic process hypothesized by Rogers. The discussion of self category could be subdivided into "private self" references and "interpersonal self" references (the self in social relationships). Each of these self categories could be split into four subcategories that relate the self references to neutral and/or abstract discussion, discussion of positive feelings, discussion of negative feelings, or discussion of problems. In the present study, a major weakness was that the coding categories did not really tap the changes in the manner of experiencing the self, with respect to feelings and problems, that are so

crucial to Rogers' process change continua. Other changes could be suggested, but the above are the most crucial for improving the coding system used, and would not involve as many subjective inferences to code accurately as would other meaningful categories, such as "openness."

One final comment should be made regarding the results of the present experiment. We noted that with the instructions to "talk about anything at all," there was a decrease in many types of defensive responses for all Ss and a tendency for some Ss to talk more about themselves and their feelings over time. Also, some Ss made very positive comments on their experiences during free verbalization. With these findings in mind, it seems quite possible that free verbalization sessions could be used as a useful adjunct to more traditional means of psychotherapy. In particular, the sessions might be especially useful for clients who have difficulty articulating their feelings and personal experiences, and for clients who have evidenced difficulty in forming close interpersonal relationships (such as extreme introverts and juvenile delinquents). Generalities on who would best benefit by the sessions are not especially useful, however, since

the therapist could assess such need after the first two or three therapy sessions.

The free verbalization sessions could precede regular therapy sessions and/or take place regularly at the client's convenience during the week. The client could make brief, cogent summaries as to what he had accomplished as his own "therapist" during the sessions. Such a measure would probably help in moving therapy toward avenues of change, and is directly in line with what most traditional therapists hope that their skills will eventually accomplish, namely: self-help in the client.

V. REFERENCES

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VI. APPENDICES

APPENDIX I

THE MOONEY PROBLEM CHECK LIST.

1950 REVISION

MOONEY PROBLEM CHECK LIST

Ross L. Mooney
Assisted by Leonard V. Gordon
Bureau of Educational Research
Ohio State University

C COLLEGE FORM

Age..... Date of birth..... Sex.....

Class in college..... Marital status.....
(Freshman, Sophomore, etc.) (Single, married, etc.)

Curriculum in which you are enrolled.....
(Electrical Engineering, Teacher Education, Liberal Arts, etc.)

Name of the counselor, course or agency
for whom you are marking this check list.....

Your name or other identification,
if desired.....

Date.....

DIRECTIONS

This is not a test. It is a list of troublesome problems which often face students in college—problems of health, money, social life, relations with people, religion, studying, selecting courses, and the like. You are to go through the list, pick out the particular problems which are of concern to you, indicate those which are of most concern, and make a summary interpretation in your own words. More specifically, you are to take these three steps.

First Step: Read the list slowly, pause at each item, and if it suggests something which is troubling you, *underline* it, thus "34. Sickness in the family." Go through the whole list, underlining the items which suggest troubles (difficulties, worries) of concern to you.

Second Step: After completing the first step, look back over the items you have underlined and *circle the numbers* in front of the items which are of *most concern* to you, thus,

" (34.) Sickness in the family."

Third Step: After completing the first and second steps, answer the summarizing questions on pages 5 and 6.

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Cir. | Tot.
HPD
FLE
SRA
SPR
PPR
CSM
HF
MR
ACW
FVE
CTP
TOTAL. . . .

First Step: Read the list slowly, and as you come to a problem which troubles you, underline it.

1. Feeling tired much of the time
2. Being underweight
3. Being overweight
4. Not getting enough exercise
5. Not getting enough sleep

6. Too little money for clothes
7. Receiving too little help from home
8. Having less money than my friends
9. Managing my finances poorly
10. Needing a part-time job now

11. Not enough time for recreation
12. Too little chance to get into sports
13. Too little chance to enjoy art or music
14. Too little chance to enjoy radio or television
15. Too little time to myself

16. Being timid or shy
17. Being too easily embarrassed
18. Being ill at ease with other people
19. Having no close friends in college
20. Missing someone back home

21. Taking things too seriously
22. Worrying about unimportant things
23. Nervousness
24. Getting excited too easily
25. Finding it difficult to relax

26. Too few dates
27. Not meeting anyone I like to date
28. No suitable places to go on dates
29. Deciding whether to go steady
30. Going with someone my family won't accept

