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Telemediated self-confrontation: Effects of separation of channels social approval seeking and fear of negative evaluation on self-perception

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TELEMEDIATED SELF-CONFRONTATION: EFFECTS OF SEPARATION

OF CHANNELS, SOCIAL APPROVAL SEEKING, AND FEAR OF

NEGATIVE EVALUATION ON SELF-PERCEPTION

By

Victoria Lynne Douglass

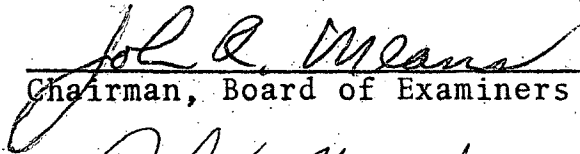B.A., Rice University, 1971

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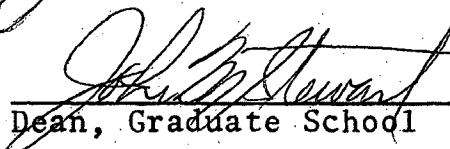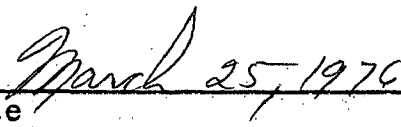
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Telemediated Self-Confrontation: Effects of Separation of Channels, Social Desirability, and Fear of Negative Evaluation on Self-Perception (122 pp.)

Director: John R. Means $\mathcal{RM}$

The purpose of this telemediated self-confrontation study was to investigate whether: (1) separation of channels of feedback, (2) time of presentation of feedback, or (3) concern with fear of negative evaluation and giving socially acceptable test responses would have differential impact on self-perception as measured by responses on equivalent forms of a semantic differential.

Forty-eight introductory psychology students, divided equally with regard to sex, were recorded while they talked for five minutes about things of importance to them. Then, their tapes were played back to them.

Channels of feedback were audio, audio-visual, visual, and filtered-audio (frequencies above 600 cps removed).

Self-perception of what each subject saw and/or heard was measured by responses to three equivalent forms of a semantic differential inventory loading on Activity, Potency, and Evaluation, administered at (1) pre-playback, (2) five-seconds post-playback, (3) five-minutes post-playback, and finally (4) a rating of how he felt others would perceive what he had seen and/or heard.

The Fear of Negative Evaluation scale and the Social Desirability Scale were used as covariates, since it was felt that the personality type which scored high on these measures would tend to react in a similar way to the self-confrontation experience.

An analysis of covariance was performed, and the semantic differential main effect was found to be significant for two factors, supporting predictions that Ss would react negatively on Semantic Differential II, return to baseline on Semantic Differential III, and rate themselves more negatively on Semantic Differential IV than on Semantic Differential I. The sex main effect was significant for the Potency factor, males rating themselves as strong, and females as weak. The channel by semantic differential interaction was significant for all three factors, and the relationship revealed is unsystematic.

Fear of Negative Evaluation and social desirability did not have the negative impact predicted on Semantic Differential II, since they did not account for much variance.

Three out of four of the major hypotheses of this study were supported, and these had to do with the overall semantic differential effect, or reaction sequence.

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A person may be said to <u>have</u>, or <u>be in</u>, or <u>maintain</u> face
when the line he effectively takes presents an image of
him that is internally consistent, that is supported by
judgments and evidence conveyed by other participants,
and that is confirmed by evidence conveyed through im-
personal agencies in the situation. At such times the
person's face clearly is something that is not lodged in
or on his body, but rather something that is diffusely
located in the flow of events in the encounter and becomes
manifest only when these events are read and interpreted
for the appraisals expressed in them.

. . .

When a person is in wrong face or out of face, expressive
events are being contributed to the encounter which cannot
be readily woven into the expressive fabric of the occasion.
. . . Felt lack of judgmental support from the encounter
may take him aback, confuse him, and momentarily incapaci-
tate him as an interactant. . . . The feeling, whether war-
ranted or not, that he is perceived in a flustered state by
others, and that he is presenting no usable line, may add
further injuries to his feelings. . . . I shall employ the
term <u>poise</u> to refer to the capacity to suppress and conceal
any tendency to become shamefaced during encounters with
others. (Goffman, 1967, pp. 6-9).

CHAPTER I

INTRODUCTION

A fundamental basis for psychopathology, according to
several psychological theorists, is a discrepancy between
a person's self-concept and the way he actually is (Berne,
1961; Glasser, 1960, 1965; Harris, 1967; Rogers, 1951).
In recent years, videotape playback has been used increas-
ingly in clinical situations in the belief that it increases
self-awareness and allows the client to see himself as others
see him. Self-confrontation via videotape can offer the op-
portunity for self-observation, without the distortion and
interpretation inevitably involved in social feedback; it
tends to be perceived as a more neutral source of informa-
tion, and one which cannot be as easily denied (Stoller,
1972).

Much of the evidence presented in this thesis indicates
that videotape self-confrontation may be a potent therapeutic
tool. However, several practitioners have found detrimental
effects for some clients, and warn against possible negative
consequences (Stoller, 1972). Berger (1972) advises caution
in the use of videotape self-confrontation with patients who
are suicidal, or "whose self-hate is narcissistically or

realistically based on their body image" (p. 258). Stoller (1972) stresses the importance of timing, saying that video feedback is most useful if introduced when the client is capable of "reflexive role playing," of being both subjective and objective, and of evaluating himself as others do (p. 248). Issues revolve around the content, length, manner of interpretation, and immediacy of feedback. In view of the possible harmful effects of video feedback, it is unfortunate that at present it is being employed by many therapists in a trial and error fashion.

This thesis reviews three possible theoretical bases for using videotape self-confrontation, summarizes and evaluates related experimental literature, offers suggestions for standardizing future studies, and reports the results of original research performed by this author.

The purpose of this study of telemediated self-confrontation was to investigate whether: (1) separation of channels of feedback, (2) time of presentation of feedback, or (3) concern with fear of negative evaluation and giving socially desirable test responses would have differential impact on self-perception as measured by responses on equivalent forms of a semantic differential.

It is hoped that the results of this research will help to improve therapeutic video-feedback technology.

Self-Confrontation

Self-confrontation, a term introduced by Nielsen (1964), involves internally- or externally-mediated feedback to oneself, which is ideally the subject's objective, true reaction to a previous action (Moore, 1972). In self-confrontation, the patient must be capable of "reflexive role playing," or being able to picture himself as an object of evaluation by another person (Berger, 1972; Nielsen, 1964; Stoller, 1972). He must be capable of being, to some extent, both therapist and client. Thus, he must view the self-confrontation experience as an impetus for therapeutic change.

It is possible that more inclusive and complete types of feedback may offer more opportunity for therapeutic change. This may be one of the advantages of videotape mediated feedback. Another advantage may be the fact that it is as clear and concrete as possible, unlike social feedback, which tends to be tinged by the personality of its orignator. Stoller (1972) stated that video feedback cannot be easily defended against, and tends to be perceived as a more neutral source of information than social feedback.

The self-confrontation experience, as opposed to mere self-observation, must, as defined in this thesis, consist of self-evaluation and change. Various therapists have indicated that a client must have progressed to a certain point in therapy before he is capable of self-evaluation (Berger,

1972; Stoller, 1972). Other issues concern the content, length, manner of interpretation, and immediacy of feedback. Some practitioners recommend teaching the client to use the feedback in a self-confrontive manner (Stoller, 1972). If self-confrontation is employed with an unprepared client, it is possible that his defenses might be strengthened. Thus, there is a need for theoretical guidelines for practitioners to follow in utilizing self-confrontation for therapeutic purposes.

Theories of Self-Confrontation

Different theories contribute different, and yet similar, ways of viewing a unitary event, such as a person's reaction to hearing and seeing himself on videotape. Resemblances between theories are often apparent--similar concepts with diverse labels. For instance, psychoanalysis postulates the existence of super-ego, ego and id in each of us; while transactional analysis conceptualizes Parent, Adult, and Child. But each theorist is also an individual, and helps us to learn something new about the infinite possibilities for human nature. Dissimilar value systems underlie various theories. The "Rogerian" would not think of trying to direct the self-actualizing tendencies of another human being; but the transactional analyst is much more directive. Theories also differ as to postulated

etiology of pathology, who should be in control, and what are the stated goals of therapy.

Several authors claim to have observed a certain progression in the reaction of some subjects (Ss) to audio and/or video self-confrontation experiences (Berger, 1972; Holzman, 1971; Holzman & Rousey, 1966; Holzman, Rousey, & Snyder, 1966; Stoller, 1972). Initially, Ss are described as being self-critical, then as undergoing self-image restoration, and finally, if they are not too overwhelmed with self-hate, they may begin to note and comment on some favorable aspects of themselves, which is, according to Berger (1972), a favorable prognostic sign (p. 258). This reaction sequence, one of several possibilities, will be stated in the terms of each of the three theories below. Then, the similarities between the theories will be delineated, as they apply to the self-confrontation experience.

Self-confrontation and client-centered theory.

The basic theory of client-centered therapy is: If the conditions of congruence, positive regard, and empathic understanding are present in the person labeled "therapist" in a relationship, then growth will occur in the "client" (Meador & Rogers, 1973). Rogerians postulate one motivational force in man, the tendency towards self-actualization.

This force is often thwarted by significant others in the infant's life, who impose "conditions of worth" on him.

These "conditions of worth" tell him that he is lovable and worthwhile only when he follows their dictates. The child incorporates some of these conditions into his self-concept. Then, according to Rogers, "he values an experience positively or negatively solely because of these conditions of worth which he has taken over from others, not because the experience enhances or fails to enhance his organism" (1959 [b], p. 209). A troubled individual is one "whose self-concept [has] become structured in ways incongruent with his organismic experience" (Rogers, 1959[a], p. 192).

Part of client-centered methodology involves making explicit the organismic experience of the client, which is comprised of his experience on various levels, from physiological to psychological, both verbal and nonverbal. If the conditions of therapy described above are present, "then the client gradually allows his self-actualizing capacity to overcome the restrictions he has internalized in the conditions of worth" (Meador & Rogers, 1973, p. 126).

Emphasis is on client, therapist, and the relationship between them. A series of studies by Barrett-Lennard (1959, 1962, cited in Meador & Rogers, 1973) revealed that clients who perceived more of the attitudes of congruence, accurate empathy and positive regard in their therapists showed more positive growth in therapy than a control group.

Videotape replay could possibly contribute to therapeutic success by helping both client and therapist to

become more aware of their organismic experiences, which are
often signaled nonverbally, of each other, and of their re-
lationship. If congruence, accurate empathy, and positive
regard exist on the part of the therapist, it seems that
this would become more apparent, and this could help the
client to achieve further growth. Video replay is also non-
judgmental, in that it is not selectively biased in what it
attends to, as are the therapist and client.

Recorded and filmed interviews have been utilized in
evaluation of the therapeutic process continuum which Rogers
(1959[c]) said exists in therapy, and which he developed a
rating scale to measure. This continuum extends from "rigid-
ity and fixity of psychological function on the one hand to
psychological flow and changingness on the other" (p. 96).

Taped interviews have been part of the research strat-
egy used by client-centered therapists in assessing the
client's progress on the therapeutic process continuum.
However, self-confrontation has not been advocated as a pos-
sible means of augmenting therapeutic success, although it
seems a direct extension of client-centered theory. Thus,
it could potentially help to increase client-therapist under-
standing--to make each more aware of his own organismic ex-
periences and of their relationship.

Client-centered explanation of one possible reaction
sequence following videotape self-confrontation. If an

initial self-critical reaction occurred following self-
confrontation, the client-centered theorist might view it
as happening when the client felt that he had not lived
up to the "conditions of worth" which admonished him to
reveal only certain aspects of himself. When he viewed the
tape, he might have seen characteristics of which significant
others in his life would have disapproved. If expressed
self-image restoration was the next step, it might have been
either the result of giving in to conditions of worth which
said that he should not reveal weaknesses; or else it might
have occurred because the person had become more aware of
himself, and enjoyed the reduction of uncertainty which took
place, the feeling of "rightness" which accompanied increased
self-knowledge, or some other positive aspect of the exper-
ience. The client might have tentatively commented upon
positive self-attributes; and if the therapist was accepting
of these, the third step in the reaction sequence had taken
place.

Self-confrontation and transactional analysis.

In contrast to the non-directive approach of client-
centered therapy is transactional analysis, which is more
directive.

Transactional analysis (TA) is a rationalistic-
actionistic approach to psychotherapy, originated by Eric
Berne (1957), and carried on by Thomas A. Harris (1967),

among others. It assumes that man can select how he wants to be, and can change to become that way.

Berne first used the concept of "structural analysis" in his initial exposition of his viewpoint in "Ego States of Parent, Child, and Adult" (1957). He defined "structural analysis" as a process by means of which ego states were identified and clarified in a person. Ego states were defined as a "coherent system of feelings with its related set of behavior patterns" (1963, p. 241). Berne recommended that psychoanalysis be used for those forms of psychopathology for which it was designed, the transference neuroses; and that transactional analysis be used to fill in where psychoanalysis is too limited.

Berne alleged that the unconscious has largely disappeared from the theory of TA (Holland, 1973). However, he stated that psychopathology results from "anomalies of psychic structure," which include "exclusion" and "contamination." "Exclusion" involves the denial of entire ego states from direct and acknowledged expression in behavior and feelings. "Contamination" involves the intrusion of one ego state into another, without the client's awareness (1961, p. 44).

Videotape self-confrontation appears to possess great potential as a tool for remediation of the essentially unconscious pathological processes described above. It could

well augment and speed recognition and strengthening of
excluded ego states; as well as aid in clarifying and ener-
gizing contaminated boundaries among ego states.

TA therapy sets the stage for a reappraisal of the
reality-based alternatives which are available to the client;
and an awareness of the possibility of altering earlier de-
cisions once the options have been identified. It seems to
this author that role-playing with video replay would be one
means of logically implementing the above. The client would
be given an opportunity to practice the options, and to see
their effect upon himself and upon others. The repeated use
of such techniques could probably help to reveal and
strengthen excluded ego states, as well as energize contami-
nated boundaries among ego states.

Transactional analysis explanation of one possible reac-
tion sequence following videotape self-confrontation. The
first, self-critical response might have occurred because the
person's "Not-OK" child was cathected. For example, she
might have said, "Oh no, that's not me! Shut it off!" If
self-image restoration took place, it could have been be-
cause the Parent was cathected, in attempting to protect the
Child and transmitted an injunction like, "Don't make your-
self vulnerable by admitting weakness, or that you may dis-
like something about yourself." Therefore say, "I was mis-
taken in my momentary discomfort. Now I realize how good my

voice sounds!" Then the Child would add, "I really like myself!" Or self-image restoration could have happened because the realistic Adult was cathected, "That doesn't sound bad! It's just different from what I usually hear!" If the person progressed to finding positive aspects about himself, the Adult was probably in control.

Self-confrontation and psychoanalytic theory

Transactional analysis is deterministic-optimistic and present- and future-oriented; whereas psychoanalysis is deterministic-pessimistic and more past-oriented.

Psychopathology is postulated by psychoanalytic theory to be due to faulty maturation. Therapy attempts to remove unconscious blocks to maturity through corrected understanding, or insight. The goal is to increase conscious control over behavior. Various largely unconscious processes such as resistance and transference occur in therapy.

Free association and interpretation, the traditional techniques usually employed to increase cognitive control and improve reality testing are handicapped to some degree by the influence of unconscious identifications with evaluating others, including the therapist.

Kubie (1969) suggested the following possible solution to the above dilemma.

> Perhaps if one could have had an opportunity
> to perceive one's moving, talking image on
> a TV screen . . . and to link this image to

> the sound of one's own private and solitary
> ruminations and free associations, such a
> combination might have made the controlling
> identifications . . . impossible to bury or
> deny or distort (p. 306).

It is hoped that psychological insight and maturity will fol-
low this revelation of the unconscious.

Studies specifically relating to aspects of Freudian
theory, such as free associations, dream content, defensive
reactions, affect, and psychophysiological responses, have
been conducted under conditions of self-confrontation
(Castaldo & Holzman, 1969; Holzman, 1971; Holzman, Berger,
& Rousey, 1967; Holzman & Rousey, 1966; Holzman, Rousey, &
Snyder, 1966).

Berger (1972, p. 304) utilized with his patients multi-
image immediate impact video self-confrontation in which
some of the images have been distorted. He found that

> seeing the distorted images alongside the
> clear image serves to elicit free associa-
> tions about past or present self-concepts
> and introjections, which may then lead to
> significant clarification and insight into
> the self in the here and now (p. 304).

Nielsen (1964) found similar results with normal $\underline{S}$s and an
undistorted television image. Both authors recommend that
this technique be used as an adjunct to essentially psycho-
analytic psychotherapy, in appropriate contexts.

The evidence for the usefulness of self-confrontation
in psychoanalytically oriented therapy has been based on
experience, such as that of Nielsen and Berger, and has not

yet been investigated empirically. They stated that thera-
peutic experience suggested that videotape replay could help
to free the individual from the control of rigid, unconscious
drives, such as distorted transferences and identifications;
and could aid him in improving cognitive control of his be-
havior and reality-testing abilities.

