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## The Effects of Subliminal Stimulation on the Affect of Depressively Prone College Students

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THE EFFECTS OF SUBLIMINAL STIMULATION ON THE  
AFFECT OF DEPRESSIVELY PRONE COLLEGE STUDENTS

by

Richard B. Dauber

A Thesis Submitted to the Faculty of the Graduate School  
of Loyola University of Chicago in Partial Fulfillment

of the Requirements for the Degree of

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## VITA

The author, Richard Brian Dauber, is the son of Martin I. Dauber and Selma (Kopet) Dauber. He was born December 17, 1953, in Newark, New Jersey.

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## INTRODUCTION

This thesis will attempt to replicate and extend previous research which has utilized the "subliminal psychodynamic activation method" (see Silverman, 1976 for a review). This method, which involves tachistoscopic presentation of wish related verbal and pictorial stimuli, was developed in an effort to empirically test the causal relationships postulated by psychoanalytic theory.

Specifically, this thesis concerns itself with depressed feelings and whether a significant change in reported mood predicted by psychoanalytic theory can be brought about through a subliminal message. Traditionally, psychoanalytic theory has postulated that a conflict around aggression is central in depression (Fenichel, 1945). According to this theory, unacceptable aggressive wishes are turned against the self in depressively prone individuals. This viewpoint has received support in several subliminal studies (Miller, 1973; Rutstein & Goldberger, 1973; Varga, 1973). In each of these studies there was an intensification of depression following a subliminal aggressive condition. Another study (Silverman et al, 1976) reported equivocal results in attempting to replicate this finding, and still another investigator (Nissenfeld, 1979) found no increase in depression following aggressive stimulation. Nissenfeld (1979) did find, however, a decrease in depression following a subliminal symbiotic gratifying condition.

This thesis will thus test the hypotheses that depressively prone individuals will display an intensification of depressed feelings

following a subliminal aggressive presentation and will show a reduction in depression following a symbiotic gratifying condition. Additionally, it will test whether other subliminal messages, reflecting the importance of unconscious guilt in depression (Bemporad, 1971; Sampson, 1976) will also be effective in manipulating depressed affect. Specifically, it will test whether subjects will show increased depression following a presentation of a guilt-inducing stimuli and a decrease in depressed feeling following a guilt-alleviating condition.

## REVIEW OF RELATED LITERATURE

### SUBLIMINAL PERCEPTION

In 1917 a study was published by Poetzl which greatly attracted Freud's attention (Klein & Holt, 1960). In this experiment, Poetzl found that the manifest content of a dream could be influenced by a brief exposure to a stimulus that was not consciously perceived. Although this experiment appeared to be a bridge between psychodynamic theory and experimental psychology, relatively little interest was manifested in this study until 30 years later.

Shortly after World War II, a wave of studies were published which brought about the "new look" in perception (e.g., Bruner & Postman, 1947; McGinnies, 1949; Postman, Bruner & McGinnies, 1948). The major thrust of this "new look" was that the perception of external stimuli is in part, a function of internal events. In other words, an individual's needs, drives, attitudes, values, and defenses all influence his view of the world around him. Although this viewpoint had long been acknowledged by most clinicians and personality theorists, it was only in the late 1940's that experimental psychology began to explore this area.

The "new look" in perception led to the concepts of "perceptual vigilance" and "perceptual defense" and much of the research in the 1950's was designed to either support or refute these processes (Eriksen, 1958; Goldiamond, 1958; Howes & Soloman, 1950).

Several other investigators, however, felt that the most fruitful aspects of this area of research was more in line with Poetzl's original experiment. These experimenters, thus, investigated the effects of subliminal stimulation on dreams and images, as well as other forms of thought, perceptions, and behavior (e.g., Fisher, 1956; Klein, 1959). In these experiments, three different methods of subliminal stimulation were utilized: (1) incidental; (2) masking; and (3) impoverished direct stimulation. It is the latter that was adopted by L. H. Silverman in his research on psychodynamic activation (see below) and consequently will be used in this current research.

The experimental demonstration that there is "registration" without awareness (Klein, 1959) was greatly welcomed by many psychoanalytic thinkers. Since the research indicated that one's cognitions and behavior could be influenced by stimuli which one was not aware of, it seemed to make possible the experimental study of unconscious phenomena and its effects (Wolitzky & Wachtel, 1973). Unfortunately, experimentation in subliminal perception did not prove to be the great panacea that was hoped for. As Wachtel and Wolitzky write in their review, "subliminal effects are not robust; rather, they are weak, subtle, or ambiguous and not easily replicated." Certain conditions seem to enhance the effect such as task ambiguity, a state of relaxation, drive relevance, and attention to one's need state.

Despite the many criticisms and qualifications of the subliminal research, there is a significant amount of data that shows its usefulness in exploring certain psychological phenomena. As Dixon (1971)

concludes from his comprehensive review of the research "subliminal stimuli have been shown to affect dreams, memory, adaption level, conscious perception, verbal behavior, emotional responses, drive-related behavior, and perceptual thresholds."