31. Being criticized by my parents
32. Mother
33. Father
34. Sickness in the family
35. Parents sacrificing too much for me

36. Not going to church often enough
37. Dissatisfied with church services
38. Having beliefs that differ from my church
39. Losing my earlier religious faith
40. Doubting the value of worship and prayer

41. Not knowing how to study effectively
42. Easily distracted from my work
43. Not planning my work ahead
44. Having a poor background for some subjects
45. Inadequate high school training

46. Restless at delay in starting life work
47. Doubting wisdom of my vocational choice
48. Family opposing my choice of vocation
49. Purpose in going to college not clear
50. Doubting the value of a college degree

51. Hard to study in living quarters
52. No suitable place to study on campus
53. Teachers too hard to understand
54. Textbooks too hard to understand
55. Difficulty in getting required books

56. Not as strong and healthy as I should be
57. Allergies (hay fever, asthma, hives, etc.)
58. Occasional pressure and pain in my head
59. Gradually losing weight
60. Not getting enough outdoor air and sunshine

61. Going in debt for college expenses
62. Going through school on too little money
63. Graduation threatened by lack of funds
64. Needing money for graduate training
65. Too many financial problems

66. Not living a well-rounded life
67. Not using my leisure time well
68. Wanting to improve myself culturally
69. Wanting to improve my mind
70. Wanting more chance for self-expression

71. Wanting a more pleasing personality
72. Losing friends
73. Wanting to be more popular
74. Being left out of things
75. Having feelings of extreme loneliness

76. Moodiness, "having the blues"
77. Failing in so many things I try to do
78. Too easily discouraged
79. Having bad luck
80. Sometimes wishing I'd never been born

81. Afraid of losing the one I love
82. Loving someone who doesn't love me
83. Too inhibited in sex matters
84. Afraid of close contact with the opposite sex
85. Wondering if I'll ever find a suitable mate

86. Parents separated or divorced
87. Parents having a hard time of it
88. Worried about a member of my family
89. Father or mother not living
90. Feeling I don't really have a home

91. Differing from my family in religious beliefs
92. Failing to see the relation of religion to life
93. Don't know what to believe about God
94. Science conflicting with my religion
95. Needing a philosophy of life

96. Forgetting things I've learned in school
97. Getting low grades
98. Weak in writing
99. Weak in spelling or grammar
100. Slow in reading

101. Unable to enter desired vocation
102. Enrolled in the wrong curriculum
103. Wanting to change to another college
104. Wanting part-time experience in my field
105. Doubting college prepares me for working

106. College too indifferent to student needs
107. Dull classes
108. Too many poor teachers
109. Teachers lacking grasp of subject matter
110. Teachers lacking personality

111. Poor posture
112. Poor complexion or skin trouble
113. Too short
114. Too tall
115. Not very attractive physically

116. Needing money for better health care
117. Needing to watch every penny I spend
118. Family worried about finances
119. Disliking financial dependence on others
120. Financially unable to get married

121. Awkward in meeting people
122. Awkward in making a date
123. Slow in getting acquainted with people
124. In too few student activities
125. Boring weekends

126. Feelings too easily hurt
127. Being talked about
128. Being watched by other people
129. Worrying how I impress people
130. Feeling inferior

131. Unhappy too much of the time
132. Having memories of an unhappy childhood
133. Daydreaming
134. Forgetting things
135. Having a certain nervous habit

136. Being in love
137. Deciding whether I'm in love
138. Deciding whether to become engaged
139. Wondering if I really know my prospective mate
140. Being in love with someone I can't marry

141. Friends not welcomed at home
142. Home life unhappy
143. Family quarrels
144. Not getting along with a member of my family
145. Irritated by habits of a member of my family

146. Parents old-fashioned in their ideas
147. Missing spiritual elements in college life
148. Troubled by lack of religion in others
149. Affected by racial or religious prejudice
150. In love with someone of a different race or religion

151. Not spending enough time in study
152. Having too many outside interests
153. Trouble organizing term papers
154. Trouble in outlining or note-taking
155. Trouble with oral reports

156. Wondering if I'll be successful in life
157. Needing to plan ahead for the future
158. Not knowing what I really want
159. Trying to combine marriage and a career
160. Concerned about military service