A psychoanalytic explanation of one possible reaction
sequence following videotape self-confrontation. Holzman's
(1971; Holzman, Berger, et al., 1967; Holzman & Rousey,
1966; Holzman, Rousey, et al., 1966) studies were interpreted
somewhat psychoanalytically. He found that Ss experienced an
affective disturbance initially upon hearing their voices,
followed by re-accommodation. The initial disturbance in-
volved (a) awareness of the difference between Ss expecta-
tions as to how their voices would sound and how they
actually sounded, (b) attention focused on vocal qualities
rather than "lexical or personological qualities," and (c)
a defensive negation of the confrontation experience.

Holzman & Rousey (1966) maintained that these results
suggested the activity of a monitoring function that edited
vocal expression (p. 79). They believed that when confronta-
tion occurred, the client was aware of incompletely edited
aspects of himself. The authors termed this the "return of
the repressed." Following this was a defensive negation of
the self-criticism, discomfort, and conflict just undergone,

as the S noted positive aspects of the experience (p. 81).

In summary, videotape self-confrontation can be used in psychotherapy by a therapist with any theoretical orientation which acknowledges the existence of nonverbal aspects of personalities and relationships, which are not automatically available to awareness. This would include emotion, behavior, and thoughts communicated through multiple levels and multiple channels in human relationships.

The theories and limited research discussed thus far offer some ideas and evidence as to what may be some of the guidelines for the use of videotape self-confrontation. It seems that externally-mediated feedback can be used to increase the client's awareness of essentially unconscious behaviors and attitudes. Possible results of this increased awareness are desirable behavior and attitude change. As scientific knowledge of self-confrontation increases, the trend will probably be towards a unified, systematic theory and guidelines for its use.

A review of the experimental literature relating to self-confrontation will help to define what the appropriate theory and guidelines for its utilization could be. Research will be presented and evaluated which is relevant to (1) self-confrontation, and (2) specific areas which were covered in this thesis, such as separation of channels, self-perception, sex differences, and progressive administrations of semantic differentials.

Research on Externally-Mediated Feedback

This section will present a review of the literature
concerning externally-mediated feedback, with particular
emphasis being placed upon videotape playback and self-
confrontation. The scientific research on externally-
mediated feedback is plagued with methodological inadequacies,
incomplete reporting of the variables used and the relation-
ship between variables, and a lack of continuity between
studies in the definition of such concepts as self-esteem,
self-confrontation, nonverbal communication, paralanguage,
etc. These problems make interstudy comparison most diffi-
cult. The present thesis can only offer the general content
of the studies, their results, and a few of the technical
difficulties with them. In general, the research possessed
certain faults in common, which will be discussed, along
with suggestions for improving future inquiries.

Use of Telemediated Self-Confrontation with
Various Clinical Populations

The use of videotape playback with certain clinical
groups has sometimes been effective, sometimes ineffective,
and sometimes even harmful. Often the results observed
have been of questionable value, without utilizing the client-
clinician discussion of the behavior viewed and its relevance
for the problem at hand, which several studies have demon-

strated to be important (Cooper & Thompson, 1971; Eisler, Hersen & Agras, 1973; Seitz, 1971).

Investigations have shown that using videotape play-back and focused instructions increased such target behaviors as nonverbal interactions, looking and smiling (Eisler, Hersen & Agras, 1973). Similarly, self-awareness has been extended in both stutterers (Cooper & Thompson, 1971) and neurotic depressed patients (Seitz, 1971). The effects of self-confrontation were often not consistent for different Ss. This calls for skill in the application of these techniques, in order to avoid precipitating negative results.

Berger (1973) presented case reports and accompanying discussion pertaining to the use of multi-image immediate impact video self-confrontation with patients diagnosed as "character disorder." In the future, his observations and interpretations should be proven empirically. In general, he found that viewing distorted images alongside a clear image produced free-associations about past and present self-concepts and introjects, which "can lead to catharsis, insight, and the surrender of psychosocial self-images or emotional fixations that retard growth and maturation" (p. 306). He recommended video playback as an adjunct to therapy, not a replacement for it. The only one of his patients who did not react to seeing herself was a depressive one, with lifelong suicidal tendencies. In another article, Berger

(1972) warned that caution must be used in utilizing this approach with "suicidal patients or those whose self-hate is narcissistically or realistically based on their body-image" (p. 258).

Several samples have exhibited either no response or a negative reaction to videotape self-confrontation. In studies with alcoholics, where the experimental group received video feedback, there was a large attrition rate, with few successes--seven out of twenty-four in a study by David (1972). Schaefer, Sobell, and Sobell (1972) found no significant differences in social functioning or drinking behavior for the experimental Ss; but a trend toward a higher degree of drunkenness and the use of therapeutic aids, such as Alcoholics Anonymous.

So far, the psychiatric groups upon which video playback seems to have an undesirable influence are those who are depressed, suicidal, and alcoholics. Alcoholics and depressed persons may well fit into Berger's category of those whose self-hate is based upon body-image. These patients could have low self-esteem, feeling that no one cares for them and that they can have no real effect upon the world. Audio-visual playback might augment their feelings of low self-esteem, ineffectualness, dependency and/or futility.

Telemediated Self-Confrontation and the
Training of Psychotherapists

Several practitioners point to the importance of train-
ing in nonverbal skills for the aspiring therapist (Berger,
1972). Haase and Tepper (1972) found that nonverbal com-
ponents accounted for twice the variability accounted for
by verbal components in the communication of empathy. In
an experiment by Strong, Taylor, Bratton, and Loper (1971),
high frequencies of nonverbal movements led to more positive
descriptions of interviewers by interviewees; while low fre-
quencies yielded descriptions as cold, aloof, and analytic.
This points out the importance of the nonverbal in the train-
ing of psychotherapists. Over time, such instruction also
tends to increase the self-confidence of the therapist.
Berger said that by watching himself the therapist can learn
to become more authentic, to project the image he wants to,
and to become more aware of the "reciprocal regulating pat-
terns" which exist between client and therapist (p. 279).

The Structure of Telemediated Feedback
in Therapeutic Situations

Various experienced practitioners and investigators
have contributed ideas as to how self-confrontation can
best be structured in order to achieve the most therapeutic
effects. Most of their suggestions are gleaned from exper-

ience, but not systematically studied, so some bias enters into the reporting. An almost universal recommendation is that verbal and nonverbal aspects must be integrated; and that some sort of potentially informative discussion should accompany and structure the playback experience.

Stoller (1972) offered specific suggestions which are quite helpful:

1. The equipment presents less of a threat if it is clearly visible.
2. The effectiveness of self-viewing of videotape "depends on the relevance of the data presented to what has transpired between the self-viewer and the other group members" [or therapist].
3. Videotape feedback has its greatest meaning for the individual when, because of extensive group struggle, he has clearcut, emotionally heightened awareness of the consequences of his behavior.
4. The closer the videotape feedback to the behavior that is relevant, the more helpful it will be (p. 252).

In an interesting study, Storms (1972) found that differences in actors' and observers' visual orientation toward an event may account for attributional differences. Actors attribute their behavior more to the situation involved; whereas observers attribute the actor's behavior more to inner disposition. He had actors and observers imagine switching roles as they viewed a videotape, and found that they tended to reverse their attributions.

This study has relevance for how to interpret replay to patients so that they will place responsibility on

themselves, if, as is usually the case, this is the goal of therapy for them. Observing themselves on videotape may be an even better means than role-playing of getting them to assume the "observer role." And while they are watching themselves, the therapist can strengthen the idea that the "actor" they are watching is behaving in the way he is due to "inner disposition," thus having responsibility for his own behavior.

Effects of Telemediated Self-Confrontation on Self-Perception and Self-Concept

Berger (1973) claimed that by utilizing multi-image immediate video self-confrontation with his patients, he had elicited free associations related to self-concept, and had been able to bring about significant clarification and insight into the self in the present.

Sanford (1969) used programmed exposures to selective playback of one's own acoustic behavior, which he claimed reflected back to the patient ignored characteristics of his "mental mechanisms and resultant behavior." He said that this approach "appeared to be effective in enhancing a realistic self-perception with remarkable speed" (p. 695).

The quality of communication which exists in psychotherapy has tremendous impact on what achievements are able to be realized. Videotape self-confrontation seems to be a

potentially very valuable vehicle for improving therapeutic communication and self-awareness.

Research on Paralanguage

Another area of confrontation research is that of paralanguage. Investigators have disagreed as to the exact definition of "paralanguage." Usually, it has included innate and learned nonverbal properties of the voice, such as timbre, inflection, and stress (Kramer, 1963). Abercrombie (1968) included all culturally determined nonverbal communication which is part of conversational interaction, encompassing even posture in his definition. The present thesis limited its definition to nonverbal characteristics of one's voice. Research has shown that paralinguistic expression is sufficient to convey emotions (Scherer, 1972), as well as indexical information about the person, such as place of longest residence, social class, etc. (Laver, 1968).

Ostwald (1963) found that not only a person's changing emotional state, but also stable personality characteristics, could be judged from nonverbal properties of the voice. However he recognized that his criteria for the classification of emotions were poorly defined. In a review of the literature, Kramer (1963) pointed out results similar to Ostwald's. He admitted that no method of eliminating verbal content had been wholly successful, but evidence demonstrated

that some validity of judgment was possible. Unfortunately, acoustic analysis has been a little-used investigative technique. Particularly neglected areas of research which deserve more attention are individual differences among listeners and the relationship of the voice to psychopathology.

Separation of Channels of Feedback

The present thesis investigated the strength and direction of Ss reactions to feedback as measured by ratings on a semantic differential of what they saw and/or heard. Thus, prior research on separation of channels was relevant to this paper, particularly that relating to the direction and strength of response to the various channels as assessed by measures similar to those used in this study.

Daily we verbally transmit a tremendous amount of impersonal factual information. The above evidence suggests that emotions can be signaled via paralanguage. Haase and Tepper (1972) found that nonverbal cues accounted for twice as much variability as verbal cues in the communication of empathy; yet, paralanguage was included in their verbal category. Their evidence for the importance of the nonverbal in communicating empathy would have been strengthened if paralanguage had been placed in their nonverbal category.

Research on the effects of different channels of communication has been ambiguous. Studies have shown that the

visual channel, which is most importantly facial cues, is the most effective in communicating emotions, and the primary mode from which feelings are judged (Burns & Beier, 1973). The channels which Burns and Beier found to be most significant for communicating affect were, in decreasing order of influence: audio-visual, filtered audio-visual (frequencies above 550 cps filtered out), visual, audio, and filtered-audio. In their study there was a lack of correlation between judgments of the audio and visual channels, suggesting that the information conveyed was relatively independent. Also, "interactions across various mood states suggest that channels differ with regard to the amount of information they convey in various mood states" (p. 122). One problem with Burns and Beier's study is that the emotions communicated were acted out, as opposed to occurring naturally in a social situation.

In an examination of the responses of forty psychiatric in-patients, with various diagnoses (thirty female and ten male), Geertsma and Reivich (1965) reported that self-relevant information delivered via the auditory channel produced more cognitive and affective changes than visually channeled information. Their measures of change were the Multiple Affect Adjective Check List (MAACL), and fourteen bipolar personality items collated by Cattell (cited in Geertsma & Reivich, 1965). Their Ss reported changes in

the direction of discomfort reduction and positive self-depiction, which they suggested implied a defensive reaction to the experience.

> Such a reaction may be associated with
> those personality operations causing
> people to favor socially desirable de-
> scriptions of themselves on personality
> inventories (p. 220).

The type of defensiveness which Geertsma and Reivich speculated may be affecting the direction of response in their research was one of the measures utilized in this thesis by including the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964) and the Fear of Negative Evaluation Scale (Watson & Friend, 1969).

Finally, Geertsma and Reivich found that items which received their impact primarily from the video channel involved feelings of increased responsible self-control.

Moore (1972) discovered that video feedback produced significantly larger change variances than other modes of feedback, in self-objectivity and self-esteem, as assessed by the Miskimins Self-Goal-Other Discrepancy Scale (Miskimins, 1967, 1968, cited in Moore, 1972). He hypothesized that this is because the video stimulus is more novel, saying that it is possible that

> the more unfamiliar stimulus might con-
> tribute more to increased Self-Objectivity,
> cause a larger variation in changes of
> self-concept, and receive smaller identi-
> fication ratings (p. v).

Moore assessed identification with feedback on a se-
mantic differential with such items as "close-distant,"
"real-unreal." He found that $\underline{S}$s tended to identify most
with audio feedback, then with audio-visual, and least
with video. His research revealed sex differences in the
effect of these stimuli on self-objectivity and self-esteem.
"Males who identified closely with their feedback did not
tend to become more self-objective [on the Miskimins Self-
Goal-Other Discrepancy Scale], while males who did not
identify closely with their feedback tended to become more
self-objective" (p. 114). The differences in these groups
were statistically significant.

On the other hand, the female trend ($\underline{r}$ = .31; $\underline{p}$ = .10)
revealed a tendency for females who identified more with
their feedback to gain more in terms of self-objectivity
(p. 114).

Moore suggested that the difference between the sexes
could result from conditioning in stereotypic sex roles,
in which females were taught to identify more with external
stimuli than were males. This area needs further research.
A problem with this research is that the Identification with
Feedback Scale was constructed by Moore for his study, and
the reliability and validity of this measure have not been
tested, nor has its appropriateness with regard to the con-
cept measured.

It seems that the measures utilized in the present thesis involved ratings of the more peripheral concept of "what one saw and/or heard," which probably tapped the factors involved in identification with feedback more than those which contribute to deeper levels of self-concept. This led to the following tentative sub-hypotheses.

(i) Different channels will have "differential impact" in that Semantic Differential II (a rating of what one saw and/or heard after five seconds of playback) will differ significantly from Semantic Differential I (a premeasure of the same percept) in the following order: audio, audio-visual, visual, and filtered-audio.

(ii) Video feedback will produce shifts in semantic differential ratings in a more positive direction than the other channels (e.g., towards "good" as opposed to "bad" on the Evaluation factor) immediately following confrontation (i.e., on Semantic Differential II as compared with Semantic Differential I).

Osgood's Semantic Differential

Osgood, Suci, and Tannenbaum (1957) originated the semantic differential, which was the primary measure of subject response used in the present research. This measurement tool consists of pairs of bipolar adjectives on which the S is to rate various concepts which may be presented to him. For example, in this thesis some of the Ss were asked to rate how they felt their voice sounded on a semantic differential which

included the following bipolar items, among others:

GOOD :___:___:___:___:___:___:BAD (Evaluation factor)

FREE :___:___:___:___:___:___:CONSTRAINED (Activity
factor)

STRONG:___:___:___:___:___:___:WEAK (Potency factor)

The positive pole in the above examples, and in other pairs
of adjectives presented will be the first one listed.

Osgood and his associates have performed research with
the semantic differential, and have carried out orthogonal
factor analyses on the ratings given. They presented re-
sults which showed largest factor loadings on three factors,
in the following order of size and stability: Evaluation,
Potency, and Activity (1957, pp. 36-38).

Osgood stated that the three factors mentioned above
define themselves according to which adjective pairs they
load highest on. The first factor was labeled "Evaluative,"
some of the scales with highest loadings (.75 or better)
were: good-bad, beautiful-ugly, sweet-sour, and clean-
dirty.

Osgood described the second factor as "Potency" and
adjectives loading on it almost exclusively were: large-
small (.62), strong-weak (.62), heavy-light (.62), and
thick-thin (.44). The following scales were mainly Potency,
but reflected considerable Evaluative meaning as well:
hard-soft (P = .55, E = -.48), loud-soft (P = .44, E = -.39),
deep-shallow (P = .46, E = .27), etc. In general loadings

on the Evaluative factor were higher than those for Potency
even where "pure" scales, or those loading solely on one
factor, were involved.

The third factor was labeled "Activity" by Osgood, and
also had some relation to physical sharpness or abruptness.
Scales loading highest on Activity were: fast-slow (.70),
active-passive (.59), hot-cold (.46), sharp-dull (.52), and
angular-rounded (.43).

Osgood noted the tendency for both Activity and Potency
to be associated with positive evaluation (e.g., good,
strong, and active tended to go together, as opposed to
good, weak, and passive). He stated that this trend may be
due to cultural semantic bias (p. 38).

Osgood concluded, "We can say that there appear to be
independent factors operating, even though it is difficult
to find many specific scales which are orthogonal with re-
spect to evaluation" (p. 38).

Self-Concept and Self-Perception

In this thesis Ss rated what they saw and/or heard on
equivalent forms of a semantic differential (see appendix 1).
This was probably a measurement of self-perception as opposed
to the more inclusive, deeper idea of self-concept.

There is little interstudy consistency about the defini-
tion of "self-concept" or "self-esteem." Also, the validity

and reliability of the measures used have often not been established.