## SUBLIMINAL PSYCHODYNAMIC ACTIVATION

In the early 1960's, L. H. Silverman and his colleagues developed a method for the experimental study of psychodynamic relationships (see Silverman, 1976 for a review). This method termed "subliminal psychodynamic activation" is based on the earlier work in subliminal perception of Fisher and others (summarized in Wolitzky & Wachtel, 1973). This research, which makes use of the phenomenon of subliminal perception for investigating the effects of unconscious mental processes on psychopathology, utilizes the tachistoscopic presentation of wish-related verbal and pictorial stimuli. The rationale for the use of this method is as follows:

A stimulus containing a wish-related content first should make contact with derivations of the related wish if the wish is currently active in the individual. Then...the emerging wish-related ideas and images are likely to be transformed so that their wish related character is obscured. This we thought would be the case for those individuals for whom the wish was unacceptable in the first place, and this would include those whose psychopathology was based on that wish. For them it seemed especially unlikely that the wish derivatives would gain access to awareness, let alone be experienced in the form of a conscious impulse. Instead the derivatives could be expected to press for expression without the person's awareness; and as already noted, it is just a circumstance that psychoanalytic theory postulates that psychopathology can ensue. (Silverman 1976, p. 625)

Over 30 published reports have appeared in the literature to date supporting the use of this method in achieving its aim (Silverman, 1978). The subliminal presentation of a wish-related stimuli was shown to significantly affect the subjects' level of pathology as compared to a neutral stimuli.

Silverman's research group has investigated both pathology intensifying and pathology reducing stimuli. Those studies designed to increase psychopathology attempted to stir up specific conflictual libidinal and aggressive wishes postulated to be central in pathogenesis. In experiments investigating thought disorder, homosexual orientation, stuttering, and depressive feelings the "relevant" wish-related stimulus intensified psychopathology, while "irrelevant" or neutral stimuli had no effect (Silverman, Bronstein, & Mendelsohn, 1976).

More recently, Silverman has directed his efforts to pathology reducing phenomena (Silverman, 1979). Silverman has proposed that there are both preoedipal and oedipal fantasies which have ameliorative effects on psychopathology.

The preoedipal fantasy, posited to have a symptom reducing effect when activated by a subliminal presentation, is termed a "symbiotic gratification fantasy." In this fantasy, there is a partial merging of self with mother. In eight studies carried out on male schizophrenics, the subliminal exposure of the symbiotic stimulus MOMMY AND I ARE ONE led to a reduction in symptomatology that was not evident in the control session (Bronstein, 1976; Kaplan, 1976; Kaye, 1975; Leiter, 1973; Silverman et al, 1969; Silverman & Candell, 1970; Silverman, Pettit & Dunne, 1971; Sprio, 1975). In each of these experiments, there was a significant decrease in "primary process ego pathology" in relatively differentiated schizophrenics following exposure to this stimuli.

Recent research has found this subliminal message to have pathology reducing and ameliorative effects on diverse non-psychotic populations and non-psychiatric groups as well. Silverman & Wolitzky

(1976) found a significant reduction in psychological defensiveness following the symbiotic condition in a group of normal research volunteers. Parker (1977), found that a group of undergraduate college students obtained significantly higher final exam grades than a matched control group after receiving the subliminal message MOMMY AND I ARE ONE four times a week over a six week summer session. The control group's stimulus was the neutral message, PEOPLE ARE WALKING.

The symbiotic message was also found to have ameliorative effects on particular neurotic symptoms as well. In one study, (Silverman, Krawer, Wolitzky & Coron, 1973) a group of male homosexuals displayed diminished anxiety and defensiveness following the presentation of the symbiotic message when compared to a neutral control stimulus. In another study (Silverman, Frank & Dachinger, 1974) 20 women with insect phobias, who were receiving systematic desensitization, had their treatment accompanied by subliminal stimulation. On measures of both phobic avoidance and anxiety, the women receiving the subliminal stimulus MOMMY AND I ARE ONE manifested significantly more improvement than those receiving the neutral, PEOPLE ARE WALKING message.

Two other studies (Martin, 1975; Silverman, Martin, Ungaro, & Mendelsohn, 1978) investigated the effect of the subliminal symbiotic message on a group of obese women who were receiving behavior modification treatment. Those that received the symbiotic message lost significantly more weight than the control group.

In a recently completed study, (Shurtman, 1978) alcoholics were exposed to subliminal stimulation in addition to an AA type of counseling. In blind ratings by the counsellors, the treatment was found to

be significantly more effective for those patients who received the symbiotic message as compared to those who received the neutral message. Additionally, the alcoholics who received the MOMMY AND I ARE ONE message also showed a significant decrease in depression compared to the control group.

## SUBLIMINAL RESEARCH WITH DEPRESSION

Nissenfeld (1979) examined the effect of the symbiotic message on nonpsychotic depressed women. Following the symbiotic condition, subjects displayed a significant increase in feelings of well-being and a trend toward heightened self-concept. Furthermore, Nissenfeld found a significant decrease in an over-all measure of depression when he combined the scores from various projective and objective tests.

Nissenfeld (1979) also attempted to replicate the results of several other investigators (Miller, 1973; Rutstein & Goldberger, 1973; Varga, 1973) who found that an aggressive message led to an increase in the level of depression. This finding had been cited as supporting the psychoanalytic notion of the centrality of an aggressive conflict in depression. According to this theory, which was first postulated by Abraham (1911) and then expanded upon by Freud in 1917(1959), unacceptable aggressive wishes are turned against the self in depressively prone individuals. Contrary to previous investigations, Nissenfeld did not find an increase in depression following the aggressive message DESTROY MOTHER. In discussing why the aggressive condition failed to yield an increase in depression in his study, Nissenfeld examined the discrepancies between his study and prior findings. Whereas, his study used a non-schizophrenic population, the effect of the aggressive condition was previously found in a schizophrenic population (Rutstein & Goldberger, 1973) and two groups of normal subjects prone to depression (Miller, 1973; Varga, 1973). Nissenfeld's findings do, however,

replicate those of Cox (1973) who also reported an absence of an effect for the aggressive condition in a non-psychotic depressed population. Cox found that only a psychotic group displayed heightened depression following an aggressive condition. Nissenfeld felt that the effect found in the two studies that used depressively-prone normals could be explained by the "priming" which was done. The priming involved reading an aggressive passage to the subjects which was intended to intensify their levels of aggressive fantasy, thus making it more accessible to subliminal stimulation. Silverman (1966) has suggested that the wish-related fantasies must be at a certain minimal level of arousal and intensity to be accessible to subliminal stimulation. Nissenfeld, therefore, posited that with schizophrenics the aggressive fantasy is at a level which is intense enough to make contact with the subliminal message, while with non-schizophrenics priming is necessary.