161. Not having a good college adviser
162. Not getting individual help from teachers
163. Not enough chances to talk to teachers
164. Teachers lacking interest in students
165. Teachers not considerate of students' feelings

166. Frequent sore throat
167. Frequent colds
168. Nose or sinus trouble
169. Speech handicap (stuttering, etc.)
170. Weak eyes

171. Working late at night on a job
172. Living in an inconvenient location
173. Transportation or commuting difficulty
174. Lacking privacy in living quarters
175. Having no place to entertain friends

176. Wanting to learn how to dance
177. Wanting to learn how to entertain
178. Wanting to improve my appearance
179. Wanting to improve my manners or etiquette
180. Trouble in keeping a conversation going

181. Being too envious or jealous
182. Being stubborn or obstinate
183. Getting into arguments
184. Speaking or acting without thinking
185. Sometimes acting childish or immature

186. Losing my temper
187. Being careless
188. Being lazy
189. Tending to exaggerate too much
190. Not taking things seriously enough

191. Embarrassed by talk about sex
192. Disturbed by ideas of sexual acts
193. Needing information about sex matters
194. Sexual needs unsatisfied
195. Wondering how far to go with the opposite sex

196. Unable to discuss certain problems at home
197. Clash of opinion between me and parents
198. Talking back to my parents
199. Parents expecting too much of me
200. Carrying heavy home responsibilities

201. Wanting more chances for religious worship
202. Wanting to understand more about the Bible
203. Wanting to feel close to God
204. Confused in some of my religious beliefs
205. Confused on some moral questions

206. Not getting studies done on time
207. Unable to concentrate well
208. Unable to express myself well in words
209. Vocabulary too limited
210. Afraid to speak up in class discussions

211. Wondering whether further education is worthwhile
212. Not knowing where I belong in the world
213. Needing to decide on an occupation
214. Needing information about occupations
215. Needing to know my vocational abilities

216. Classes too large
217. Not enough class discussion
218. Classes run too much like high school
219. Too much work required in some courses
220. Teachers too theoretical

221. Frequent headaches
222. Menstrual or female disorders
223. Sometimes feeling faint or dizzy
224. Trouble with digestion or elimination
225. Glandular disorders (thyroid, lymph, etc.)

226. Not getting satisfactory diet
227. Tiring of the same meals all the time
228. Too little money for recreation
229. No steady income
230. Unsure of my future financial support

231. Lacking skill in sports and games
232. Too little chance to enjoy nature
233. Too little chance to pursue a hobby
234. Too little chance to read what I like
235. Wanting more worthwhile discussions with people

236. Disliking someone
237. Being disliked by someone
238. Feeling that no one understands me
239. Having no one to tell my troubles to
240. Finding it hard to talk about my troubles

241. Afraid of making mistakes
242. Can't make up my mind about things
243. Lacking self-confidence
244. Can't forget an unpleasant experience
245. Feeling life has given me a "raw deal"

246. Disappointment in a love affair
247. Girl friend
248. Boy friend
249. Breaking up a love affair
250. Wondering if I'll ever get married

251. Not telling parents everything
252. Being treated like a child at home
253. Being an only child
254. Parents making too many decisions for me
255. Wanting more freedom at home

256. Sometimes lying without meaning to
257. Pretending to be something I'm not
258. Having a certain bad habit
259. Unable to break a bad habit
260. Getting into serious trouble

261. Worrying about examinations
262. Slow with theories and abstractions
263. Weak in logical reasoning
264. Not smart enough in scholastic ways
265. Fearing failure in college

266. Deciding whether to leave college for a job
267. Doubting I can get a job in my chosen vocation
268. Wanting advice on next steps after college
269. Choosing course to take next term
270. Choosing best courses to prepare for a job

271. Some courses poorly organized
272. Courses too unrelated to each other
273. Too many rules and regulations
274. Unable to take courses I want
275. Forced to take courses I don't like

276. Having considerable trouble with my teeth
277. Trouble with my hearing
278. Trouble with my feet
279. Bothered by a physical handicap
280. Needing medical advice

281. Needing a job during vacations
282. Working for all my expenses
283. Doing more outside work than is good for me
284. Getting low wages
285. Dissatisfied with my present job

286. Too little chance to do what I want to do
287. Too little social life
288. Too much social life
289. Nothing interesting to do in vacations
290. Wanting very much to travel