Jacobson (1972) found that brief videotape self-confrontation with male undergraduates augmented positive affect, diminished negative affect, and reduced anxiety. He hypothesized that decreased anxiety occurred because confrontation offered uncertainty reducing feedback, "allaying negative fantasies about oneself, and providing a sense of pleasure at increased self-awareness" (p. vi).

Various investigators pointed to a progression in the reactions of many people to videotape self-confrontation, from initial self-criticism, to self-image restoration, to commenting on favorable aspects of oneself (Berger, 1973; Holzman, 1971; Holzman & Rousey, 1966; Nielsen, 1964).

Moore (1972) presented a discussion of several experimental results which are relevant to the present thesis. One measure of self-concept utilized by him was Three Equivalent Forms of a Semantic Differential Inventory based on those used by Holzman et al. (Coyne & Holzman, 1966; Holzman & Rousey, 1966; Rousey & Holzman, 1968). However, Moore had Ss rate "myself" instead of "my voice," as the original authors had done. He restandardized this measure on a college population, using his concept of "myself." His semantic differentials were to be subject to momentary changes in self-concept, and were designed to assess "attitudinal impact." During standardization of the

measure as newly formulated, Moore found that the Evaluation
and Potency factors of the previous research did not main-
tain equivalence with his new population on his different
forms. Instead, his semantic differentials were measuring
variations in the Activity factor.

Moore's semantic differentials failed to register
differences in "image impact" for any of the treatments
or interactions. He admitted that it is possible that the
"attitudinal impact" recorded in the literature did not
occur in his study; or that his inventory did not assess
the same phenomenon described by Holzman et al., which in-
volved ratings of "my voice." The latter possibility seems
feasible, since the concept of "my voice" is less inclusive
and more peripheral than that of "myself."

Another important consideration is that the "impact"
measured by Holzman et al. resulted from a seven-second
audio stimulus, and Ss returned to baseline within five
minutes. However, Moore pointed out that his presentation
of feedback tape lasted for five minutes, and "that the
Activity-Passivity scale measures [could have] come and gone
during the time period between test administrations" (p. 110).
The above findings suggested that Holzman et al.'s techniques
and findings were more applicable to the present study, which
assessed the concept of "what you saw and/or heard," and also
presented feedback for both five seconds and five minutes.

Because video feedback had greatest impact on self-concept and perceived responses of others on the Miskimins Self-Goal-Other Discrepancy Scale, Moore suggested that the different channels may have differential "impact," and that these separate possibilities should be more clearly operationalized and assessed (p. 110). This is precisely what this thesis attempted to do.

One of the subscales of the Miskimins Self-Goal-Other Discrepancy Scale measures self-disclosure. Moore stated that his correlations suggested that persons who rated themselves as more active on the semantic differential scale rated themselves as possessing more self-esteem, as being less self-disclosing, less realistic, less self-objective, and therefore probably more defensive on the Miskimins Self-Goal-Other Discrepancy Scale (p. 112). It appears that high active Ss may have artificially inflated the report of their self-esteem.

Of course, the above speculations about "defensiveness" need to be verified empirically. Also, results need to be compared for the two sexes, because they could well rate themselves differently with regard to self-disclosure and activity. The evidence so far presents interesting possibilities.

In a finding consistent with Moore's results, Lamberd, Adamson, and Burdick (1972) reported that, after viewing themselves performing therapy, male student psychotherapists

rated themselves on a semantic differential as being better, less active, and colder. We can speculate that if, as Moore hypothesizes, self-ratings of more activity are associated with less self-disclosure and less self-objectivity, then the above findings offer hope that videotape self-confrontation can help to make student therapists more self-disclosing and self-objective in their views of themselves. On the other hand, reported self-esteem with the present group of Ss increased. Could this mean they became more defensive about rating themselves on such items as "Very good therapist-Very poor therapist" in the present situation? This seems like a fairly reasonable possibility under the circumstances.

Some studies (Blount & Pedersen, 1970; Moore, 1972) revealed a tendency for Ss to see others as perceiving them more negatively following videotape self-confrontation. These studies used measures and concepts which were only similar in some ways to those utilized in the present research, but they led to the first hypothesis.

> 1. Following the self-confrontation exper-
>   ience, Ss will rate how they feel others
>   would perceive what they saw and/or
>   heard (Semantic Differential IV) more
>   negatively than their own rating of
>   voice and/or visual-image prior to play-
>   back (Semantic Differential I).

These same studies usually disclosed at least a trend towards reporting that perception of one's "real" private self was more favorable following confrontation. One pos-

sibility is that Ss saw themselves more negatively, but
defended against this feeling by projecting it onto others
"out-there," and claiming a more positive self-image.

Differential Sensitivity and Reaction
to Nonverbal Stimuli

Certain groups have been found to be more aware of non-
verbal communication than others; and/or to exhibit a more
intense reaction to confrontation with nonverbal aspects of
their own behavior, or that of other people.

Previously (pp. 16ff) we noted that audio-visual feed-
back can add to the already low self-concept and sense of
futility which plague the lives of suicidal, depressed
patients, alcoholics, and others whose dislike for them-
selves is based on body-image. These clients could be ab-
normally conscious of and susceptible to the impact of sight
and sound.

Rosenthal (1974) has developed an 11-channel test, the
Profile of Nonverbal Sensitivity (PONS), which measures one's
ability to understand tones of voice and movements of the
face and body. He had an actress (or actor) perform the
various emotions which were to be communicated. A problem
with this and many other studies in this area is that the
portrayals were not authentic, and must of necessity involve
a certain degree of stereotypy in the manner of performance.

Rosenthal found that females were better than males at deciphering nonverbal cues. However, another noteworthy result was that this difference between the sexes narrowed, and sometimes even reversed itself, among members of, or trainees for, occupations which are considered to require "nurturant, artistic, or expressive behavior" (p. 66). These professions include actors, artists, interior and industrial designers, psychiatrists, clinical psychologists and the staff of mental hospitals, college students in visual studies courses, and school teachers. The author states that he is unsure at present whether the convergence of nonverbally sensitive people in these occupations results from self-selection, screening, or training. Another result was that nonverbal sensitivity increased up until college age.

Nonverbal sensitivity may occur in most of the professions listed because it allows people to become closer to one another, and to mean more to each other. It may well facilitate interpersonal awareness and expression. One of Rosenthal et al.'s other findings was that people who are more perceptive of nonverbal cues have fewer, but more intimate friendships.

Various studies (Rothstein & Epstein, 1963; Wolff, 1943) have found that women react excessively favorably or unfavorably to playback of their voices. Holzman and Rousey

(1966) discovered an initial negative reaction, followed by hypothesized denial and return to the baseline level, which was more positive, among middle-class housewife Ss. If women are more sensitive to nonverbal behavior, they may be more likely to react in a quantitatively more extreme manner to it.

In line with Holzman and Rousey's (1966) findings, it appears that women may be more likely than men to react negatively following self-confrontation, or at least to admit this negative feeling. Several studies with male Ss (Jacobson, 1972; Lamberd et al., 1972) discovered that they rated themselves as "better," and experienced reported euphoria following self-confrontation.

Another possible explanation for these results is that the socially appropriate way for a woman to respond is by admitting negative feelings about herself, and for a man it is by reporting positive self-perceptions. Men could be claiming more positive feelings and self-perceptions as a defensive maneuver, as when Moore (1973) found increased reported self-esteem associated with decreased self-objectivity and self-disclosure.

The outcomes reported above led to the following hypothesis, and contributed to other hypotheses to follow.

      2. Women will respond (a) more negatively
         and (b) more extremely than men on
         Semantic Differential II (a rating of
         what I saw and/or heard after five

seconds of feedback) as compared with
Semantic Differential I (a measure of
the same percept prior to feedback).

Fear of Negative Evaluation and the

Social Approval Motive

Previously, the emphasis in research about nonverbal

communication was on expressive meanings; but presently

more emphasis is being placed on mechanisms of social inter-

action. The experimental situation is an interpersonal one,

even if the S is alone in the experimental room. He is aware

of other people "out there." The demand characteristics of

certain social role expectations may well be maximized in the

experimental setting, which is in many ways ambiguous, un-

familiar, and potentially evaluative. It seems that if a S

is concerned with fear of negative evaluation and with seek-

ing social approval, that this is one place in which these

feelings are likely to be operative. Therefore, the Fear of

Negative Evaluation Scale (Watson & Friend, 1969) and the

Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe,

1964) were two of the measures used in the present study.

These two scales were used as covariates in an attempt to

survey two related kinds of defensiveness which may well be

influencing behavior in the experimental situation following

self-confrontation.

The Fear of Negative Evaluation Scale was developed by

Watson and Friend (1969) to measure a personality trait which involves apprehension about others' evaluations, avoidance of evaluative situations, distress over others' negative evaluations, and the expectation that others will evaluate oneself negatively. The relationship of this scale with social desirability has been minimized. Subjects who score high on the Fear of Negative Evaluation Scale tend to misperceive many situations as being evaluative, and are predisposed to worry about the kind of impression they may be making on others. (See appendix 2.)

The Marlowe-Crowne Social Desirability Scale was developed by Marlowe and Crowne (1964) to measure a response set to test items, which is characterized by trying to answer in the manner which will receive the most societal approval. (See appendix 3.) The reliability and validity of this scale are well established and it has stimulated much research.

Holzman's Studies of Reactions
to Voice Recognition

Holzman has been one of the primary investigators in some studies of Ss reactions to voice recognition, which are among the few systematic investigations in the area of externally-mediated feedback (Castaldo & Holzman, 1969; Holzman, 1971; Holzman, Berger, et al., 1967; Holzman &

Rousey, 1966; Holzman, Rousey, & Snyder, 1966; Rousey &
Holzman, 1967, 1968). The study which inspired this thesis
was done by Holzman and Rousey (1966), and was subsequently
discussed in Psychology Today (1971). The researchers
utilized three equivalent forms of a semantic differential,
and had the middle-class, female Ss rate "my voice" prior
to audio playback, after five seconds of playback, and
after five minutes of playback.

Immediately following the audio feedback, Ss experienced
an affective disturbance, which consisted of (a) awareness
of a discrepancy between how they thought their voices would
sound and how they actually sounded, (b) attention focused
on superficial vocal qualities, as opposed to "lexical and
personological" characteristics, and (c) a defensive negation
of the voice confrontation experience.

The writers suggested that a monitoring function may
exist, which edits vocal expression. They interpreted this
function in an analytic fashion, as follows:

> The voice-confrontation experience suggests
> that when we are given the opportunity to
> hear ourselves as others do, to regard the
> voice as a percept rather than as a mediator
> of expression, we may hear not only the re-
> sults of the censoring process but what it
> is that we are attempting to censor. . . .
> What evades censorship . . . may be regarded
> as one way in which the repressed returns
> (p. 85).

Following this initial reaction, Ss defended against the dis-
turbance, and most returned to baseline levels of rating.

The above research led to Hypotheses 3 and 4.

3. Subjects will react in a negative manner initially to the self-confrontation experience (on Semantic Differential II, after five seconds of feedback, as compared with Semantic Differential I, a pre-measure of the same percept).

4. Following their initial negative reactions (Semantic Differential II) subjects will return to baseline levels of rating (i.e., to the level of Semantic Differential I) after five minutes of feedback (on Semantic Differential III).

The items on the semantic differential utilized by Holzman et al. measure Osgood, Suci, and Tannenbaum's (1957) factors of Evaluation, Potency and Activity. Immediately following five seconds of playback, two-thirds of their female Ss shifted their ratings towards the negative pole of the Evaluation factor and towards the passive pole of the Activity factor. However, one-third of the Ss shifted their judgments towards positive evaluation and increased activity. The authors interpreted the negative part of this reaction as an experience of discrepancy and consequent disruption.

Rousey and Holzman (1967) performed an experiment which revealed that the frequency of hearing one's voice produced a marked increase in the recognition of it. Because of this finding, the present thesis limited confrontation experience to three hours within the last year, and none within the last two months.

Rousey and Holzman (1968) reported that women exper-
ienced a consistent and reliable "disruption and discrep-
ancy effect" no matter what the degree of voice distortion
on the audio-tape. Results for men were unreliable. They
asserted that this "attitudinal impact" was probably due to
physical and psychological differences between the recorded
voice and the voice one heard when one spoke.

The present study utilized techniques similar to Holz-
man's, examining the concepts of "what you saw and/or heard,"
whichever was consistent with the mode of feedback employed
with that subject.

Men have exhibited behavior which differed from that of
women in some studies (Jacobson, 1972; Lamberd et al., 1972),
reporting feelings of euphoria, and rating themselves as
"better" following self-confrontation. One possible explana-
tion for this dissimilarity could be that this behavior re-
sults from defensive maneuvers which occur because men in
our culture are not supposed to admit feelings of inadequacy,
decreased self-confidence, or increased passivity. The most
socially appropriate way for men to respond may well be
towards the Active-Positive pole. Contrarily, the most appro-
priate direction of response for women is very likely to be
towards the Passive-Negative pole.

The present thesis investigated this phenomenon to some
extent by using measures of social desirability and of fear

of negative evaluation. It was thought that such measures would probably be more useful in making behavioral predictions than would mere sex differences, which were also examined.

The above findings and speculations led to the following sub-hypotheses:

(iii). Women will report greater fear of negative evaluation and concern about achieving social approval than men which will be associated with (a) a more negative and (b) a more extreme reaction to the self-confrontation experience (i.e., on Semantic Differential II after five seconds of feedback as compared with Semantic Differential I, a pre-measure of perception of voice, visual-image, or voice and visual-image combined). This initial response will be followed by return to baseline levels of rating on Semantic Differential III, which will be given after five minutes of playback.

(iv). Fear of negative evaluation and concern with achieving social approval will possess more predictive power than mere sex differences. These personality characteristics will be associated with an immediate negative reaction following playback (on Semantic Differential II as compared with Semantic Differential I), and with subsequent return to baseline levels of rating on Semantic Differential III (after five minutes of playback).

Research Standards for This and Future Studies

Systematic studies are needed of the effects of simplified feedback variables on human behavior in a variety of

situations. The major purposes of the present thesis were to:

1. attempt to expand the research on video-tape self-confrontation, which can potentially be a valuable tool for client and clinician.

2. present a well-controlled study, which can be expanded upon by future researchers.

In the future, studies should meet at least minimal standards. The theoretical bases for the variables chosen and presumed relationship between variables should be made clear. There should be a continuity between studies. This should include the use of standard measurement procedures, whenever possible; and the utilization of a standard vocabulary. Moore (1972) suggested that a minimum listing of variables would include:

1. amount of delay of feedback

2. channels of feedback involved

3. the taping task and persons involved

4. hidden or open camera

5. structure of feedback (passive or a particular task)

6. number of interventions

7. length of feedback segments

8. type of feedback (discrepant, etc.) (p. 35).

This study attempted to comply with the above requirements. The experimental task was open-ended, the feedback was somewhat structured, and the camera was open. How this

study fared as to the other variables above will be specified in the <u>Methods</u> section, where the rest of these factors are delineated.

Research Goals

In general, this research was exploratory, attempting to contribute to the meager store of knowledge concerning the effects of certain variables upon the self-confrontation experience. More specifically, this study attempted to determine:

1. how people would rate "what I saw and/or heard" as assessed by semantic differentials administered pre-confrontation, five seconds post-confrontation, and five minutes post-confrontation.

2. how people would rate what they saw and/or heard as others would perceive it, several minutes post-confrontation.

3. whether or not fear of negative evaluation and concern with achieving social approval, used as covariates could help to predict the direction and degree of change in semantic differential ratings, particularly after five seconds of feedback (Semantic Differential II).

4. whether or not the separation of channels of feedback would produce differential effects on the semantic differentials.

5. how sex differences would affect reactions to the self-confrontation experience.

Hypotheses

Since this investigation was largely exploratory in nature, many of the predictions offered were quite tentative. Thus both major "Hypotheses" and more speculative "Sub-hypotheses" were advanced.

Hypotheses

1. Following the self-confrontation experience, $\underline{Ss}$ will rate how they feel others would perceive what they saw and/or heard (Semantic Differential IV) more negatively than their own rating of voice and/or visual-image prior to playback (Semantic Differential I).

2. Women will respond (a) more negatively and (b) more extremely than men on Semantic Differential II (a rating of what I saw and/or heard after five seconds of feedback) as compared with Semantic Differential I (a measure of the same percept prior to feedback).

3. Subjects will react in a negative manner initially to the self-confrontation experience (on Semantic Differential II, after five seconds of feedback), as compared with Semantic Differential I (a pre-measure of the same percept).

4. Following their initial negative reactions (Semantic Differential II) Ss will return to baseline levels of rating (i.e., to the level of Semantic Differential I) after five minutes of feedback (on Semantic Differential III).

Sub-hypotheses

(i). Different channels will have "differential impact" in that Semantic Differential II, (a rating of what one saw and/or heard after five seconds of playback) will differ significantly from Semantic Differential I (a pre-measure of the same percept) in the

following order: audio, audio-visual,
visual, and filtered-audio.