## DEPRESSION AND GUILT OVER AUTONOMOUS STRIVINGS

Several writers have stressed the importance of both guilt and dependence in the development and manifestations of depression (Arieti, 1962; Bemporad, 1971; Cohen, Baker, Cohen, Fromm-Reichmann & Weigart, 1954; Smith, 1971; Slipp, 1976). According to these theorists the family background of depressives foster a great sensitivity to feelings of guilt as well as a failure in achieving autonomy.

Slipp (1976), after studying families of depressives, noted that the system of interaction within each family prevented individuation. The child had severe difficulties in achieving any autonomous identity apart from the family system. Additionally, Slipp found that the family members each felt omnipotent and overly responsible for the other, but concurrently, helpless and controlled by others. Extending the theories of Klein (1950), Slipp argues that to separate from this symbiotic relationship and be autonomous is experienced by the child as losing control over hostile feelings. This consequently elicits fear of both destroying the parents as well as being destroyed. The family of the depressive is thus viewed as a symbiotic one that reinforces these omnipotent fantasies.

Bemporad (1971) also stresses the importance of omnipotent fantasies in depressives. He argues that "the theme of magically destroying the dominant other by acts of assertion is not uncommon in depressives" (p. 234). According to this viewpoint, the depressed individual

becomes dependent upon a "dominant other", an internalized, idealized parental representation, and is unable to obtain any pleasure from independent achievement. Depressives fear expressing their own autonomous wishes and feel guilty over the possibility of asserting themselves.

In terms of etiology, Bemporad states that the mother of the pre-depressive is often depressed herself and relies heavily on guilt to enforce demands for conformity to her needs. As a child, the depressive, out of guilt, accepts the blame for his mother's unhappiness and thus feels obligated to make her happy and content.

The parents of the depressive do not acknowledge their child as being a separate autonomous individual, rather, they view the child as an agent for their own needs. In this manner, the depressive learns to experience guilt over his own independent strivings. Autonomous satisfaction is denied in return for the possibility of nurturance by the dominant other. To assert one's desires is risking anxiety, guilt, and loss of love. In a similar manner, Cohen et al. (1954) posit that the mother of the depressive enjoys the dependency of her children. Since, the child had not learned how to function as a separate individual, autonomy is associated with anxiety, withdrawal of love, abandonment, and not surviving alone. This viewpoint is consistent with the theory of Sampson (1976) and his co-workers who stress the importance of unconscious guilt in human relationships. They argue that the depressive experiences unconscious guilt about wanting to become independent of early objects, especially the mother, and exercising autonomy.

Slipp (1976) argues that the parents of the depressive maintain their self-esteem by keeping their child dependent upon them. Therefore,

although the child may be given an overt message to succeed, he is also given a simultaneous, covert message to fail. If the child becomes autonomous, they lose control over him, and thus, is a threat to their self-esteem.

Smith (1971) points to the depressive's helplessness and states that it may serve a defensive function. Often depressives may deny aspects of competence because they are feeling anxious or guilt-ridden about them.

In summary, it appears that guilt over strivings toward autonomy may play an important role in depression. The depressive appears to be unable to separate from a family that fosters dependency upon them. Separation from the family may be interpreted by the depressive as an aggressive act, thus leading to feelings of guilt. Independence and feelings of competence often are denied because they elicit overwhelming guilt, anxiety, and depression.

## HYPOTHESES

Based on the above theoretical discussion, the following four hypotheses will be put forth and tested in this experimental study:

- (1) The symbiosis message MOMMY AND I ARE ONE will be gratifying, and therefore lead to a decrease in depressed effect.
- (2) The aggressive message DESTROY MOTHER will lead to an increase in the level of depressed feelings.
- (3) The "guilt alleviating" message LEAVING MOM IS O.K. will reduce guilt over independence and autonomous strivings, and therefore, lead to a decrease in depressed effect.
- (4) The "guilt inducing" message LEAVING MOM IS WRONG will lead to an increase in depressed feelings.

## METHOD

### Subjects

The subjects were 36 female undergraduate college students, who were found to be prone to depression as measured by the Depression Inventory (BDI) constructed by Beck (1967). For purposes of this study, those subjects who scored a total of ten (10) or above on the B.D.I. were used. This cut-off point has been utilized by Beck to identify depressed subjects for research purposes (Beck, 1967; Beck & Beamesderfer, 1974). An additional criteria is that all subjects were from homes in which their parents spoke to them primarily in English.