291. Too self-centered
292. Hurting other people's feelings
293. Avoiding someone I don't like
294. Too easily led by other people
295. Lacking leadership ability

296. Too many personal problems
297. Too easily moved to tears
298. Bothered by bad dreams
299. Sometimes bothered by thoughts of insanity
300. Thoughts of suicide

301. Thinking too much about sex matters
302. Too easily aroused sexually
303. Having to wait too long to get married
304. Needing advice about marriage
305. Wondering if my marriage will succeed

306. Wanting love and affection
307. Getting home too seldom
308. Living at home, or too close to home
309. Relatives interfering with family affairs
310. Wishing I had a different family background

311. Sometimes not being as honest as I should be
312. Having a troubled or guilty conscience
313. Can't forget some mistakes I've made
314. Giving in to temptations
315. Lacking self-control

316. Not having a well-planned college program
317. Not really interested in books
318. Poor memory
319. Slow in mathematics
320. Needing a vacation from school

321. Afraid of unemployment after graduation
322. Not knowing how to look for a job
323. Lacking necessary experience for a job
324. Not reaching the goal I've set for myself
325. Wanting to quit college

326. Grades unfair as measures of ability
327. Unfair tests
328. Campus activities poorly co-ordinated
329. Campus lacking in school spirit
330. Campus lacking in recreational facilities

Cir.	Tot.
HPD	
FLE	
SRA	
SPR	
PPR	
CSM	
HF	
MR	
ACW	
FVE	
CTP	
TOTAL	

Second Step: Look back over the items you have underlined and circle the numbers in front of the problems which are troubling you most.

Third Step: Pages 5 and 6

Third Step: Answer the following four questions.

QUESTIONS

1. Do you feel that the items you have marked on the list give a well-rounded picture of your problems? .....Yes. .....No. If any additional items or explanations are desired, please indicate them here.

2. How would you summarize your chief problems in your own words? Write a brief summary.

(Questions are continued on next page→)

3. Whether you have or have not enjoyed filling out the list, do you think it has been worth doing? .....Yes. .....No. Could you explain your reaction?

4. If the opportunity were offered, would you like to talk over any of these problems with someone on the college staff? .....Yes. .....No. If so, do you know the particular person(s) with whom you would like to have these talks? .....Yes. .....No.

APPENDIX II

MEAN, STANDARD DEVIATION, AND RANGE OF THE MOONEY PROBLEM CHECK LIST SCORES.

N = 198

	x	s	Range
Mooney	40.0	23.7	2 - 142

APPENDIX III

RECRUITING LETTER TO 60 SELECTED STUDENTS.

The following concerns the second phase of the personality research study for which you have already taken three tests, and have received one (1) hour of research credit.

You have been chosen to participate in the second phase of the experiment. This phase will require four hours of your time, for which you will receive four (4) hours of research credit. Perhaps this is more research credit than you need to fulfill your requirements for Psychology 151; so consider this carefully before you decide to volunteer for this part of the study.

We are doing an experiment concerned with free association--an activity which many MSU students have found exciting, rewarding, and challenging.

Our plan is to see you at least twice a week, for half-hour sessions, scheduled according to your convenience. At this point, we are ready to start scheduling half-hour appointment times.

In the following blank schedule, please indicate only your free half-hour breaks. We will schedule you on the basis of your free time; therefore, **INDICATE ONLY THOSE PERIODS DURING WHICH YOU ARE USUALLY FREE.**

After the schedule has been planned, we will notify you of your regular appointment times.

If you do not care to participate, please sign your name on the schedule sheet, leave the schedule blank, and return it.

APPENDIX IV

DEFINITIONS OF THE CODING CATEGORIES

Categories 1 and 2: Expression of positive (1) and negative (2) feelings.

Any reference to having a certain feeling in the present or in the past was scored as an expression of feeling. Feelings were scored in category 1 or category 2 according to their place on a good-bad dimension as perceived by the S; and elegance of language was not important for categorization purposes. If "feel" was used as a synonym for "think," the category was not scored.

Examples of words and phrases included in statements of positive and negative feelings for categories 1 and 2, respectively, are as follows:

Category 1: love, like, dig, cool, groovy

Category 2: hate, can't stand, bugged, pissed, ugh

Category 3: Discussion of others

Any reference to a person other than the S, whether known or unknown by him, but excluding the E, were scored as non-personal references.