(ii).   Video feedback will produce shifts in seman-
tic differential ratings in a more positive
direction than the other channels (e.g.,
towards "good" as opposed to "bad" on the
Evaluation factor) immediately following
confrontation (i.e., on Semantic Differen-
tial II as compared with Semantic Differ-
ential I).

(iii).   Women will report greater fear of negative
evaluation and concern about achieving social
approval than men which will be associated
with (a) a more negative and (b) a more ex-
treme reaction to the self-confrontation
experience (i.e., on Semantic Differential II
after five seconds of feedback as compared
with Semantic Differential I, a pre-measure
of perception of voice, visual-image, or
voice and visual-image combined). This ini-
tial response will be followed by return to
baseline levels of rating on Semantic Differ-
ential III, which will be given after five
minutes of playback.

(iv).   Fear of negative evaluation and concern with
achieving social approval will possess more
predictive power than mere sex differences.
These personality characteristics will be
associated with an immediate negative reaction
following playback (on Semantic Differential II
as compared with Semantic Differential I), and
with subsequent return to baseline levels of
rating on Semantic Differential III (after
five minutes of playback).

CHAPTER II

METHOD

Subjects

Subjects' amount of prior experience with self-confrontation via audio or audio-video media was limited to three hours or less within the past year, and no experience within the past two months. Six male and six female introductory psychology students were randomly assigned to each of the four playback groups: video, audio-video, audio and filtered-audio. The total n was forty-eight undergraduate subjects.

Apparatus

Playback groups

Each of the four groups received playback consisting of a different set of cue components as stimuli for their semantic differential ratings. The various cue exposures were as follows:

AV: Audio-Visual Group--rated on the basis of audio-visual cues.

A: Audio Group--rated on the basis of audio cues only.

FA: Filtered-Audio Group--rated on the basis of
audio cues only (filtered to remove fre-
quencies above 600 cps).

V: Video Group--rated on the basis of visual
cues only.

In this study, a filtered audio-visual group was not
utilized, because in previous studies (Burns & Beier, 1973)
the effects of this cue combination did not differ signifi-
cantly from those for the unfiltered audio-visual group.

For the AV group, the experimental tape was shown on a
Sony Videocorder screen with the sound and visual components
turned on. The video group was exposed to the tape with the
sound track off. The audio and filtered-audio groups were
exposed to a tape on an audio tape recorder.

The filtering of the audio channel was investigated as
a means of ascertaining the effects of paralinguistic fac-
tors as opposed to verbal content. Filtering was accom-
plished with a low-pass filter inserted in series with the
audio input of the tape as it was recorded. The filter re-
moved audio frequencies above 600 cps, leaving the predomi-
nance of paralinguistic cues intact in the lower frequencies
while greatly reducing the intelligibility of the verbal
content, which is dependent upon high frequency vowel sounds
(Burns & Beier, 1973). A cutoff frequency of 600 cps was
used because it was the lowest frequency which made the words
unintelligible, but left other vocal qualities relatively
intact.

Semantic differential

Three equivalent forms of a semantic differential were utilized, their order being randomly assigned. (See appendix 1.) Each S was asked to rate what he saw and/or heard on the semantic differentials--at pre-playback; after five seconds of playback, and after five minutes of playback. Finally, the first semantic differential was re-administered, with instructions to rate what he saw and/or heard as he felt other people would perceive it. (See Procedures for a full reproduction of the instructions used.) Below are some examples of the 7-point semantic differential which was utilized.

```
SOCIABLE    :___:___:___:___:___:___:UNSOCIABLE (Activity
                                                 factor)

RUGGED      :___:___:___:___:___:___:DELICATE (Potency factor)

PLEASURABLE:___:___:___:___:___:___:PAINFUL (Evaluation fac-
                                                 tor)
```

The three equivalent forms of the semantic differential, each containing fifteen bipolar pairs of adjectives representing three factors (Activity, Potency, and Evaluation), had been shown by its originators to be sensitive to quick attitudinal shifts in response to audio feedback (Coyne & Holzman, 1966; Holzman & Rousey, 1966; Rousey & Holzman, 1968). The three forms contained approximately equal mean averages, factor loadings, and standard deviations, and were developed in an attempt to eliminate the problems of

repeat reliability and error variance that tend to cause repeated usages of the semantic differential to be relatively insensitive to momentary attitudinal changes.

Fear of Negative Evaluation Scale

The Fear of Negative Evaluation Scale (Watson & Friend, 1969) consists of thirty True-False items. It has considerable construct validity, and is very homogeneous--mean biserial correlation of selected items with the total score is .72; and KR-20 of .94 and .96. The product-moment test-retest of the Fear of Negative Evaluation Scale was .78 for one sample and .94 for a second, smaller sample. An example of one of the questions on this scale is:

> I rarely worry about seeming foolish to others. (F)

(See appendix 2.)

Marlowe-Crowne Social Desirability Scale

This scale consists of thirty-three True-False items (Crowne & Marlowe, 1964). The reliability and validity of this measure are well-established (1964). The Social Desirability Scale consists of items of the following kind:

> Before voting I thoroughly investigate the qualifications of all the candidates. (T)

(See appendix 3.)

Procedures

Subjects in Introductory Psychology classes were given the following instructions initially:

> As part of my Masters degree requirements in clinical psychology, I am conducting a study which is concerned with how people perceive themselves. Please answer the following questions:
>
> Name:
> Section Number:
> Section Leader:
> Phone Number:
> Times when you are available:
> How many hours have you spent in the past two months listening to and/or watching audio- or audio-visual tapes of yourself?
>
> How many hours have you spent in the last year listening to and/or watching audio- or audio-visual tapes of yourself?
> You will receive one experimental hour of credit for completing this questionnaire.
>
> I will be contacting some of you in the future, requesting that you spend another hour engaging in research with me at the Clinical Psychology Center. Your answers and name will be kept confidential.
>
> Thank you for your cooperation.

Subjects with less than three hours of self-confrontation experience within the past year and no experience within the last two months, divided equally with respect to sex, were asked to engage in further experiments at the Clinical Psychology Center. There were forty-eight Ss altogether divided into four playback groups, with twelve Ss in each group.

In class, subjects were administered the Fear of Nega-

tive Evaluation Scale and the Marlowe-Crowne Social Desirability Scale, with the following directions:

> This scale consists of numbered statements. Read each statement and decide whether it is "true" as applied to you, or "false" as applied to you.
>
> You are to mark your answers on the sheet on which the questions appear. Following each question are the words, TRUE and FALSE. If a statement is TRUE or MOSTLY TRUE, as applied to you, circle the word, TRUE, which follows that statement. If a statement is FALSE or NOT USUALLY TRUE, as applied to you, circle the word, FALSE, following that statement.
>
> Remember to give YOUR OWN opinion of yourself. Do not leave any question unanswered.

The Fear of Negative Evaluation Scale was the first one following the above directions. Additional instructions for the Social Desirability Scale were as follows:

> Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is TRUE or FALSE as it pertains to you personally.

When Ss came to the Clinical Psychology Center, they were once again informed of the confidentiality of the experiment, and asked to talk about themselves and things which were important to them for five minutes, while they were being recorded. These instructions were given verbally as well as in written form by the experimenter, since it was discovered that Ss had difficulty understanding the task if it was communicated only in writing.

Instructions for Semantic Differentials

The purpose of this questionnaire is to mea-
sure your feelings about several aspects of
your (voice and/or visual-image). You will
be asked to rate your (voice and/or visual-
image) according to how you feel about it
right now, on several items. Each item is
simply a pair of opposite words, such as
"good-bad," on which you will be required
to give your present rating of your (voice
and/or visual-image), by placing an "X"
nearer to "good," nearer to "bad," or some-
where in between.

IMPORTANT: (1) Place your check-marks in the
middle of the spaces, not on
the boundaries, like this:

GOOD:___:___:___:___: X :___:BAD

(2) Be sure you check every scale
for every concept--do not omit
any.

(3) Never put more than one check-
mark on a single space.

Make each item a separate and independent judg-
ment. Work at fairly high speed throughout this
test. Do not worry or puzzle over individual items.
It is your first impressions, the immediate "feel-
ings" about the items, that we are interested in.
On the other hand, please do not be careless, be-
cause we want your true impressions.

After five seconds of playback, each S was asked to com-

plete an equivalent form of the above semantic differential,

with the following instructions:

Now, following a procedure similar to that
used previously, rate what you (saw and/or
heard), according to how you feel about it
right now, on the following items. Give your
present rating of what you (saw or heard) by
placing an "X" closest to the descriptive
word which best expresses your present feel-
ing towards what you (saw and/or heard).

Make each item a separate and independent
judgment. Also, rate these items indepen-
dently from your ratings on previous scales.
Once again, it is your first impressions,
your immediate "feelings" about the items,
that we want.

After five minutes of feedback, the instructions given

were the same as those for five seconds of feedback.

Then, the following new directions were given for

Semantic Differential IV:

Now, following a procedure similar to that
used previously, rate how you feel other
people would perceive what you (saw and/or
heard). Give your present rating of how
you feel other people would perceive what
you (saw and/or heard) by placing an "X"
closest to the descriptive word which best
expresses what you feel their perception
would be. For example, if you feel that
they would perceive what you (saw and/or
heard) as being "fairly good" place an "X"
as follows:

GOOD:___: X :___:___:___:___:BAD

Make each item a separate and independent
judgment. Rate these items independently
from your ratings on previous scales. Once
again, it is your first impressions, your
immediate "feelings" about the items, that
we are interested in.

Instructions for Informational Items

Please answer the following questions as honestly

as possible.

1. How would you describe your over-all reac-
   tion to your (voice and/or visual-image)
   and what you (saw and/or heard)?

2. Did your attitudes towards your (voice and/or visual-image) and what you (saw and/or heard) change?

3. To what specific aspects of your (voice and/or visual-image) and what you (saw and/or heard) were you reacting?

CHAPTER III

RESULTS

The measure of subject response utilized in the present investigation was a semantic differential with items loading on the factors of Activity, Potency and Evaluation. The various experimental results were tallied for each of these factors separately. The first step in the statistical analysis of the results involved performing analyses of covariance, using the Fear of Negative Evaluation Scale and the Marlowe-Crowne Social Desirability Scale as covariates. The analysis of covariance was chosen in an effort to eliminate any systematic variability due to the personality characteristics of fearing negative evaluation and seeking social approval since they would be partialled out.

Analyses of variance were performed in attempting to discern the direction of effects due to social approval and fear of negative evaluation. Statistical results with the effects of these factors minimized (Analysis of Covariance) were compared with those with these factors fully operative (Analysis of Variance). In general using the covariates increased the significance of results to a rather small extent, thus the results of the covariance analysis and of the

Analysis of Variance are essentially the same, suggesting
that the covariates were not accounting for much systematic
variance on the various semantic differential ratings.
Therefore, only the Summary Tables for the Analysis of
Covariance are presented (see tables 1, 2, and 3).

If the means for the Analysis of Covariance are com-
pared with those for the Analysis of Variance (see figures
1 and 2), it becomes apparent that for the Evaluation fac-
tor without using the covariates of Fear of Negative Eval-
uation and Social Desirability Ss rated themselves more
positively (i.e., towards "good" or "beautiful," as opposed
to "bad" or "ugly") than when the covariates were taken
into account. This biasing in a positive direction occurred
for the Evaluation factor, but not for the Potency and Ac-
tivity factors, for which a "positive" rating would be in
the direction of "strong" and "fast" respectively, while a
"negative" rating would be towards "weak" and "slow." When
the variance attributable to Social Desirability and Fear
of Negative Evaluation is partialled out (in the Analysis
of Covariance), ratings are shifted downward on the Evalua-
tion factor (i.e., towards "bad").

For both the Activity and Evaluation factors there is
a significant main effect for the semantic differentials
(see tables 1 and 3) and for the channel by semantic differ-
ential interactions (see tables 1, 2, and 3 and figure 3).

TABLE 1

SUMMARY OF ANALYSIS OF COVARIANCE ON RAW SCORES

(MEANS FROM 3.0 to -3.0 ON SEMANTIC DIFFERENTIALS)

ACTIVITY FACTOR

Source	SS	df	MS	F
Channel (a)	2.290	3	0.763	0.349
Sex (b)	0.011	1	0.011	0.005
a x b	13.061	3	4.353	1.989
axb (S) (error 1)	83.166	38	2.189	(p <.15=trend)
Semantic Differential (c)	20.574	3	6.858	11.643***
a x c	13.822	9	1.536	2.607**
b x c	2.224	3	0.741	1.258
a x b x c	1.816	9	0.202	0.343
a x b x c (S) (error 2)	67.148	114	0.589	
Total	204.112	183		

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

TABLE 2

SUMMARY OF ANALYSIS OF COVARIANCE ON RAW SCORES

(MEANS FROM 3.0 to -3.0 ON SEMANTIC DIFFERENTIALS)

POTENCY FACTOR

Source	SS	df	MS	F
Channel (a)	0.434	3	0.145	0.112
Sex (b)	23.485	1	23.485	18.240***
a x b	10.055	3	3.352	2.603 (p $<$ .10=trend)
a x b (S) (error 1)	48.928	38	1.288	
Semantic Differential (c)	0.407	3	0.136	0.209
a x c	15.476	9	1.720	2.647*
b x c	0.538	3	0.179	0.276
a x b x c	3.926	9	0.436	0.672
a x b x c (S) (error 2)	74.060	114	0.650	
Total	177.309	183		

*p $<$ .05   **p $<$ .01   ***p $<$ .001

TABLE 3

SUMMARY OF ANALYSIS OF COVARIANCE ON RAW SCORES

(MEANS FROM 3.0 to -3.0 ON SEMANTIC DIFFERENTIALS)

EVALUATION FACTOR

Source	SS	df	MS	F
Channel (a)	6.526	3	2.175	0.870
Sex (b)	1.831	1	1.831	0.732
a x b	10.628	3	3.543	1.417
a x b (S) (error 1)	95.005	38	2.500	
Semantic Differential (c)	12.554	3	4.185	4.618**
a x c	17.275	9	1.919	2.118*
b x c	3.687	3	1.229	1.356
a x b x c	6.345	9	0.705	0.778
a x b x c (S) (error 2)	103.304	114	0.906	
Total	257.155	183		

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

Figure 1. Means for
sex by semantic differential (SmD) interaction

Analysis of Covariance (ANOCOV)
Covariates are
Social Desirability and Fear of Negative Evaluation

Activity Factor

(+ = fast)

Potency Factor

(+ = strong)
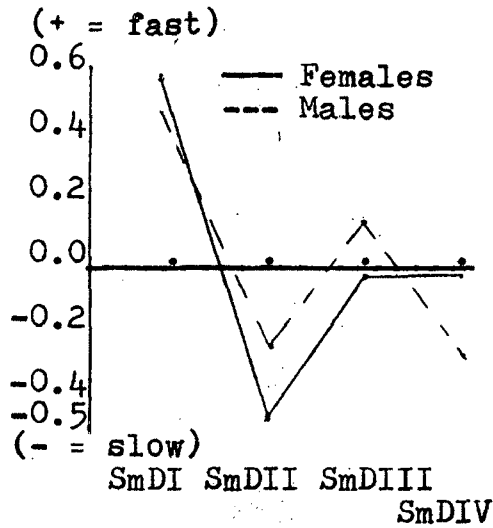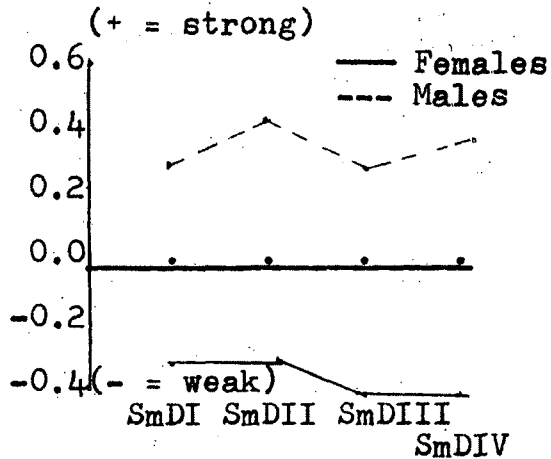
Evaluation Factor
(+ = good)

SmDI = Semantic
        Differential I
SmDII = Semantic
        Differential
        II
SmDIII = Semantic
         Differential
         III
SmDIV = Semantic
        Differential
        IV

Figure 2. Means for
sex by semantic differential (SmD) interaction

Analysis of Variance (ANOVA)
(without using covariates)