### Materials

Stimulus and Apparatus. The stimuli in this study consisted of both pictures and verbal messages. The aggressive stimuli consisted of (1) the verbal message DESTROY MOTHER and (2) a picture of a young women about to stab an older, maternal looking woman. The symbiosis stimuli consisted of (1) the verbal message MOMMY AND I ARE ONE and (2) a picture of a young woman merged at the shoulders with an older woman like Siamese twins. Two separation-related stimuli were also presented. The first, designed to increase depressed feelings, was termed the "guilt inducing" stimuli and consisted of (1) verbal message LEAVING MOM IS WRONG and (2) a picture of a frowning young woman looking away from a sad older woman. The "guilt alleviating" stimuli consisted of (1) the verbal message LEAVING MOM IS O.K. and (2) a picture of a young smiling woman looking away from an older woman, who is also

smiling. The neutral control stimuli consisted of the verbal message PEOPLE ARE TALKING and (2) a picture of two women looking at each other. In addition, three other neutral stimuli were used to assess the subjects' baseline functioning. These stimuli consisted of the following messages, all with accompanying pictures: PEOPLE ARE LOOKING; PEOPLE ARE WALKING; and PEOPLE ARE STANDING. Efforts were made to select pictures that were equivalent in terms of the shapes depicted and the amount of space occupied by the figures and accompanying verbal messages. (See Appendix F for replicas of the stimuli.)

The stimuli were shown through an electronically controlled three field tachistoscope. The viewing distance was 1.3 meters. The illumination for the blank field was 11.25 footlamberts, while the illumination for the stimulus fields was 4.5 footlamberts. The exposure speed for the tachistoscopic presentations was four milliseconds. There was four presentations of each pair of stimuli, with pictorial stimuli preceding the verbal stimuli by three seconds, and a ten-second interval between each presentation.

Measures. The Depressed Affect Check List (DACL) was used to yield dependent measures. Varga (1973) introduced a modification of this inventory which was utilized in the present study. Instead of a checklist, a 50-point scale was used on which the subjects were asked to make a mark along a continuum corresponding to their feelings at the time. The scale ranges from "Not at All" to "Extremely" and allows for a finer discrimination of moods than the standard checklist. Forms A, B, & C of the DACL, each containing 32 adjectives were used in this modified fashion, with the same form being given before and after each of

the three conditions. (See Appendix B for lists of adjectives used.)

### Procedure

Upon entering the room, each subject was given an information sheet explaining the nature of the experiment as well as a consent form which they were asked to sign. (See Appendices C & D.) Following this, the subjects were given a brief questionnaire designed to obtain information about their relationship with their mothers, current living arrangements, and family. (See Appendix B.) Next, they were given the priming, which consisted of (1) the subjects telling stories to TAT cards 7GF and 2, and (2) a memory task in which the subjects recalled a story read to them by the examiner (See Appendix E).

Following this the subjects were introduced to the tachistoscope and then given four exposures of the neutral baseline stimuli at the duration and interval noted above. The baseline DACL was then administered with the following instructions:

A number of research studies have found that if one pays attention to one's emotions, not only can one find changes in emotional states from day to day but from hour to hour and minute to minute. We would like you to try this experiment and see how often you can sense a change of feelings. You will be given these different forms of this mood scale several times during the experiment and your task is simply to place a vertical line at the point along each scale which represents the extent to which you are experiencing that particular emotion RIGHT NOW. Although only a few points along the scale are labeled, feel free to place your line at any point along the scale. How much of this feeling do you have right now?

Following the baseline measure, the critical stimuli was presented. The subjects were randomly divided into two groups of 18 subjects each. Group A received the symbiosis message MOMMY AND I ARE ONE, the guilt inducing message LEAVING MOM IS WRONG and the neutral message PEOPLE ARE TALKING. Group B subjects received the aggressive stimuli DESTROY

MOTHER, the guilt alleviating message LEAVING MOM IS O.K., and the neutral stimuli. Each condition was presented in a counterbalanced order to control for sequence effects. The experimental design was double blind, with neither the experimenter nor subject knowing which stimuli were being presented. This was accomplished by having someone other than the investigator code each of the stimuli in advance. After four pairs of flashes of the critical stimuli, the subjects were given the critical DACL. Finally, to insure against carryover effects from one subliminal condition to another, each subject was asked to tell a story to one TAT card between the critical DACL and the subsequent baseline stimuli. Card 8GF was presented between condition 1 and 2, Card 17GF was presented between conditions 2 and 3, Card 16 was presented at the end for each subject. The procedure is summarized in Table 1.

Subsequent to the above procedure, each of the subjects was given a discrimination task to determine if the subjects were able to detect any differences between the two pairs of stimuli above a chance level.

Finally, information concerning language(s) used in the home, word used for mother as a child, and thoughts about the experiment was elicited followed by a brief debriefing of all subjects. A more extensive debriefing, which included an explanation of the experiment was carried out by mail. (See Appendix G.)

TABLE 1

SUMMARY OF EXPERIMENTAL PROCEDURE

A. Information, Consent, and Brief Questionnaire

B. Priming

TAT Card 7GF

TAT Card 2

Memory Task

C. Procedure

1. 4 flashes of neutral baseline stimuli
2. baseline DACL A
3. 4 flashes of critical stimuli #1
4. critical DACL A
5. TAT Card 8GF
6. 4 flashes of neutral baseline stimuli
7. baseline DACL B
8. 4 flashes of critical stimulus #2
9. critical DACL B
10. TAT Card 17GF
11. 4 flashes of neutral baseline stimuli
12. baseline DACL C
13. 4 flashes of critical stimulus #3
14. critical DACL C
15. TAT Card 16

D. Discrimination Task

E. Debriefing

## RESULTS

The results for the two groups (A and B) will be examined separately.

### Group A

The results of this study for Group A subjects is presented in Table 2. As noted above, this group received the following three conditions: (1) Symbiosis (MOMMY AND I ARE ONE); (2) Guilt-inducing (LEAVING MOM IS WRONG); and (3) Control (PEOPLE ARE TALKING).

It was predicted that following exposure to the symbiosis condition, as compared to the control condition, subjects would show a decrease in their level of depression as measured by the modified DACL. It was also predicted that following exposure to the guilt-inducing condition, as compared to the control condition, subjects would show an increase in their level of depression on the DACL.