Examples of words or inferred subjects of statements scored under discussion of others are as follows: he, they, she, others, and general references such as "people," "one," "you."

Category 4: Discussion of self

Any reference that S made to himself directly, or any statement in which S referred to himself and others jointly was scored as discussion of self.

Examples of words or inferred subjects of statements scored as discussion of self are as follows: I, me, we, us.

Category 5: Discussion in past tense

Any statement by S about a past event, feeling, or situation was scored as discussion in past tense.

Category 6: Discussion in present tense

Any statement by S about a present event, feeling, or situation was scored as discussion in present tense.

Category 7: Direct references

Any statement made by S which included any of the following three references was scored as a direct reference:

a. the experimenter

b. the experiment itself or experimental method

c. the immediate physical surroundings

Category 8: Descriptive discussion of problems

Any reference to or description of an actual hypothetical problem was scored as descriptive discussion or problems. Words and phrases used in scoring descriptive discussion of problems included the following: "bothers me," "worry about," "trouble," "confused," "afraid," "problem I have," "difficulty," "I don't like to . . . but I have to," "I don't know what to do about . . ."

Category 9: Discussion of personal coping with problems (Dropped)

Any reference made by S to an apparently positive means of coping with an actual or hypothetical problem in his personal life was scored as discussion of personal coping with problems. An example follows: "I am going to talk to X about our relationship."

Category 10: Uncertain and qualified speech

Any use of qualifiers, retractions, and explanations regarding statements about feelings, situations,

and events were scored as evidence of guardedness. Examples are as follows:

a. Phrases, words, or clauses indicating uncertainty (e.g., "I suppose," "I guess," "I wonder," "I don't know," "it seems," "maybe," "possibly").

b. The use of modifiers that partially or totally retracted from the immediately preceding statement (e.g., "more or less," "except," "although," "but," "however," "nevertheless,").

c. Words or phrases which introduced an element of vagueness (e.g., "what one might call," "whether or not").

d. Words or phrases indicating a causal relationship (e.g., "because," "due to," "on account of").

Category 11: Silence

Any interval of 15 sec. during which no words or sounds were uttered by S was scored as silence.

APPENDIX V

TABLES OF STATISTICAL ANALYSES OF THE CATEGORIES

TABLE 1.--Summary of analyses of variance for repeated measures

Category	Source of Variation	SS	df	MS	F
I. Positive feelings	Groups	.0007	11	.0007	.02
	Residual	.4876	16	.0305	
	Blocks	.0146	3	.0049	.39
	Groups X Blocks	.0358	3	.0119	.94
	Residual	.6048	48	.0126	
	Total	1.1435	71		
II. Negative feelings	Groups	.1426	1	.1426	2.47
	Residual	.9238	16	.0577	
	Blocks	.0611	3	.0204	2.34*
	Groups X Blocks	.0731	3	.0244	2.80*
	Residual	.4197	48	.0087	
	Total	1.6203	71		
III. Discussion of others	Groups	.2765	1	.2765	5.86**
	Residual	.7544	16	.0472	

Appendix V, Table 1.--Cont.

Category	Source of Variation	SS	df	MS	F
	Blocks	.0504	3	.0168	3.57***
	Groups X Blocks	.1104	3	.0368	7.83****
	Residual	.2237	48	.0047	
	Total	1.4154	71		
IV. Discussion of self	Groups	.0914	1	.0914	6.82***
	Residual	.2136	16	.0134	
	Blocks	.0159	3	.0053	1.51
	Groups X Blocks	.0156	3	.0052	1.49
	Residual	.1694	48	.0035	
	Total	.5059	71		
V. Past tense	Groups	.0922	1	.0922	1.20
	Residual	1.2266	16	.0767	
	Blocks	.0364	3	.0121	1.14
	Groups X Blocks	.1185	3	.0395	3.73***
	Residual	.5065	48	.0106	
	Total	1.9802	71		
VI. Present	Groups	.0593	1	.0593	.97
	Residual	.9773	16	.0611	

Appendix V, Table 1.--Cont.