Activity Factor
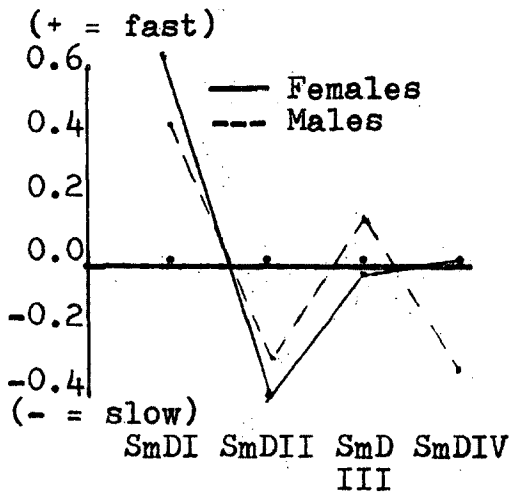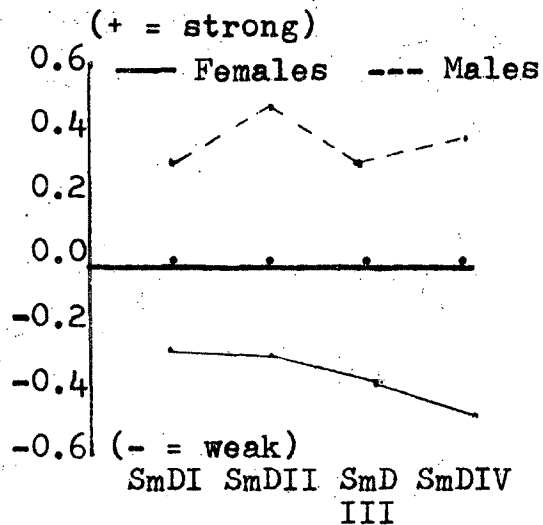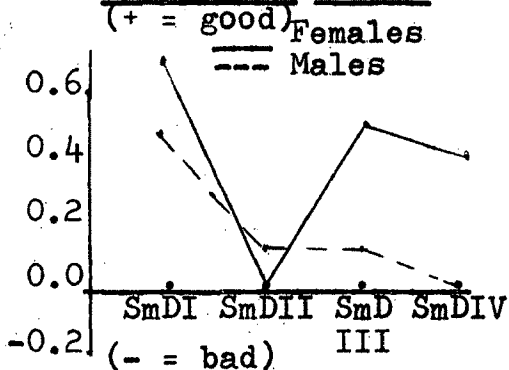
(+ = fast)
— Females
--- Males
(- = slow)
SmDI SmDII SmD SmDIV
III

Potency Factor

(+ = strong)
— Females --- Males
(- = weak)
SmDI SmDII SmD SmDIV
III

Evaluation Factor
(+ = good)
Females
--- Males
SmDI SmDII SmD SmDIV
(- = bad) III

SmDI = Semantic
Differential I
SmDII = Semantic
Differential
II
SmDIII = Semantic
Differential
III
SmDIV = Semantic
Differential
IV

Figure 3. Means for
channel by semantic differential (SmD)
interaction (all are significant)
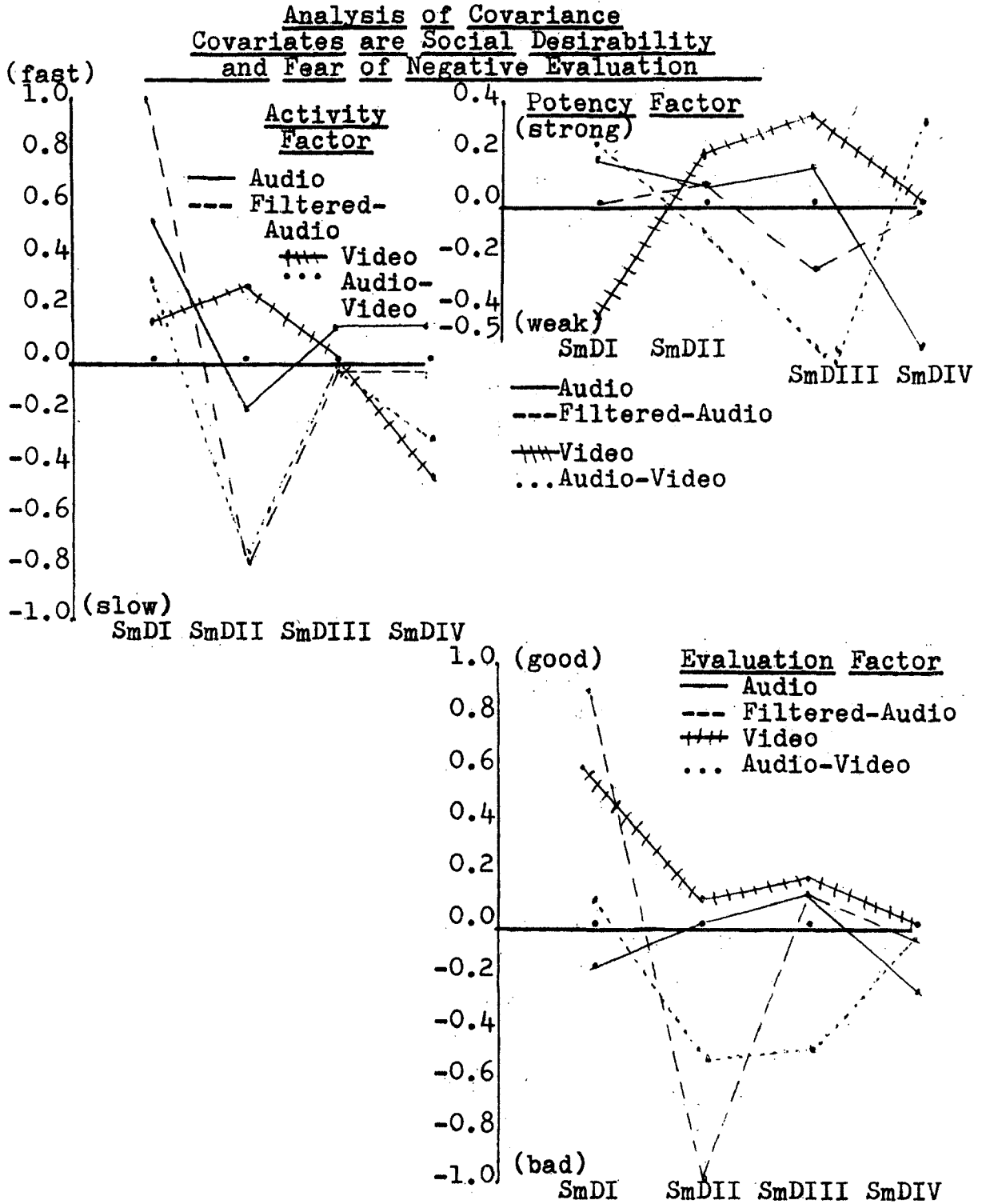
For the Activity and Potency factors there is a trend towards significance for the channel by sex interaction (see figure 4, and tables 1 and 2). (The criteria used in determining trends was $.20 > p > .05$.) For the Potency factor, the overall sex main effect is significant, as is the channel by semantic differential interaction (see table 2 and figure 3).

The criteria used in determining trends, $.20 > p > .05$, was decided upon because it represents results with a one in five chance of occurring at random. (Such a probability level is useful in giving hints about possible directions for future research.)

The significant main effect for the semantic differentials on the Activity and Evaluation Factors (see tables 1 and 3), $F_{Activity}$ (3,114) = 11.643, $p < .001$; $F_{Evaluation}$ (3,114) = 4.618, $p < .01$, indicates that there were significant differences overall between semantic differentials at each of the four successive times of administration, pre-playback, after five seconds of playback, after five minutes of playback, and "rate your voice and/or visual image as you feel others would perceive it."

The significant channel by semantic differential interaction (see tables 1, 2, and 3, and figure 3 for a plot of the means) for each of the three semantic differential factors of Activity, Potency and Evaluation, $F_{Activity}$ (9,114) =

Figure 4. Means for
channel by sex interaction

Activity Factor

(+ = fast)

0.6 ——— Females   TREND
0.4 ――― Males   (p<.15)
0.2
0.0
-0.2
-0.4
(- = slow)
        A   FA   V   AV

Potency Factor

(+ = strong)

0.6   TREND
0.4   (p<.1)
0.2 ——— Females
0.0 ――― Males
-0.2
-0.4
-0.6
        A   FA   V   AV
(- = weak)

Evaluation Factor

(+ = good)

0.6 ——— Females
0.4 ――― Males
0.2
0.0
-0.2
-0.4
-0.6
(- = bad)
        A   FA   V   AV

A = Audio
FA = Filtered-Audio
V = Video
AV = Audio-Video
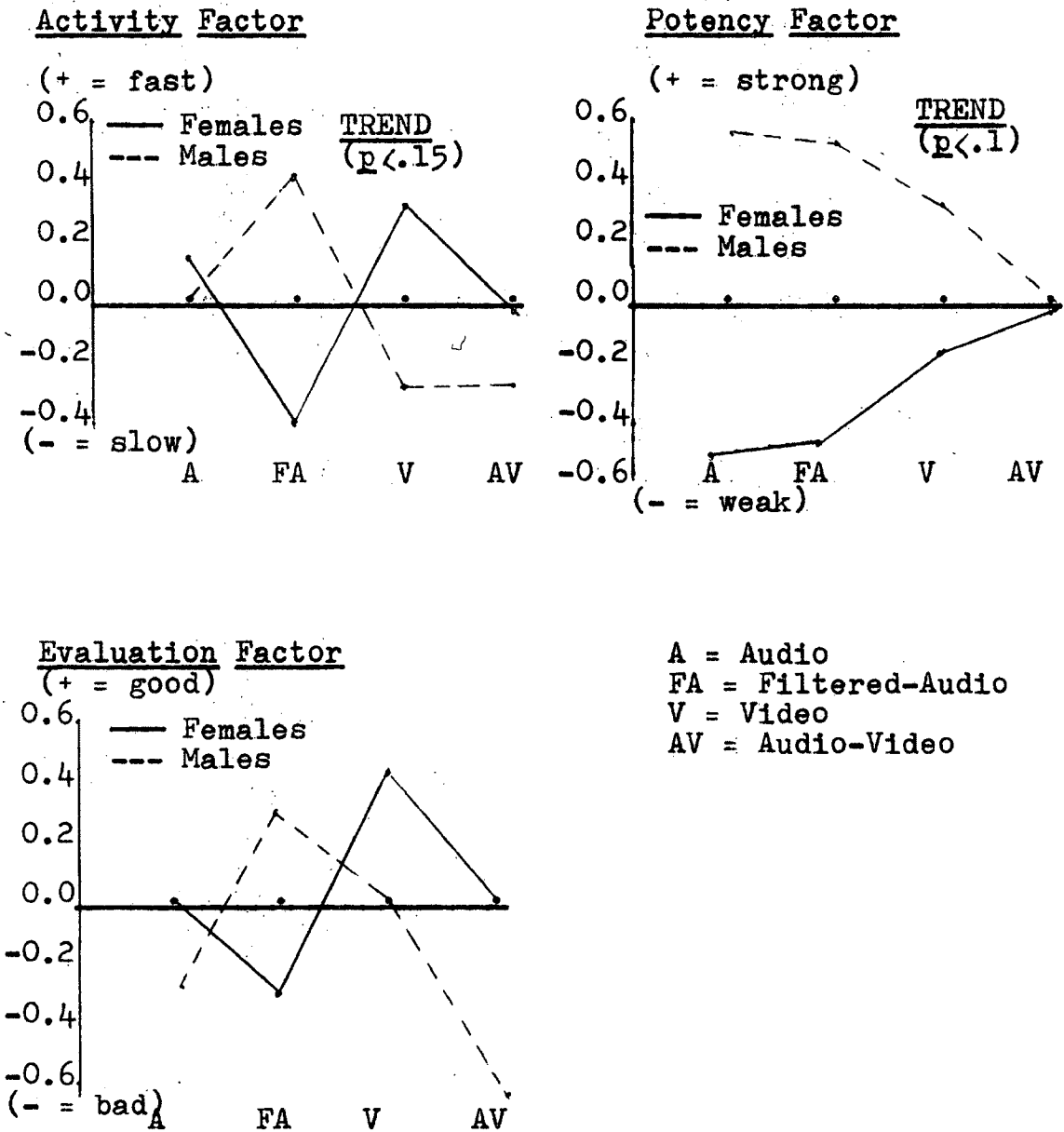
2.607, $\underline{p} < .01$; $F_{Potency}$ (9,114) = 2.647, $\underline{p} < .05$; $F_{Evaluation}$ (9,114) = 2.118, $\underline{p} < .05$, denotes that $\underline{S}$s responded in significantly different ways to feedback delivered via the different channels on the various semantic differentials administered at the four sequential times.

The significant main effect for sex on the Potency factor reveals that males rated themselves as more "strong," "rugged," etc., as determined by the means for the two sexes, males = 0.349; females = -0.351--females rated themselves consistently as more "delicate," "weak," etc., $F_{Potency}$ (1,38) = 18.240, $\underline{p} < .001$ (see table 2).

There is a trend towards significance for the channel by sex interaction on both the Activity and Potency factors (see tables 1 and 2, and figure 4). This represents a difference between males and females in manner of responding to feedback presented via the various channels.

As a preliminary step in the analysis of covariance, a multiple regression analysis was performed for the various means for each of the three major semantic differential factors of Activity, Potency, and Evaluation. The assumption of additivity held for these data. Also, a multiple correlational analysis was calculated for the Marlowe-Crowne Social Desirability Scale (SoD) and Fear of Negative Evaluation Scale (FNE) used as covariates. From this

analysis it was found that social desirability accounted

for much more of the variance than did Fear of Negative

Evaluation (variance accounted for by FNE for the Activity

factor was FNE_A = .16%; SoD_A = 15.44%; FNE_p = .36%, SoD_p =

7.26%; FNE_E = 3.50%, SoD_E = 9.81%). Because of the above

differential findings, Fear of Negative Evaluation was

eliminated from the succeeding correlational analyses.

Upon considering the results of the analysis of co-

variance, and also because of relevance to the general

areas being investigated by this study, various questions

naturally arose which led to the execution of correlational

analyses and $\underline{t}$-tests for uncorrelated data ($\underline{P}$ = 0, $\underline{df}$ = n-2).

Those analyses which proved to be most significant and/or

meaningful in the present context will be presented here.

Inspecting the channel by sex interaction (see figure 4),

revealed that the two sexes appeared to react differently to

different channels of feedback. This observation led to the

computation of correlations for the two sexes for each of

the four channels. The significant correlations for this

group are presented in table 4.

Sub-hypotheses (iii) and (iv) are directly concerned

with sex differences in response which are associated with

various degrees of social approval seeking, as well as the

type of reaction associated with social approval when the

sexes are combined and division into experimental groups is

TABLE 4

SIGNIFICANT CORRELATIONS FOR CHANNEL (C) BY SEX

A1-4 are scores on the Activity factor for semantic differentials 1-4 (SmD's I-IV)
P1-4 and E1-4 are scores on SmD's I-IV for the Potency and Evaluation factors
N=6;   df=4   Unless specified otherwise, $.05 \geq p \geq .01$; $.811 = r = .917$
**$p \leq .01$, $r = .917$

Audio Females

Correlation of	With	Positive	Negative
SoD	0.98 A3**		
	0.95 A4**		
A3	0.91 A4		
E3	0.85 E4		
A1	0.82 E1		
P1	0.91 P3		
E2			P4 -0.81

Audio Males

Correlation of	With	Positive	Negative
SoD	0.87 P2		
E1	0.87 A4		
	0.88 P4		
P3			E3 -0.87
A4	0.86 E4		

Filtered-Audio Females

Correlation of	With	Positive	Negative
A1	0.85 P2		
P1	0.86 P3		
A3	0.97 A4**(b)		
	0.97 E4**(b)		
A4	0.95 E4 (b)		

Filtered-Audio Males

Correlation of	With	Positive	Negative
SoD	0.89 A2		
	0.91 E2		
A1	0.82 P1		
	0.84 E1		
P1			E2 -0.84
	0.83 P4		
A2	0.94 E2**		
A3	0.83 E3		
	0.92 A4**(b)		
	0.84 E4**(b)		
E3	0.97 A4****		
	0.93 E4		
A4	0.91 E4 (b)		

Video Females

Correlation of	With	Positive	Negative
E1			P2 -0.88
A2	0.93 E2**		
E2	0.85 A3		
	0.88 E3		
P3	0.89 E4		

Audio-Video Males

Correlation of	With	Positive	Negative
A1	0.93 E1**		
	0.85 A2		
			P2 -0.88
P1			P2 -0.85
A2	0.91 A3		
E2	0.89 A4		
A3	0.97 E3**		
	0.82 A4		
E3	0.86 A4		

Video Males

Correlation of	With	Positive	Negative
P2	0.87 P4		

Audio-Video Females

Correlation of	With	Positive	Negative
SoD	0.92 E2		
A1	0.84 P1		
E3	0.92 E4		
A4	0.95 E4**		

made according to high versus low degrees of fear of nega-
tive evaluation and social desirability. For this reason,
the following correlational analysis was computed: degree
of social desirability (high vs. low SoD) by sex; signifi-
cant correlations for this group are presented in table 5.

Statistical results which are most germane to the
hypotheses under study will be presented below.

Hypotheses

1. The first hypothesis stated that Ss would rate them-
   selves more negatively on Semantic Differential IV
   ("rate what you saw and/or heard as you feel others
   would perceive it") than on Semantic Differential I
   (a pre-measure of self-perception of "voice, visual-
   image, or voice and visual-image combined").