Change scores, consisting of the difference between the baseline and critical measures, were obtained for each condition, and a t-test for correlated groups was used to analyze the data.

As summarized in Table 2, there was a significant difference between the guilt-inducing and control conditions ( $p < .01$ ). Thus, the guilt-inducing condition was found to produce an increased in depressed affect. This significant finding was in the hypothesized direction. The symbiosis condition did not differ significantly from the control condition.

TABLE 2  
 COMPARISON OF EXPERIMENTAL AND  
 CONTROL MEAN DIFFERENCE SCORES - GROUP A

<u>Condition</u>	<u><math>\bar{X}</math></u>	<u>S.D.</u>	<u>t</u>	<u>p</u>
Symbiosis	-11.72	84.26	-.422	N.S.
Guilt-Inducing	79.44	139.89	2.85	<.01*
Control	-25.44	94.15		

\*1-tailed test

## Group B

As previously stated, Group B received the following three conditions: (1) Aggressive (DESTROY MOTHER); (2) Guilt-Alleviating (LEAVING MOM IS O.K.); and (3) Control (PEOPLE ARE TALKING). It was predicted that following exposure to the aggression condition, as compared to the control condition, subjects would show an increase in their level of depression as measured by the modified DACL. It was also predicted that following exposure to the guilt-alleviating condition, as compared to the control condition, subjects would display a decrease in their level of depression on the DACL.

Change scores were again computed and a t-test for correlated groups was utilized to analyze the data as was the case for Group A.

As summarized in Table 3, there was no significant findings. Neither the aggressive condition, nor the guilt-alleviating condition produced a changed in depressed affect on the DACL that differed significantly from the control condition.

TABLE 3  
 COMPARISON OF EXPERIMENTAL AND  
 CONTROL MEAN DIFFERENCE SCORES - GROUP B

<u>Condition</u>	<u><math>\bar{X}</math></u>	<u>S.D.</u>	<u>t</u>	<u>p</u>
Guilt-Alleviating	26.83	233.39	-.207	N.S.
Aggressive	-58.39	262.87	-1.03	N.S.
Control	12.28	116.47		

## DISCUSSION

Of the four hypotheses tested, only one received significant experimental support. As noted in the results above, the guilt-inducing message LEAVING MOM IS WRONG, produce a significant increase ( $p < .01$ ) in the level of depressed affect of the subjects tested as measured by the modified DACL. None of the remaining three conditions produced any significant change in subjects' affect when compared to the control condition.

In discussing the results of this study, we first need to analyze the discrepancy between the results of this study and previous research in this area. More precisely, how do we interpret the lack of significant findings regarding the symbiotic and aggressive conditions? Secondly, the implications of the results obtained need to be investigated. Finally, the possible directions of future research will emerge from these discussions.

Regarding the symbiotic condition, as noted above, no significant effects were found. On the surface, this finding appears to be in direct contrast to the research that preceded this current study. Under closer scrutiny, however, the discrepancies become more understandable, or at least, explainable. First of all, most of the recent studies that reported the ameliorative effect of the symbiosis message utilized repeated stimulation. That is, the subjects were repeatedly exposed to the MOMMY AND I ARE ONE message over an extended period of time, usually lasting five or six weeks. This was the case in the research with

normal college students (Parker, 1977), obese women (Martin, 1975), insect phobics (Silverman et al., 1974), and alcoholics (Schurtman, 1978).

Most relevant to this present study is the research with depressives by Nissenfeld (1979). While Nissenfeld did find a significant increase in Feelings of Well-Being, as measured by the TAT, following the presentation of the symbiotic message, he did not find any significant decreases, due to treatment effects, of experienced depression as measured by either the MAACL or the TAT. Only after combining five scores into a single measure of depression, did Nissenfeld's experiment result in a significant decrease in level of depression ( $p < .026$ ). Thus, one has to wonder whether this significant result was, in fact, an artifact of experimental manipulation. If not, then it is apparent that the effect, in a non-schizophrenic population, is so subtle that perhaps one needs a more exacting method of registering it. Perhaps non-structured, projective techniques might be more appropriate in this context, and future research should perhaps make use of them.

In terms of the empirical evidence, it appears that only schizophrenics have consistently displayed an ameliorative response to the symbiotic message when presented in a single session. In fact, only an isolated study has demonstrated pathology reduction following a single session exposure to the MOMMY AND I ARE ONE message in a non-schizophrenic population (Silverman et al., 1973).

Most relevant to the above findings is Silverman's (1972) proposal that a necessary condition for the activation of unconscious fantasies using the subliminal psychodynamic activation technique is that these

fantasies need to be at a certain level of arousal at the time of the stimulus impinges. One can easily hypothesize, therefore, that for schizophrenics the symbiotic fantasy is at a level that is quite easily stimulated by the MOMMY AND I ARE ONE message, whereas, for non-schizophrenics, the symbiotic fantasy is not so intense, and therefore, requires greater stimulation. As noted above in the literature review, this was the rationale for "priming" the subjects. It was hoped that priming the subjects for the various messages would intensify the level of unconscious fantasy or conflict that was present, thus increasing the change that a single-session stimulation would be effective. It is quite possible that the priming utilized in this study did not produce the desired effect, and perhaps future research should explore the effects of various kinds of priming. Priming that specifically stressed the symbiotic fantasy, rather than all four messages concurrently might possibly be more helpful in producing the hypothesized mood enhancing consequence of the MOMMY AND I ARE ONE message.