Category		Source of Variation	SS	df	MS	F
		Blocks	.0113	3	.0038	.75
		Groups X Blocks	.0228	3	.0076	1.49
		Residual	.2457	48	.0051	
		Total	1.3164	71		
VII.	Direct references	Groups	.0049	1	.0049	.05
		Residual	1.7618	16	.1101	
		Blocks	.1339	3	.0446	3.05**
		Groups X Blocks	.2532	3	.0844	5.78****
		Residual	.7019	48	.0146	
		Total	2.8557	71		
VIII.	Discussion of problems	Groups	.0126	1	.0126	.12
		Residual	1.6537	16	.1034	
		Blocks	.0558	3	.0186	1.65
		Groups X Blocks	.1112	3	.0371	3.28**
		Residual	.5420	48	.0113	
		Total	2.3753	71		
IX.	Uncertain & Qualified speech	Groups	.2252	1	.2252	3.60*
		Residual	1.0056	16	.0625	

Appendix V, Table 1.--Cont.

Category	Source of Variation	SS	df	MS	F
	Blocks	.1180	3	.0393	12.68****
	Groups X Blocks	.1392	3	.0464	14.97****
	Residual	.1486	48	.0031	
	Total	1.6316	71		
X. Silence	Groups	9.598	1	9.598	2.19
	Residual	70.071	16	4.379	
	Blocks	1.168	3	.389	1.05
	Groups X Blocks	2.934	3	.978	2.64*
	Residual	17.796	48	.371	
	Total	101.567	71		

*P < .10
**P < .05
***P < .025
****P < .005

Appendix V.--Cont.

Table 2.--Summary of analyses of variance for simple effects of session blocks

Category	Source of Variation	SS	df	MS	F
II.	Simple effect of Blocks				
	for Group HPA	.0641	3	.0214	2.46#
	for Group APA	.0090	3	.0030	.34
	Residual	.4197	48	.0087	
III.	Simple effect of Blocks				
	for Group HPA	.0461	3	.0154	3.28*
	for Group APA	.0643	3	.0214	4.55**
	Residual	.2237	48	.0047	
VII.	Simple effect of Blocks				
	for Group HPA	.1385	3	.0462	3.16*
	for Group APA	.1147	3	.0382	2.62#
	Residual	.7019	48	.0146	
IX.	Simple effect of Blocks				
	for Group HPA	.0588	3	.0196	6.32***
	for Group APA	.0804	3	.0268	8.65***
	Residual	.1486	48	.0031	

#P .10
*P .05
**P .01
***P .005

Appendix V.--Cont.

TABLE 3.--Summary of analyses of trends

Category	Source	df	SS	MS	F
II. Negative feelings	Blocks for HPA	3	.0641		
	Linear	1	.0595	.0595	6.84**
	Quadratic	1	.0022	.0022	.25
	Cubic	1	.0024	.0024	.28
	Residual	48	.4197	.0087	
III. Discussion of others	Blocks for HPA	3	.0461		
	Linear	1	.0198	.0198	4.21*
	Quadratic	1	.0025	.0025	.53
	Cubic	1	.0238	.0238	5.06*
	Blocks for APA	3	.0643		
	Linear	1	.0308	.0308	6.55**
	Quadratic	1	.0000	.0000	0
	Cubic	1	.0334	.0334	7.11**
	Residual	48	.2237	.0047	

Appendix V, Table 3.--Cont.

Category	Source	df	SS	MS	F
VII. Direct References	Blocks for HPA	3	.1385		
	Linear	1	.0001	.0001	.01
	Quadratic	1	.0609	.0609	4.17*
	Cubic	1	.0775	.0775	5.31*
	Blocks for APA	3	.1147		
	Linear	1	.0077	.0077	.53
	Quadratic	1	.0657	.0657	4.50*
	Cubic	1	.0412	.0412	2.82
	Residual	48	.7019	.0146	
IX. Uncertain & Qualified speech	Blocks for HPA	3	.0588		
	Linear	1	.0430	.0430	13.87***
	Quadratic	1	.0022	.0022	.68
	Cubic	1	.0136	.0136	4.39*
	Blocks for APA	3	.0804		

Appendix V, Table 3.--Cont.

Category	Source	df	SS	MS	F
	Linear	1	.0640	.0640	20.65***
	Quadratic	1	.0120	.0120	3.87
	Cubic	1	.0043	.0043	1.39
	Residual	48	.1486	.0031	

*P .05
**P .025
***P .005