   The analysis of covariance supports hypothesis 1,
   since the overall semantic differential main effect
   is significant for both the Activity and Evaluation
   factors, but not for the Potency factor (see tables 1,
   2, and 3). Also, t-tests for uncorrelated data were
   carried out, and the difference between semantic dif-
   ferentials I and IV was found to be significant for
   the Activity factor (t_{94} + 4.048, $p < .001$) and the
   Evaluation factor ($t_{94} = 2.53$, $p < .025$). (See figure 5).

TABLE 5

SIGNIFICANT CORRELATIONS FOR DEGREE OF

SOCIAL DESIRABILITY (SoD) BY SEX

A1-4 are scores on the Activity factor for semantic differentials 1-4 (SmD's I-IV)
P1-4 and E1-4 are scores on SmD's I-IV for the Potency and Evaluation factors
N=12,   df=10

High SoD Males

Correlation of	With	Positive	Negative
SoD		0.61 A1	
		0.61 A3	
		0.58 E3	
A1		0.74 E1**	
		0.85 A3**	
		0.60 E4	
A2		0.72 E2**	
		0.65 E3	
		0.69 A3	
E2		0.59 E3	
A3		0.75 E3**(b)	
		0.76 E4 (b)	
		0.65 A4**(b)	
E3		0.86 A4**	
		0.71 E4**	
A4		0.81 E4**(b)	

Low SoD Males

Correlation of	With	Positive	Negative
A1		0.57 P1	
			E2 -0.62
P1			E2**-0.88
E1		0.66 P4	
P2		0.59 P4	
A3		0.64 E3	
		0.59 E4	
		0.79 E4**	
A4		0.59 P4	
		0.80 E4**	

High SoD Females

Correlation of	With	Positive	Negative
SoD			E3 -0.58
			A4**-0.79
			E4 -0.58
A1		0.63 P4	
A2		0.58 E2 (b)	
P2		0.0.64 P4	
A3		0.58 P3	
		0.79 E3**(b)	
		0.65 A4 (b)	
		0.78 E4**(b)	
E3		0.62 A4	
		0.68 E4 (b)	
A4		0.75 E4**(b)	

Low SoD Females

Correlation of	With	Positive	Negative
E1			P3 -0.67
A2		0.61 E2 (b)	
		0.85 A3**	
		0.76 A4**	
E2		0.66 A3	
		0.83 E3**	
A3		0.61 E3 (b)	
		0.62 E4 (b)	
		0.86 A4**(b)	
E3			P4 -.056
		0.67 E4 (b)	
A4		0.73 E4**(b)	

(b) means present in both groups of correlations being compared
All of the above correlations are significant at at least the .05 level, $.576 \leq r \leq .708$
**$p < .01$, $r \geq .708$

Figure 5. Means for
semantic differential (SmD) main effect

Activity Factor
(+ = fast)

0.4
0.2
0.0
-0.2
-0.4
(- = slow)

SmDI   SmDII   SmDIII   SmDIV

SmDI   = Semantic Differential I
SmDII   = Semantic Differential II
SmDIII = Semantic Differential III
SmDIV   = Semantic Differential IV

Potency Factor
(+ = strong)
0.2
0.0
-0.2
(- = weak)

SmDI   SmDII   SmDIII   SmDIV

Evaluation Factor
(+ = good)
0.4
0.2
0.0
-0.2
-0.3
(- = bad)

SmDI   SmDII   SmDIII   SmDIV
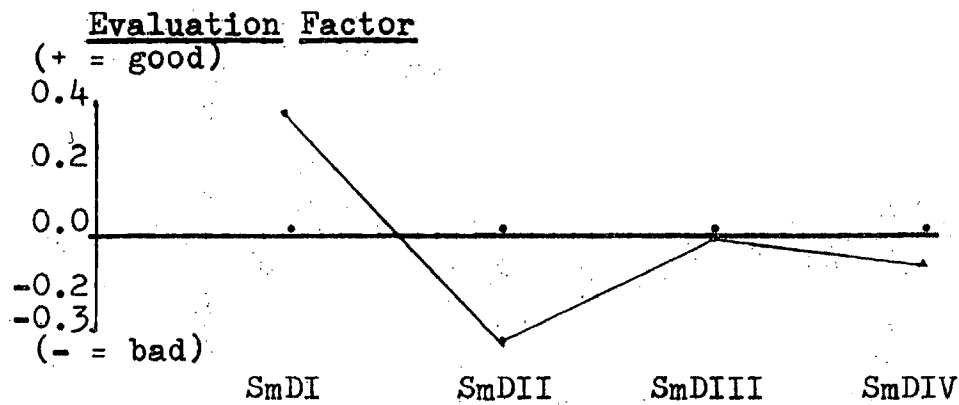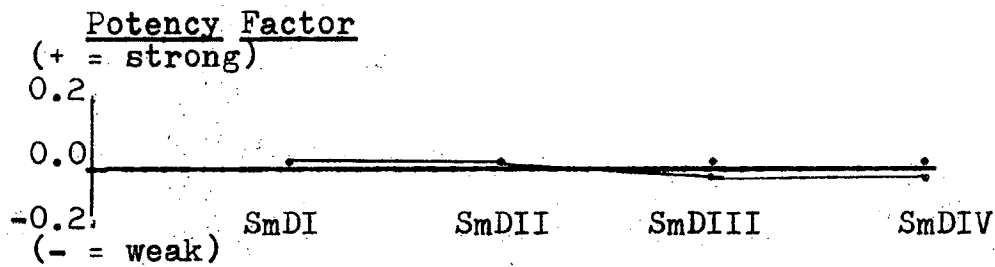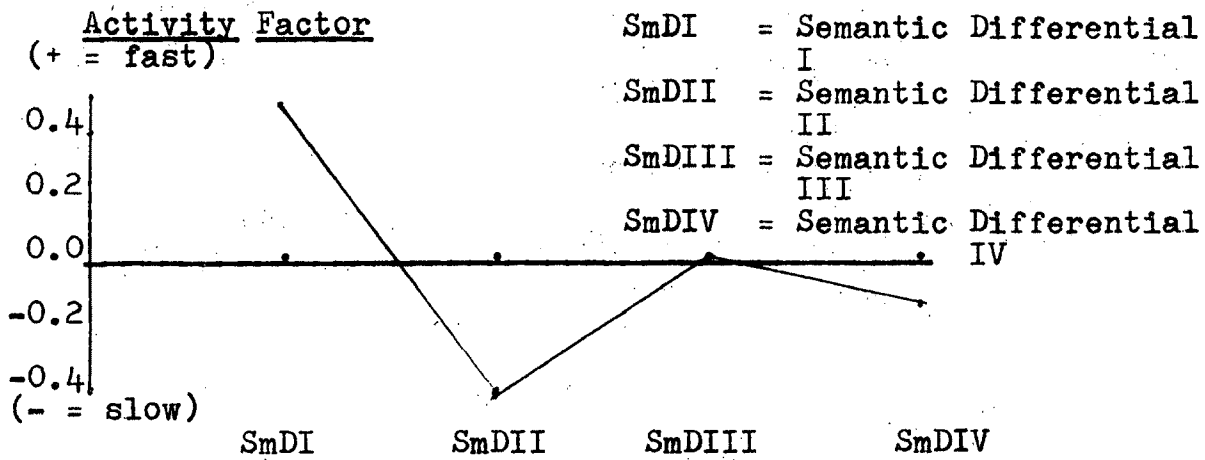
2. The second hypothesis was that women would respond
    (a) more negatively and (b) more extremely than men
    on Semantic Differential II (rating of voice and/or
    visual image after five seconds of playback) as com-
    pared with Semantic Differential I (rating of the
    same, prior to any feedback).

    (a) Whether or not women reacted more negatively than
        men on Semantic Differential II as compared with
        Semantic Differential I can be discovered by study-
        ing the plot of the means for the sex by semantic
        differential interaction (figure 1). From this
        figure it is clear that women's ratings were nega-
        tive in comparison with men's on Semantic Differ-
        ential II for all factors, and that the direction
        of their reaction was negative (from positive to
        negative) for the Activity and Evaluation factors.
        This part of hypothesis 1 is supported overall by
        these data.

    (b) The "degree of extremity" of women's reactions
        meant that the difference between Semantic Differ-
        ential I and Semantic Differential II would be
        larger for women than for men. To test this, t-tests
        for least square differences were performed. The
        difference between male and female responses was
        significant for the Evaluation factor, t (94) =

3.128, $\underline{p} < .005$, but not for the Activity and Potency factors.

Hypothesis 2 is not supported overall.

3. Hypothesis 3 was that $\underline{S}$s would react in a negative manner initially to the self-confrontation exper- ience (on Semantic Differential II, after five seconds of feedback, as compared with Semantic Dif- ferential I, taken prior to feedback). (See figure 5.) Data relevant to this hypothesis were analyzed using $\underline{t}$-tests for least square differences, with the follow- ing results. Significant negative reactions occurred for the Activity, $\underline{t}$ (94) = 5.36, p $< .001$; and Evalua- tion, $\underline{t}$ (94) = 3.74, p $< .001$ factors, but not for the Potency factor.

Hypothesis 3 is supported overall.

4. Hypothesis 4 stated that, following their initial negative reactions to self-confrontation (Semantic Differential II), $\underline{S}$s would return to baseline levels of rating (i.e., to the level of Semantic Differen- tial I) after five minues of feedback (on Semantic Differential III).

For the Activity and Evaluation factors, the type of reaction described took place, although the level of return on Semantic Differential III is not all of the way back to that of Semantic Differential I (see

figure 5). What can be observed is more of a level-
ing off between the extremes of Semantic Differential I
and Semantic Differential II. The degree of differ-
ence here was assessed using t-tests, with the results
being significant for Activity, t (94) = 2.41, $p <.025$,
and exhibiting a strong trend for Evaluation,
t (94) = 1.74; $p <.1$.
Hypothesis 4 is fairly strongly supported by these
data.

(i). Sub-hypothesis (i) indicated that different channels
would have "differential impact" in that Semantic Dif-
ferential II (a rating of what one saw, heard, or saw
and heard after five seconds of playback) would differ
significantly from Semantic Differential I (a pre-
measure of the same percepts, before feedback) in the
following order: audio, audio-visual, visual, and
filtered-audio.

For the Activity factor, the order of impact, from
most to least (difference between Semantic Differen-
tial I and Semantic Differential II), of the different
channels was: filtered-audio, audio-video, audio, and
video. These differences were significant at the .025
level or beyond (t [11]) for all but the video channel.
(See figure 3 for a plot of the actual direction of
these differences).

Statistical analysis of the impact of self-

confrontation for the various channels (difference

in Semantic Differential I and II across channels)

for the various semantic differential factors of

Activity, Potency, and Evaluation produced the data

in table 6.

If the channels for the Activity factor are compared

with each other in the order of impact discussed

above, significant differences exist for the differ-

ence between filtered-audio vs. audio-video

(t (46) = 3.27; $p < .005$), and audio-video vs. video

(t (46) = -5.36; $p < .001$). (See table 6).

For the Potency factor the only significant differ-

ence between Semantic Differentials I and II occurred

for the video channel (t [11] = -2.59; $p < .05$), the

other channels in order of impact were audio-video,

audio, and filtered-audio. A t analysis of the dif-

ference between each successive channel above revealed

significant differences for video vs. audio-video

(t [46] = -4.22; $p < .001$). (See table 6.)

For the Evaluation factor significant differences took

place for filtered-audio (t [11] = 6.5; $p < .001$); and

audio-video (t [11] = 2.4; $p < .05$), other channels in

order were video and audio. Analysis of the differ-

ence between these channels in sequential order dis-

TABLE 6

COMPARISON OF ORDER OF IMPACT

DIFFERENCE IN SEMANTIC DIFFERENTIAL I (PRE)

AND SEMANTIC DIFFERENTIAL II (POST-5-SECONDS)

FOR THE DIFFERENT CHANNELS

Least Square Difference Analysis: <u>df</u> = 46

Comparison	Activity		Potency		Evaluation	
	t	p	t	p	t	p
V-FA	-8.63	.001***	-2.63	.025*	-4.89	.001***
V-AV	-5.36	.001***	-4.22	.001***	-0.68	.5
A-FA	-5.18	.001***	.43	.5	-7.46	.001***
V-A	-3.45	.005**	-3.06	.005**	2.57	.025*
FA-AV	3.27	.005**	-1.59	.2	4.21	.001***
A-AV	-1.9	.1	-1.16	.4	-3.25	.005***

closes significance for filtered-audio vs. audio-
video (t [46] = 4.21; $p < .001$) and video vs. audio
(t [46] = 2.57; $p < .025$). (See table 6).
Sub-hypothesis (i) is not supported by these data.

(ii). Sub-hypothesis (ii) said that video feedback would
produce shifts in semantic differential ratings in
a positive direction (e.g., towards "good" as opposed
to "bad" on the Evaluation factor, etc.) immediately
following confrontation (i.e., on Semantic Differen-
tial II as contrasted with Semantic Differential I).
From figure 1 it is apparent that for Activity the
direction of reaction which occurs from Semantic Dif-
ferential I to Semantic Differential II is positive
for the video channel and negative for the other three
channels. Statistical analysis reveals that this dif-
ference is significant for the video channel as com-
pared with the filtered-audio channel

(t [46] = -8.63, $p < .001$); video vs. audio-video

(t [46] = -5.36, $p < .001$); and video vs. audio

(t [46] = -3.45, $p < .005$).

For the Potency factor, video exhibits the most posi-
tive change (i.e., towards "strong"), while filtered-
audio changes somewhat positively, with audio and
audio-video shifting towards the negative pole (i.e.,
towards "weak"). Differences in these reactions are

significant for video vs. audio-video (t [46] = -4.22; p < .001), video vs. audio (t [46] = -3.06; p < .005); and video vs. filtered-audio (t [46] = -2.63; p < .025) respectively. (See table 6).

For the Evaluation factor video, filtered-audio and audio-video all shift negatively, while audio changes in a positive manner. Comparison of direction and degree of reaction is significant for video vs. filtered-audio (t [46] = -4.89; p < .001) and video vs. audio (t [46] = 2.57; p < .025). (See table 6). Sub-hypothesis (ii) is supported for the Activity factor and for the Potency factor (since the positive shift for filtered-audio is minute, only .02 semantic differential points), but not for the Evaluation factor, for which the predicted trend is reversed, since video shifts negatively.

(iii). Sub-hypothesis (iii) stated that women would report greater fear of negative evaluation and concern about achieving social approval than men, and that these personality characteristics would be associated with (a) a more negative and (b) a more extreme reaction to the self-confrontation experience (i.e., on Semantic Differential II after five seconds of feedback, as compared with Semantic Differential I, a pre-measure of perception of voice, visual-image or voice

and visual-image combined). This initial response
was to be followed by return to baseline levels of
rating on Semantic Differential III, which was given
after five minutes of playback.

(a) Whether or not women scored higher on the
Fear of Negative Evaluation Scale and the Social
Desirability Scale can be easily discerned by
comparing the means for the two sexes on these
scales.

$$\bar{X}_{FNE} = 12.0 \text{ for females}$$

$$\bar{X}_{FNE} = 14.0 \text{ for males}$$

$$\bar{X}_{SoD} = 15.0 \text{ for females}$$

$$\bar{X}_{SoD} = 13.0 \text{ for males}$$

The means for the two sexes on these scales are
essentially equal. Therefore, sub-hypothesis (iii)
is not supported.

(iv). Sub-hypothesis (iv) proposed that fear of negative
evaluation and concern with achieving social approval
would possess more predictive power than mere sexual
divisions. These personality characteristics were to
be associated with an immediate negative reaction to
the confrontation experience (on Semantic Differen-
tial II as compared with Semantic Differential I),

and with a subsequent return to baseline levels of
rating on Semantic Differential III (after five
minutes of playback).

Fear of negative evaluation accounted for an insig-
nificant amount of the variance attributable to the
two covariates, so its effects were not considered
to be important in the way proposed (see p. 73 for
the actual percentages of variance accounted for by
Fear of Negative Evaluation and social desirability).
The variance accounted for by social desirability was
more substantial, although still not overwhelmingly
important, and the effects were not large enough to
bring about the reaction described in sub-hypothesis
(iv); therefore sub-hypothesis (iv) is not supported
by the data.

Other Findings of Interest and Importance

The most important and significant results of the cor-
relational analyses occurred for the degree of social de-
sirability (high versus low social desirability) by sex
group, and the sex by channel group. The significant cor-
relations ($p < .05$) for these experimental groups are pre-
sented in tables 4 and 5.

It was found that for the channel by sex group females
varied from males in exhibiting a negative reaction to the

audio type of feedback, as evidenced by negative correla-
tions between initial semantic differential ratings (which
were most often positive) and subsequent ones (which tended
to be negative), following the self-confrontation exper-
ience. Males showed positive correlations between semantic
differential ratings, which were positive initially and
following self-confrontation. This sex difference in reac-
tion was significant (X^2 [1] = 11.57; $p < .005$).