Another possibility for the failure of the study's results to parallel the adaptation - enhancing consequences of activating symbiotic fantasies found in other investigations was suggested by Nissenfeld (1979). Silverman (1978) hypothesized that the ameliorative effects for the symbiotic message would only be found if the message contains the "good" object with whom one wishes to share a sense of oneness. In a study using female schizophrenics, Cohen (1977) found that whereas, the MOMMY AND I ARE ONE stimulus did not reduce pathology, a DADDY AND I ARE ONE stimulus did. This finding appeared to support Lidz's (1973) observation that most female schizophrenics turn from mother to father

as the symbiotic object. Several authors have stressed the importance of the father as love-object for the female depressive (e.g., Spiegel, 1972); Nissenfeld (1979), in a post-hoc analysis of his data, found significant correlations between the subjects' relationship with both their parents and response to the symbiosis message, suggesting that specific subgroups of subjects might respond in a different manner to the symbiosis message. Thus, it might be fruitful for future research to include both a MOMMY AND I ARE ONE message and a DADDY AND I ARE ONE message allowing for more precise data.

Turning to the aggressive condition, it was found that the message DESTROY MOTHER did not produce an increase in depressive affect as was hypothesized. Again, this result appears to be in conflict with much of the previous research, although, the findings in the literature were not as consistent as were the symbiotic studies reported above. Thus, while Miller (1973), Varga (1973), and Rutstein & Goldberger (1973) reported significant increases in depression following the presentation of the aggressive stimulus, Nissenfeld (1979) reported an absence of significant change. The discrepancies between these studies appeared to be the result of differences in methodology and populations. That is, in a non-psychotic population, "priming" appears to be necessary for the wish-related fantasy to be at a level that allows it to become accessible to subliminal stimulation. Thus, in the case of the aggressive wish, it seems that only in psychotic patients is this wish intense enough. In non-psychotic populations, it becomes necessary to "prime" them for aggression. Cox's (1973) study demonstrated this in that a psychotic group showed an increase in depression following the

aggressive condition, whereas, a non-psychotic group did not. In fact, Rutstein and Goldberger's (1973) study, both suicidal and non-suicidal schizophrenics showed increased depression following the presentation of the aggressive stimulus. Thus, although aggression may, in fact, be central in depression, it appears that it might be even more crucial in schizophrenia.

The two studies that most closely resembled the present one were those of Miller (1973) and Varga (1973). Both these researchers utilized a similar population as the present one (depressively-prone college students) and both also incorporated "priming" in their methodology. Unlike the current investigation, however, both of these studies found that the aggressive condition led to an increase in their subjects' level of depression. The question, therefore, now becomes: What differences in the experimental methods could possibly contribute to the discrepancies between the results of Miller's (1973) and Varga's (1973) studies, on the one hand, and the present one, on the other?

Careful scrutiny of these studies reveals four salient methodological differences. The present study and those of Miller (1973) and Varga (1973) can be distinguished in terms of (1) subject population; (2) experimental procedure; (3) stimuli; and (4) priming. We will now view each of these, and assay their possible contribution to the contrariety in results.

As noted above, the subjects in this study were female undergraduates who scored a ten or above on the Beck Depression Inventory. Both Miller (1973) and Varga (1973) used both males and females as subjects. Furthermore, each of these experimenters had additional criteria for

aggressive condition, whereas, a non-psychotic group did not. In fact, Rutstein and Goldberger's (1973) study, both suicidal and non-suicidal schizophrenics showed increased depression following the presentation of the aggressive stimulus. Thus, although aggression may, in fact, be central in depression, it appears that it might be even more crucial in schizophrenia.

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As noted above, the subjects in this study were female undergraduates who scored a ten or above on the Beck Depression Inventory. Both Miller (1973) and Varga (1973) used both males and females as subjects. Furthermore, each of these experimenters had additional criteria for

subject selection that varied greatly from the study at hand. Miller's (1973) subjects all had lost parents during their childhood or adolescence, while Varga's (1973) subjects, in addition to being prone to depression, also showed a predisposition to the use of hypomanic denial. Thus, despite the similarity in the use of non-psychiatric college students, the studies certainly display a departure in subject selection that may well account for a divergence in results. Indeed, one might posit that for both Miller's (1973 and Varga's (1973) subjects the aggressive wish was more intense, and therefore, more easily activated by subliminal stimulation. It is hopeful that future research can investigate this possibility.

As for the experimental procedure, we again find a marked variation between this study on the one hand, and Miller's (1973) and Varga's (1973) on the other. Whereas, in the present experiment all subjects were exposed to three conditions, in the other studies, the subjects were each only exposed to a single condition. Although Silverman (1978) has remarked that the effects are quite fleeting, with a rapid return of mood to baseline level following subliminal stimulation, it is still quite possible that carryover effects do occur. If this is the case, then viewing three subliminal messages in a single session may partially obscure the effects of any individual one. An inspection of the data, however, give some suggestion that this was not the case. If the lack of a significant effect for the aggressive stimulus could be explained by the fact that the subjects each viewed three messages in a single session, then we would at least expect that the aggressive stimulus would produce increased depression in those subjects who had this

stimulus as their initial one. In that the orders for the presentation of the conditions were completely counterbalanced, six of the subjects viewed the aggressive stimulus first. Taken as a group, these subjects did not display an increase in depressed mood following the aggressive condition. Thus, initial indications are that differences in terms of the number of conditions per subject cannot explain the lack of effect. This finding, however, is extremely tentative and future research should examine this more rigorously.

The third point of divergence between the studies mentioned and the present one is in the stimuli used. In this experiment the stimulus for the aggressive condition was DESTROY MOTHER with an accompanying picture. The same stimulus was used by both Rutstein and Goldberger (1973) and Nissenfeld (1979). Varga (1973) utilized the same picture, but with a slightly different message: STAB MOTHER. Miller (1973) presented her subjects with a quite different aggressive stimulus. Male subjects were exposed to the message LION DESTROYS MAN, while female subjects were shown LION DESTROYS WOMAN. Certainly, the exact wording of the subliminal message can have a significant effect, as Bronstein (1976) and others have shown. It is quite unclear, however, to what extent differences in the wording of the aggressive message affected the result. Future research should perhaps attempt to determine whether differences in these aggressive messages can produce any differences in effects.

The fourth, and final, distinction appears to be in the "priming" used. As explained previously, priming was deemed necessary, in that for the relatively normal population used in this study, the various

fantasies and ideation tested would not be at a sufficiently intense level to render them accessible to the subliminal stimulation. The priming that Miller (1973) and Varga (1973) utilized in their studies was dissimilar from that used in the present study on two major counts: (1) the situation depicted; and (2) what actually was primed.

The memory task used for the priming in the present investigation depicted a scene involving the discussion four girls had about how their relationship with their mothers affected their first year at college (see Appendix E). The priming in the previous two studies, on the other hand, concerned the death of three children's mother. Secondly, in the current study what was primed was the four messages on the stimulus cards. In the earlier studies, what actually was primed was three possible reactions to the death of one's mother; rage, grief, and denial.

It seems quite possible that these differences in priming might have contributed to the discrepant results. Clearly, the priming utilized in Miller's (1973) and Varga's (1973) studies was more powerful and descriptive. A death scene, very likely, might have a greater impact on aggressive and depressive feelings than one of temporary separation. Certainly, future research should investigate the effects of varying the type of priming. It is quite reasonable to hypothesize that the priming used may interact with the stimuli.

We shall now turn to the two messages related to separation and autonomy; the guilt-inducing message and the guilt-alleviating message. To recapitulate, it was found that the guilt-inducing message, LEAVING MOM IS WRONG produced a significant increase in reported depression ( $p < .01$ ). The guilt-alleviating message, LEAVING MOM IS O.K., did not

result in a decrease in depressed affect as hypothesized.

The finding that the guilt-inducing message resulted in a significant increase in depression supports those writers who stress the importance of both guilt and dependence in depression (Arieti, 1962; Bemporad, 1971; Cohen et al., 1954; Smith, 1971; Slipp, 1976). The depressed individual appears to be one that is extremely sensitive to feelings of guilt, especially in connection to autonomous strivings. Several theorists have postulated that the families of depressives foster feelings of omnipotence (Bemporad, 1971; Slipp, 1976). The omnipotent fantasies of the depressive often are so powerful that any strivings for independence are interpreted by them to be an aggressive act. Consequently, the depressive feels more guilty, and subsequently, more depressed. From the above explanation, we would expect that those individuals whose omnipotent fantasies are most prevalent would manifest the most depression following the guilt-inducing message. Unfortunately, the present data does not allow for the testing of this hypothesis and therefore, future research should explore this.

One final point needs to be mentioned in discussing the guilt-inducing message. While it was found that LEAVING MOM IS WRONG did increase depression, this study does not allow us to specify that it was guilt over separation from the mother that resulted in this increase. In other words, other guilt-inducing messages that include the idea of doing something wrong need to be tested against the one used in this study. In this way, we can more precisely specify the exact nature of the guilt in the depressed individual.

Now, let us turn to the guilt-alleviating message, LEAVING MOM IS

O.K. The hypothesis that this message would reduce guilt over separation, and subsequently depression, clearly received no support. Several possible explanations for this result easily emerge, especially when we compare this message to the opposite message LEAVING MOM IS WRONG, which it closely resembles in its linguistic structure.

The first, and simplest explanation was suggested by Sampson (Note 1). From his clinical observations, Sampson found that it was much easier to intensify guilt in depressives than to relieve them of guilt feelings. Thus, we can presume that in this experiment the same holds true. In this manner, LEAVING MOM IS WRONG can be seen as a much more powerful unconscious message than LEAVING MOM IS O.K. Furthermore, the word WRONG appears to be a much more powerful word than O.K.<sup>1</sup>, and therefore, we can presuppose that it would produce a greater effect. Perhaps future research should explore the effects of different messages that imply the same as LEAVING MOM IS O.K.

Sampson (Note 1) makes another point that may be relevant here. In the therapy situation, he argues, an interpretation is more powerful when a false belief is exposed than if the therapist would merely grant permission. With regard to the circumstances at hand, the therapist would most likely state something similar to the following: "You seem to feel that leaving your mother is wrong - that somehow, it will hurt her terribly." He would not, according to Sampson, merely grant

<sup>1</sup>I sampled ten people, all of whom agreed with this. Using a binomial test, 10 of 10 agreements is statistically significant ( $p < .01$ ) On a scale ranging from (1) least powerful to (5) most powerful, WRONG rated a mean of 3.8 and O.K. a 1.85.

permission by stating "it's alright to leave your mother" or something to this effect. This latter statement would be implied by the former, and according to Sampson, more powerfully communicated in the interpersonal relationship between therapist and patient. Sampson argues that merely granting permission would not be a very effective therapeutic intervention. In this light, the message LEAVING MOM IS O.K. may not have been powerful enough to overcome the intense unconscious guilt experienced by the subjects in this study.