For the video channel females showed a trend in the
direction of more positive correlations than males, who
had more negative correlations (X^2 [1] = 3.2; $p < .1$). Fe-
males tended to rate themselves positively across subse-
quent semantic differentials for this channel, while males
tended to change the direction of their ratings in an
unsystematic fashion from one semantic differential to
another. This trend for the video stimulus is in an oppo-
site direction to that for the audio stimulus.

One other finding which approaches statistical signifi-
cance for the Activity and Potency factors is the channel by
sex interaction (see figure 4). Upon viewing the plot of
the means for these groups some strong trends in essentially
opposite directions to each other can be seen. For instance,
males rated themselves as more active on the Activity factor
for the channels which have an audio component (audio and
filtered-audio) while females rated themselves as more

passive. Then, this trend was reversed for channels with a visual component (video and audio-video), females rating themselves as more active, and males as more passive.

For the Potency factor, males rated themselves as more potent, and females rated themselves as less potent, except that the scores converged for the audio-video combination.

The previous discussion of the results relevant to sub-hypothesis (iv) pointed out that neither sex was more concerned with social approval seeking, as indicated by their mean scores on the Social Desirability Scale. It is interesting to note that high social approval females showed three significant negative correlations with social approval (see table 5), these being for Evaluation III (rating of "badness" of voice and/or visual-image after five minutes of feedback) and on Activity and Evaluation IV (rating of "inactivity" and "badness" of voice and/or visual-image as they felt others would perceive them). High social approval males showed three significant positive correlations with social desirability for Activity I (pre-measure--rated as more active), and Evaluation and Activity III (self-ratings after five minutes of feedback--rated as "better" and "more active").

Low social desirability males and females showed no significant correlations with social desirability (see table 5).

Important observations based upon the tables (tables 4 and 5) of significant correlations for degree of social desirability (SoD) by sex and channel by sex are as follows: Activity and Evaluation were overwhelmingly positively correlated (X^2 [1] = 36.1; $p < .005$), and significant correlations occurred in many of the groups for Activity on Semantic Differential III with Activity on Semantic Differential IV (A3-A4), as well as Activity III with Evaluation IV (A3-E4), and Activity IV with Evaluation IV (A4-E4). These results were directional, but not statistically significant. Potency and Evaluation were most often significantly negatively correlated, and Activity and Potency were usually significantly positively correlated (X^2 [1] = 9.14; $p < .005$).

Observations based upon the correlations of various factors with social desirability reveal (see tables 4 and 5) that there were more significant correlations for Semantic Differential IV (rate as you feel others would perceive what you saw and/or heard) than there were for the other semantic differentials. This difference is not statistically significant, but is interesting. Semantic Differential IV also had many more negative correlations with social desirability than the other semantic differentials (X^2 [1] = 3.66; $p < .1$, a trend). More positive correlations with social desirability occurred for the Activity factor than for the Evaluation or Potency factors, although this result is relatively mild and not statistically significant.

CHAPTER IV

DISCUSSION

The major findings of this study were that (1) sub-
jects rated themselves differently on the semantic differ-
entials administered at four successive times, pre-feedback,
post five seconds of feedback, post five minutes of feed-
back, and rate how you feel others would perceive what you
saw, heard, or saw and heard (which was given last), (2)
males rated themselves as strong overall on the Potency
factor, while females rated themselves as weak, (3) sub-
jects reacted in significantly different ways to the vari-
ous channels of feedback on each of the four semantic
differentials. Fear of Negative Evaluation and seeking
social approval, as assessed by the Marlowe-Crowne Social
Desirability Scale did not have the systematic, negative
effect which was predicted would occur after five seconds
of self-confrontation, i.e., $\underline{Ss}$ scoring high on these
scales did not react towards the passive, negative, weak
pole any more than did $\underline{Ss}$ in general, since these co-
variates accounted for little of the variance. It was
found that Fear of Negative Evaluation accounted for
almost none of the variance attributable to the covariates,

therefore social desirability will be the primary scale
of the two discussed in this thesis and worthy of further
research in this area. The effects of social desirability
in the present study were still somewhat unclear, since
they were largely correlational and fairly unsystematic;
they need further study.

For the semantic differential main effect, the re-
sults of this study have in part replicated the findings
of earlier work (Holzman, 1971; Holzman & Rousey, 1966;
Nielsen, 1964) which described the progression which
occurred in the reaction to self-confrontation, termed
"attitudinal impact" or "image impact," from initial self-
criticism, to self-image restoration, and finally to com-
menting on favorable aspects of oneself. Findings which
were somewhat discrepant from those of the present thesis
were those by Holzman and Rousey (1966) who presented data
showing a negative reaction for female Ss after five
seconds of playback, and a return to baseline levels of
rating after the Ss had waited five minutes since hearing
the playback. A difference between Holzman and Rousey's
study and the present one is that they did not play back
five minutes of self-confrontation tapes to their Ss,
they only played back five seconds of feedback.

The present thesis had Ss listen to five seconds of
feedback and fill out a semantic differential, then listen

to five minutes of feedback and fill out another semantic differential. It found a negative reaction at five seconds and a leveling-off tendency at five minutes and for rating "what I saw and/or heard as others would perceive it." The reaction sequence described occurred for the Activity and Evaluation factors in the present research, but not for the Potency factor, which is in agreement with the findings of Holzman and Rousey (1966).

The reaction sequence, or the relationship of the semantic differentials to each other, changed with such factors as sex and channel. The semantic differential effect was not simple and ratings on Semantic Differential II (five-seconds post-feedback) were sometimes positive in relation to Semantic Differential I, depending on which cells were considered. For example, for the channel by sex interaction, the video channel was positive on Semantic Differential II in relation to Semantic Differential I for the Activity factor, not negative, as would seem to follow logically from Holzman and Rousey's (1966) research.

What is the meaning of the fact that the semantic differentials produced significant changes for the Activity and Evaluation factors, but not for the Potency factor? Perhaps the stable sex difference which exists for the Potency factor can give us a clue as to what may have been occurring. Women rated themselves negatively on

Potency and men rated themselves positively. This is a statistically significant effect which existed even for the sex by semantic differential interaction. It seems that Potency may represent a fairly stable personality characteristic, a rather immovable trait, as opposed to a more malleable state. One logical reason for this difference is that men are usually taught to want to wield force, authority, or influence, and to be powerful, while women are instructed not to wish for power and often to actively avoid it. Of course, there is also the biological dimension of this concept, since men are usually stronger and women weaker. But there seems to be more to the notion than simple physical differences, since physical strength is not as important in our automated society as it used to be, and is thus probably not the only significant determinant of response in this category. Some examples of words in this category are "hard-soft," "strong-weak," "mature-youthful," "profane-sacred," "masculine-feminine." It seems obvious that both culture and biology are influencing reactions which fall within this factor.

The Activity and Evaluation factors seem to tap more mutable aspects of the subjects' self-concepts. Osgood, Suci, and Tannebaum (1957) report that the Evaluation factor is highly correlated with standard attitude-measuring instruments and can therefore be considered an index of attitude (pp. 193-194). Some examples of items for this

factor are "beautiful-ugly," "clean-dirty," "good-bad,"
and "rich-poor." The Activity factor taps impressions of
the psychological characteristics, bearing, stance, or con-
duct of that which is being judged. Words in this cate-
gory are "successful-unsuccessful," "wide-narrow," "free-
constrained," and "fast-slow."

Holzman and Rousey (1966) integrate the above specu-
lations in a meaningful way as follows:

> If attitude toward the voice is affected by
> changes in the amount of bone-conducted
> sound, and if the evaluative factor of the
> semantic differential measures that attitude,
> then shifts in the evaluative factor would
> reflect changes of attitude towards one's
> voice wrought by changes in the bone- to
> air-conduction ratio. If changes in the
> activity scale, however, reflect changes in
> impressions of the voice and therefore of
> the behavioral characteristics of the speaker
> conveyed by voice qualities, then shifts in
> the activity factor would reflect changed
> awareness of those voice qualities. The
> evaluative factor could be considered a
> measure of discrepancy and the activity fac-
> tor a measure of disruption (1966, p. 84).

The present study broke new ground in comparing the
sexes for the particular concept of "what I saw and/or
heard," which is similar to Holzman and Rousey's concept
of "my voice," for which they used just female Ss, but
different from Moore's (1972) concept of "myself" for which
he used both sexes as Ss, and found that no "attitudinal
impact" occurred.

Moore performed research on self-confrontation using
the same division of channels as the present thesis, except

that he did not use the filtered-audio channel, which is
another innovation of the present research. He utilized
three equivalent forms of the semantic differential, but
not the fourth form of "what you saw and/or heard as you
feel others would perceive it." Moore assessed this con-
cept, but not by using a semantic differential.

Using four equivalent forms of the semantic differen-
tial for the four channels as separated in the present
investigation was novel in another way, because Moore's
feedback tape lasted five minutes and he did not administer
a semantic differential after five seconds of playback. He
failed to find the "attitudinal impact" reported by Holzman.
The reason for this can be judged from the present re-
search, which administered semantic differentials pre-
playback, after five seconds of playback, and after five
minutes of playback. It is clear, upon examining the plot
of the means for the semantic differential main effect that
a leveling-off occurred on Semantic Differential III. Ss
apparently "got used to" what they heard. The semantic
differential effect could well have been insignificant if
Semantic Differential II had not been so negative overall.
Thus, with additional time-sampling we were able to see an
effect which Moore did not pick up.

The significant channel by semantic differential inter-
action for all three factors, Evaluation, Potency, and

Activity indicates that S̲s̲ reacted in significantly differ-
ent ways to the different channels of feedback on the four
successive semantic differentials. If one studies the graph
of the means for this group, it becomes apparent that it is
very difficult, and indeed inappropriate, to generalize in
discussing something like a channel effect. Because of the
various differences which are evident, it is necessary to go
further, and to specify which factors are involved, which
channel, which semantic differential, and depending upon your
purpose, which sex. For example, if one generalizes he can
say that the direction of reaction revealed on Semantic Dif-
ferential II (five-seconds post-feedback) was negative. But
if one scrutinizes the channel by sex interaction, he can see
that the overall reaction for the video channel was positive
on Semantic Differential II for Activity and Potency, two out
of three of the semantic differential factors.

Also apparent for the channel by sex interaction is
that the various channels are independent, particularly on
the first three semantic differentials, which were the ones
of primary interest in this investigation. This is in line
with similar findings by Burns and Beier (1973) who dis-
covered a lack of correlation between judgments of affect
conveyed via the audio and video channels, suggesting that
the information delivered through these channels is rela-
tively independent. This means that people's judgments of

how they look and/or sound are different depending on whether they are responding only to cues from listening, or to those from viewing.

Other examples of the differences in the effects of audio and video based on my study are that for the channel by semantic differential interaction, the video channel was the only one which had a primarily positive direction of effect on Semantic Differential II, and the audio channel had a negative effect, except on the Evaluation factor, for which this tendency was reversed.

Previous research relating to differences in these two channels has reported that, with psychiatric patients, information delivered via the auditory channel produced more cognitive and affective changes than visually channeled information, but that items which received their impact primarily from the video channel involved feelings of increased responsible self-control on the Multiple Affect Adjective Check List and fourteen bipolar items collated by Cattell (Geertsma & Reivich, 1965). Moore (1972) found that video feedback produced significantly larger change variances than other modes of feedback in self-objectivity and self-esteem, as assessed by the Miskimins Self-Goal-Other Discrepancy Scale (Miskimins, 1967, 1968, cited in Moore, 1972). He hypothesized that this greater impact was due to the greater novelty of the video stimulus.

Since the present thesis had no direct measures of "responsible self-control," self-esteem, self-objectivity, or "affective and cognitive changes," it is difficult to compare with previous research along these lines, and what is said is largely speculative.

In the present research video produced positive ratings on Activity and Potency, and negative ratings on Evaluation. Some of the items on these scales could be indices of an increased feeling of a kind of rational-cognitive self-responsibility and self-esteem. Some of these items were: for the Activity factor, successful-unsuccessful, sharp-dull, active-passive, optimistic-pessimistic, graceful-awkward, and interesting-boring. Potency scale items (on which video was significantly a positive experience) produced shifts towards the potent pole of strong-weak, deep-shallow, mature-youthful, etc. Video produced changes on Evaluation which could fit into a category of decreased affective self-esteem: towards the negative pole of pleasurable-painful, beautiful-ugly, clean-dirty, formed-formless, etc. These ratings fit into the categorizations of previous investigations to some degree, although certainly not very well.

For Audio, the present investigation found a negative reaction on the Activity factor, essential stability on the Potency factor, and an increase in rating for the Evaluation

factor. Is this evidence for the "cognitive and affective" changes reported by previous researchers (Geertsma & Reivich, 1965)? There is a problem in the definition of "cognitive and affective" since this seems to include all kinds of change which could occur, thus perhaps meaning that most change of any kind took place for audio. This was not the case for the present thesis, since most change took place for video. There is a discrepancy in definitions and results between these other investigations and the present one.

Previous findings said that video produced greater changes than audio in self-objectivity and self-esteem. For the present research, it produced greater changes for the Potency and Evaluation factors, and audio produced greater changes for the Activity factor. Thus, video produced more change overall than did audio. The difference in the degree of impact for these two channels was significant for all three semantic differential factors, meaning that Ss reacted to these channels in significantly different ways, as mentioned previously.

It is apparent from the graph of the channel by semantic differential interaction that audio is independent from video. As discussed previously, this was also one of Burns and Beier's results (1973). Thus, the effects of these channels cannot be very well related to each other, their meanings are divergent. People's impressions of how they

look or sound vary according to whether they are reacting to video or audio stimuli.

For Activity, it seems natural that Ss would rate themselves as more active after seeing video, and as less active after hearing audio, since "actions speak louder than words." Actions seem to be more tied to the visual stimulus than to the auditory one.

After confrontation, Ss in the audio group rated themselves on Potency as neither more rugged nor more delicate, neither more hard nor more soft, neither more strong nor more weak. But they evaluated themselves as more pleasureable, beautiful, clean, cautious, good and formed. In short, their affective self-esteem had increased, if that is part of what this factor is assessing. But they felt less active. Perhaps their feeling of responsible self-control had decreased, since they felt more passive, pessimistic, awkward, boring, unsociable, unsuccessful, etc.

Moore (1972) also found that Ss tended to identify most with audio feedback, then with audio-visual, and least with video. His research revealed sex differences in response to confrontation in terms of self-objectivity and self-esteem. Males who identified more with their feedback did not become more self-objective, while males who identified less closely with their feedback tended to become more self-objective.

These trends were in the opposite direction for females, those who identified more with their feedback tending to gain more in terms of self-objectivity. He interpreted these results as possibly due to training in stereotypic sex roles in which females are trained to identify more with external stimuli. He did not analyze the results separately for the two sexes as to which channels were identified with most, which could be an important omission.

Two findings of the present study strongly suggest that the different channels mean different things to the two sexes. The channel by sex interaction, which reaches a trend towards significance for the Activity and Potency factors, reveals that males tended to rate themselves higher on audio and females rated themselves more positively than males on video.

Correlational analyses were performed in trying to look further into the nature of this relationship. From these computations it was discovered that for differences which occurred in reactions for the two sexes (i.e., for positive versus negative correlations between the various semantic differential ratings) females had significantly more negative correlations for the audio channel, while males had significantly more positive correlations. The video channel produced a trend towards the opposite type of effect, females exhibiting positive correlations and males negative correlations.

One possible implication of these findings is that, if identification with feedback is in fact an element which is involved in determining the kind of impact a channel will have on a person, sex differences may be important here. It is possible that Ss could have higher mean ratings for the channels with which they identify more. This is an area which needs further research.

As reported previously, Fear of Negative Evaluation and social approval seeking, as assessed by the Marlowe-Crowne Social Desirability Scale, failed to be any more systematically related to any particular reaction sequence than were sex differences. Contrary to expectation, both sexes scored about the same on these scales, but those Ss for each sex who were more concerned with social approval as revealed by the significance of the correlations of their responses with social desirability showed manners of responding which were in line with stereotypic sex roles in some ways. For example, high social approval females showed three significant negative correlations with social approval, these being Evaluation III, Activity IV, and Evaluation IV. This means that they evaluated themselves as bad after five minutes of confrontation, and thought that others would see them as less active and as bad.

High social approval males had three significant correlations with social desirability, these being Activity I, Activity III, and Evaluation III. On Semantic Differential I

(a pre-measure) they classed themselves as "active," while
on Semantic Differential III (after five minutes of feed-
back), they said they felt more active and better.

Low social approval males and females had no signifi-
cant correlations with social desirability. These results
suggest that for high social approval Ss, more of a relation-
ship exists with social desirability, i.e., that for high
social approval Ss social desirability could have some pre-
dictive power in certain areas, which were not necessarily
those tapped by the present study. This may well be an
area in which future research will show that some significant
and useful relationships exist.

The fact that high social approval males and females
responded in the positive and negative ways described above
may well result from the fact that females are often taught
in our society that the most acceptable behavior is admit-
ting feelings of discomfort and weakness, i.e., responding
negatively, whereas males are usually trained to appear
strong and in control of themselves, i.e., to respond posi-
tively. High social approval Ss are the ones who are the
most worried about what others may be thinking. That they
would react in the most socially defined and acceptable way
to the self-confrontation experience lends further validity
to the results of this study.

Further support for the idea that Ss who are more pre-

occupied about social approval are, as revealed by the re-
sults of the present investigation, more worried than others
about how others perceive them and more likely to see others
as perceiving them negatively, comes from the fact that there
were more significant correlations with social desirability
for Semantic Differential IV than for any of the other se-
mantic differentials. Semantic Differential IV was a rating
of how Ss felt others would perceive what they had seen and/
or heard. Also, Semantic Differential IV had more negative
correlations with social desirability than any of the other
semantic differentials, meaning that Ss who scored high on
social desirability were more likely than other Ss to view
others as perceiving their voices and/or visual-images nega-
tively.

The results of this thesis revealed significant correla-
tions of Evaluation with each of the other two factors in
directions to be discussed below. These findings are in line
with those of Osgood, Suci and Tannebaum (1957) to the effect
that Activity and Potency were not orthogonal with respect to
Evaluation, but varied with it.

The fact that Evaluation and Activity were so often
positively correlated could well mean that people in general
evaluate themselves more positively when they perceive them-
selves as being more active. Just looking at some of the
factors on the Activity scale gives one the impression that

the Activity pole is usually considered a more positive attribute, for example, sociable-unsociable, successful-unsuccessful, spacious-constricted, positive-negative. However, negative correlations did exist for these factors, although they were not usually significant in this study, with the small number of Ss which were in most of the correlational groups (n = 6). Although Activity and Evaluation are related, they still are not measuring the same factor, the utility of each concept still exists and is important.

The fact that Potency and Evaluation were most often significantly negatively correlated implied that Ss tend to view themselves more negatively if they see themselves as being too potent. It is interesting that, for the degree of social desirability group only low social desirability males and females showed this negative relationship between Evaluation and Potency, so the most socially desirable way to be would seem to be influential and powerful. Our society probably emphasizes this more as a positive attribute worth possessing.

The significant positive relationship between Activity and Potency may mean that Ss view themselves as potent if they see themselves as active. This, too, seems to make common sense.

On the Evaluation factor Ss rated themselves more

positively when social desirability was taken into account,
as is apparent if the means are compared with and without
the covariates being used. Ss concern with social approval
revealed itself in more systematic, positive ratings on
Evaluation as compared with Potency and Activity. This
finding makes sense, since both social desirability and the
Evaluation factor are measures of attitude, and a good deal
of evaluation occurs in response to the social desirability
items.

Wilmot (1975) presented some ideas which seem relevant
to the self-confrontation experience. He said that people
develop self-concepts or generalized views of themselves by
their ability to think about themselves. The self-concept
is many-faceted and primarily social in nature. The prime
determinants of one's self-concept are, according to him,
(1) the perceptions others have of him, (2) the comparisons
he makes between himself and others, and (3) the social
roles with which he is identified. In the self-confrontation
situation any one or all three of these determinants of self-
concept could be altered, thus affecting him. For instance,
he may feel that others' perceptions of him have changed,
perhaps they will watch his tape. He may compare his image
as played back to him with how he perceives others, thus
changing his self-perception. Social roles may also be
changed, since he may well perceive himself in a detached

way as more of an object. Any of these ways of responding
to the self-confrontation situation could lead to the
various reactions exhibited by the Ss in the present re-
search.

The social role aspect of this experience was emphasized
by some Ss in their responses to the qualitative questions
at the end of the experiment. There was some evidence that
some Ss may have been switching from a participant role to
that of an observer, thus feeling detached and viewing them-
selves as objects. For example, a high social desirability
male in the video group wrote as follows in response to
question 1, "How would you describe your overall reaction to
what you saw?"

> I thought it was kind of humorous to see all
> the little unconscious actions I made while
> I was talking or thinking of something to say.
> I was also surprised to see myself as if I
> were someone else. I acted differently than
> I thought I did, and noticed a lot of little
> things I didn't know I did.

What might the self-confrontation experience signify
for different Ss? Wilmot (1975) presented some interesting
ideas which offer some clues as to what this experience may
be like. He pointed out that each person's self-concept is
subjective primarily because (1) there are differing degrees
of awareness of the self, and (2) we each have "multiple
selves" from which to choose. Novel situations which promote
reflexive thinking about oneself are quite disparate. Of

course, novel situations can be either negative or positive
in effect, depending on the person's reaction to it.
"Whether you become entangled in personal remorse or spend
your time trying to rationalize your behavior, your concept
of yourself will undergo some degree of self-examination"
(p. 36).

The self-confrontation experience which occurred for
the Ss in the research presented here was obviously a novel
situation. Holzman (1966) described this type of experience
as one of "discrepancy and disruption," largely because of
its novelty and unexpectedness. This situation is one with
enough impact and novelty to alter the Ss self-concept tem-
porarily, or perhaps permanently. And each S will react in
ways which are in line with his or her past experience,
which self is executive going into the self-confrontation
situation, which self becomes executive in this unfamiliar
set of circumstances, and how they have been taught to respond
to such an experience. Arguing from a traditionalistic
standpoint one might claim that because of prior training,
females could be more "remorseful" and males more "rational-
izing." This is the type of encounter of which changed
self-perceptions are made.

The present study contributes to self-confrontation re-
search by filling in some of the gaps which exist in this
area because of a paucity of sound research. No contradic-
tions of other studies were found which could not be ex-

plained by subtle differences in technique.

This investigation proceeded further than previous ones
in using four semantic differentials instead of three, and
found that this fourth semantic differential, rate "what
you saw and/or heard as you feel others would perceive it"
was a valuable one, especially in relation to social desir-
ability, since more significant and negative correlations
with social desirability occurred for this semantic differ-
ential than for any of the others. Also, the overall
semantic differential main effect was duplicated for other
channels besides the original audio one. The channel by
semantic differential interaction demonstrates the complex-
ity of the data, as does the channel by sex interaction.
In order to really understand what is occurring in the
self-confrontation situation, it is necessary to go beyond
simple main effects to what were interactions in this study.
Many of these can use individual scrutiny in the future, and
at this more precise level is where predictions will become
really meaningful in future research.

The investigation of sex differences in response for
the specific factors used in this research is also new, and
the overall significance of the main effect for sex (males
positive and females negative) for the Potency factor is
understandable in terms of the way men and women are
taught to view themselves in our society, as well as bio-

logical differences in strength. This finding offers some validation of the Potency scale used.

Future research can profitably proceed into some of the facets of the present investigation, looking more closely and specifically at what were just parts of the present research. For example, sex differences are a fertile area for research, the ways of responding exhibited by high social approval versus low social approval people of the two sexes to the self-confrontation situation can still use more research, since its effects are not yet well-defined.

The area of identification with feedback can use further study, since Moore's (1972) scale has not been validated, and since he did not take into account sex differences in identification with specific channels, which may well exist. Sex differences in response to various channels is another potentially fruitful area which could bear further examination.

Finally, the effects of fear of negative evaluation and social approval seeking as personality characteristics were not that clearcut in this experiment, possibly because they were not producing that much of an effect, or because the wrong effect was predicted. New experiments could be performed looking into how these variables affect other behavior in the self-confrontation situation. Also, how other personality characteristics operate in the self-confrontation experience could be investigated.

This thesis contributes both answers and questions to the self-confrontation literature; and the questions point the way to future research directions as discussed above.

CHAPTER V

SUMMARY

Forty-eight introductory psychology subjects, divided equally with regard to sex, participated in this study of telemediated self-confrontation to find out whether: (1) separation of channels of feedback, (2) time of presentation of feedback, or (3) concern with fear of negative evaluation and giving socially desirable test responses would have differential impact on self-perception as measured by responses on equivalent forms of a semantic differential.

Introductory psychology students were administered the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964) and the Fear of Negative Evaluation scale (Watson & Friend, 1969) in class. Also, they were asked about experience within the past year with self-confrontation via audio or video tapes. Ss who had heard themselves for more than three hours within the past year or for any time at all within the past two months were not included in this study, since previous research (Rousey & Holzman, 1967) had shown that frequency of having heard one's voice produced a marked increase in recognition of it and familiarity with

it, which could well obscure the immediate impact of feed-
back which the present investigation was attempting to
study.

Six male and six female Ss who met the above qualifi-
cation were randomly assigned to one of four playback groups:
audio-visual--rated on the basis of audio-visual playback of
themselves; audio--rated on the basis of audio self-playback;
filtered-audio--rated on the basis of filtered-audio self-
playback, with frequencies above 600 cps filtered out so that
paralinguistic cues were present, but not verbal content;
and finally, video--rated on the basis of video self-
playback.

Each S was instructed to talk for five minutes about
things he considered to be important to him, while he was
being recorded. Then, these tapes were played back to him;
he was confronted with himself.

Self-perception of what each S saw and/or heard, or
expected to see and/or hear, was measured by responses to
three equivalent forms of a semantic differential inven-
tory, the order of which was randomly assigned (Coyne &
Holzman, 1966; Osgood, Suci & Tannebaum, 1957). Each seman-
tic differential contained fifteen bipolar pairs of adjec-
tives representing three factors (Activity, Potency, and
Evaluation). Some examples of these adjectives for each
factor are: Activity--fast-slow; Potency--strong-weak;
and Evaluation--good-bad.

These semantic differentials were used in assessing Ss self-perception at four sequential times, (1) pre-playback; (2) post-five-seconds of playback; (3) post-five-minutes of playback, and finally (4) "rate how you feel others would perceive what you saw and/or heard."

The Fear of Negative Evaluation scale (Watson & Friend, 1969) and the Social Desirability Scale (Crowne & Marlowe, 1964) were used as covariates, since it was felt that the personality type which scored high on these related measures would tend to react in a similar way to the self-confrontation experience (i.e., negatively). This type of person is one who is overly concerned with how others may be perceiving him, avoids evaluative situations, becomes distressed over others' negative evaluations, and expects them to evaluate him negatively.

Analyses of covariance and variance were carried out on the four semantic differentials for each S, the covariates being Fear of Negative Evaluation and social desirability, so that the direction of effects of the covariates could be more specifically looked into. Social desirability influenced the results in making Ss ratings more positive for Evaluation, but not for Activity or Potency.

Fear of Negative Evaluation accounted for an insignificant amount of the variance attributable to the covariates. Social desirability had more of an effect on Ss responses,

but this was still not very large. Neither sex scored higher
on these scales, and they did not create the effect pre-
dicted, of a negative impact after five seconds of playback.

For Potency, the overall sex main effect was signifi-
cant, males rating themselves as "strong," and females as
"weak."

The overall semantic differential effect was signifi-
cant for Activity and Evaluation, but not for Potency.
These results support three of the hypotheses which pre-
dicted a negative reaction on Semantic Differential II, a
return to baseline levels on Semantic Differential III, and
that Semantic Differential IV would be negative in relation
to Semantic Differential I.

The channel by semantic differential interaction was
significant for all three semantic differential factors,
and those effects appear to be independent, since the plot
of these means is different for each channel and semantic
differential.

A posteriori correlational analyses, least square dif-
ference analyses, and X^2 analyses produced other significant
results, but only the most important results have been dis-
cussed in this Summary. These statistical tests produced
support for sub-hypothesis (ii), that video would produce
more positive reactions than other channels, which it did
for Activity and Potency.

Three out of four of the hypotheses were confirmed, and one out of four of the exploratory sub-hypotheses was supported.

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APPENDICES

APPENDIX I

SEMANTIC DIFFERENTIAL-FORM I

Factor I--Activity

1. Sociable-unsociable
2. Positive-negative
3. Successful-unsuccessful
4. Fresh-stale
5. Wide-narrow
6. Believing-skeptical
7. Public-private

Factor II--Potency

8. Rugged-delicate
9. Hard-soft
10. Strong-weak
11. Dark-light

Factor III--Evaluative

12. Pleasurable-painful
13. Beautiful-ugly
14. Clean-dirty
15. Cautious-rash

SEMANTIC DIFFERENTIAL-FORM II

Factor I--Activity

1. Sharp-dull
2. Free-constrained
3. Blatant-muted
4. Clear-hazy
5. Near-far
6. Spacious-constricted
7. Tangible-intangible

Factor II--Potency

8. Heavy-light
9. Deep-shallow
10. Mature-youthful
11. Severe-lenient

SEMANTIC DIFFERENTIAL-FORM II (Cont.)

Factor III--Evaluative

12. Good-bad
13. Sweet-sour
14. Important-unimportant
15. Formed-formless

SEMANTIC DIFFERENTIAL-FORM III

Factor I--Activity

1. Active-passive
2. Bright-dark
3. Optimistic-pessimistic
4. Graceful-awkward
5. Refreshed-weary
6. Fast-slow
7. Interesting-boring

Factor II--Potency

8. Masculine-feminine
9. Large-small
10. Bitter-sweet
11. Profane-sacred

Factor III--Evaluative

12. Nice-awful
13. Calm-agitated
14. Rich-poor
15. Reputable-disreputable

APPENDIX II

FEAR OF NEGATIVE EVALUATION (FNE)

---

1. I rarely worry about seeming foolish to others. (F)

2. I worry about what people will think of me, even when I know it doesn't make any difference. (T)

3. I become tense and jittery if I know someone is sizing me up. (T)

4. I am unconcerned even if I know people are forming an unfavorable impression of me. (F)

5. I feel very upset when I commit some social error. (T)

6. The opinions that important people have of me cause me little concern. (F)

7. I am often afraid that I may look ridiculous or make a fool of myself. (T)

8. I react very little when other people disapprove of me. (F)

9. I am frequently afraid of other people noticing my shortcomings. (T)

10. The disapproval of others would have little effect on me. (F)

11. If someone is evaluating me I tend to expect the worst. (T)

12. I rarely worry about what kind of impression I am making on someone. (F)

13. I am afraid that others will not approve of me. (T)

14. I am afraid that people will find fault with me. (T)

15. Other people's opinions of me do not bother me. (F)

16. I am not necessarily upset if I do not please someone. (F)

17. When I am talking to someone, I worry about what they may be thinking about me. (T)

18. I feel that you can't help making social errors sometimes, so why worry about it. (F)

19. I am usually worried about what kind of impression I make. (T)

20. I worry a lot about what my superiors think of me. (T)

21. If I know someone is judging me, it has little effect on me. (F)

22. I worry that others will think I am not worthwhile. (T)

23. I worry very little about what others may think of me. (F)

24. Sometimes I think I am too concerned with what other people think of me. (T)

25. I often worry that I will say or do the wrong things. (T)

26. I am often indifferent to the opinions others have of me. (F)

27. I am usually confident that others will have a favorable impression of me. (F)

28. I often worry that people who are important to me won't think very much of me. (T)

29. I brood about the opinions my friends have about me. (T)

30. I become tense and jittery if I know I am being judged by my superiors. (T)

APPENDIX III

THE MARLOWE-CROWNE SOCIAL-DESIRABILITY SCALE

Personal Reaction Inventory

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

1. Before voting I thoroughly investigate the qualifications of all the candidates. (T)

2. I never hesitate to go out of my way to help someone in trouble.

3. It is sometimes hard for me to go on with my work if I am not encouraged. (F)

4. I have never intensely disliked anyone. (T)

5. On occasion I have had doubts about my ability to succeed in life.

6. I sometimes feel resentful when I don't get my way. (F)

7. I am always careful about my manner of dress. (T)

8. My table manners at home are as good as when I eat out in a restaurant. (T)

9. If I could get into a movie without paying and be sure I was not seen, I would probably do it. (F)

10. On a few occasions, I have given up doing something because I thought too little of my ability. (F)

11. I like to gossip at times. (F)

12. There have been times when I felt like rebelling against people in authority even though I knew they were right. (F)

13. No matter who I'm talking to, I'm always a good listener. (T)

14. I can remember "playing sick" to get out of something. (F)

15. There have been occasions when I took advantage of someone. (F)

16. I'm always willing to admit it when I make a mistake. (T)

17. I always try to practice what I preach. (T)

18. I don't find it particularly difficult to get along with loud mouthed obnoxious people. (T)

19. I sometimes try to get even, rather than forgive and forget. (F)

20. When I don't know something I don't at all mind admitting it. (T)

21. I am always courteous, even to people who are disagreeable. (T)

22. At times I have really insisted on having things my own way. (F)

23. There have been occasions when I felt like smashing things. (F)

24. I would never think of letting someone else be punished for my wrongdoings. (T)

25. I never resent being asked to return a favor. (T)

26. I have never been irked when people expressed ideas very different from my own. (T)

27. I never make a long trip without checking the safety of my car. (T)

28. There have been times when I was quite jealous of the good fortune of others. (F)

29. I have almost never felt the urge to tell someone off. (T)

30. I am sometimes irritated by people who ask favors of me. (F)

31. I have never felt that I was punished without cause. (T)

32. I sometimes think when people have a misfortune they only got what they deserved. (F)

33. I have never deliberately said something that hurt someone's feelings. (T)