Another quite plausible explanation is that the message LEAVING MOM IS O.K. may be a double, conflictual message. This message, implies a separation from a love object, which certainly could lead to depression. The significance of separation and loss in depression has been stressed by many writers (Cohen et al., 1954; Jacobson, 1954; 1964; Sptiz, 1946). Indeed, Smith (1971) argues that denial of loss is crucial in depression. Autonomy implies the inevitability of loss, and therefore, "individualization into a world of . . . separate others is deferred in favor of a world limited to parents-ultimately mother." Perhaps, then, the O.K. part of the subliminal message was not powerful enough to counteract the effects of LEAVING MOM.

It is also quite possible that the message LEAVING MOM IS O.K. produced divergent results for different sub-groups of the population. We may hypothesize that for the more autonomous and differentiated subjects this subliminal message may indeed have decreased depression, whereas, for those who display a low level of self-object differentiation, the message may have produced an increase in depressed feelings. Thus, this hypothesis may be correct for a certain subgroup of the

population studied. Further research should explore this issue, perhaps by comparing a group of high-differentiated subjects with a group of low-differentiated subjects matched on level of depression.

Finally, it may be fruitful to assay the possible relationship between the messages MOMMY AND I ARE ONE and LEAVING MOM IS O.K. Silverman (1978) suggest several possible functions that the symbiotic fantasy serves which might account for its ameliorative power it is assumed to have. Two of these functions appear to be most relevant here: (1) the insurance against object loss; and (2) the dissipation of guilt for real and imagined hurts inflicted upon her. Thus, if MOMMY AND I ARE ONE, separation from her is no longer threatening and she cannot hurt or be destroyed by this act or any other "aggressive" wish. It was hypothesized that the message LEAVING MOM IS O.K. might also serve these functions, however, this did not prove to be the case. Perhaps each of these messages work best with certain subgroups, and future research should try to specify these relationships more clearly. It is quite possible that a message that combines these two would be most effective. The message MOMMY AND I ARE TWO (Silverman, Note 2) which seem to imply separation without harm; togetherness without merger, may prove to be quite ameliorative. Further research is certainly a necessity in this important and stimulating area of investigation.

In sum, four wish-related subliminal messages based on different viewpoints were tested to determine their possible effect on depressed affect in college females. Of the four, only one, a message that concerned itself with guilt over separation received any experimental support. This message LEAVING MOM IS WRONG produce a significant

increase in depression in the population tested. Several explanations were proposed for this result as well as for the discrepancies between this study and previous investigations. Several avenues for future research were suggested that hopefully will allow for more precision in this area of investigation.

## References Notes

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2. Silverman, L. H. Personal communication, June, 1979.

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APPENDIX A

TABLE 4

## BASELINE AND CRITICAL DATA - GROUP A

<u>Condition</u>	<u>Mean</u>	<u>S.D.</u>
Symbiosis		
Baseline	505.44	208.54
Critical	493.72	235.00
Guilt-Inducing		
Baseline	432.28	230.33
Critical	511.94	269.19
Control		
Baseline	463.89	256.99
Critical	438.39	278.79

TABLE 5  
 BASELINE AND CRITICAL DATA - GROUP B

<u>Condition</u>	<u>Mean</u>	<u>S.D.</u>
Guilt-Alleviation		
Baseline	545.11	227.15
Critical	572.06	262.71
Aggressive		
Baseline	575.94	256.21
Critical	517.55	241.40
Control		
Baseline	548.83	271.45
Critical	561.11	271.15

APPENDIX B

On this questionnaire are groups of statements. Please read the entire group of statements in each category. Then pick out the one statement in that group which best described the way you feel today, that is, right now! Circle the letter on the answer sheet that corresponds to the statement you have chosen. If several statements in the group seem to apply equally well, circle each one.

1. a. I do not feel sad  
b. I feel sad or blue  
c. I am blue or sad all the time and I can't snap out of it  
d. I am so sad or unhappy that I can't stand it
2. a. I am not particularly pessimistic or discouraged about the future  
b. I feel discouraged about the future  
c. I feel I have nothing to look forward to  
d. I feel that the future is hopeless and that things cannot improve
3. a. I do not feel like a failure  
b. I feel I have failed more than the average person  
c. As I look back on my life, all I can see is a lot of failures  
d. I feel I am a complete failure as a person (parent, husband, wife)
4. a. I am not particularly dissatisfied  
b. I don't enjoy things the way I used to  
c. I don't get satisfaction out of anything anymore  
d. I am dissatisfied with everything
5. a. I don't feel particularly guilty  
b. I feel bad or unworthy a good part of the time  
c. I feel quite guilty  
d. I feel as though I am very bad or worthless
6. a. I don't feel I am being punished  
b. I have a feeling that something bad may happen to me  
c. I feel I am being punished or will be punished  
d. I feel I deserve to be punished
7. a. I don't feel disappointed in myself  
b. I am disappointed in myself  
c. I am disgusted with myself  
d. I hate myself
8. a. I don't feel I am any worse than anybody else  
b. I am critical of myself for my weaknesses or mistakes  
c. I blame myself for my faults  
d. I blame myself for everything bad that happens
9. a. I don't have any thoughts of harming myself  
b. I feel I would be better off dead  
c. I have definite plans about committing suicide  
d. I would kill myself if I had the chance

10.
  - a. I don't cry any more than usual
  - b. I cry more now than I used to
  - c. I cry all the time now. I can't stop it
  - d. I used to be able to cry but no I can't cry at all even though I want to
  
11.
  - a. I am no more irritated now than I ever am
  - b. I get annoyed or irritated more easily than I used to
  - c. I feel irritated all the time
  - d. I don't get irritated at all at the things that used to irritate me
  
12.
  - a. I have not lost interest in other people
  - b. I am less interested in other people than I used to be
  - c. I have lost most of my interest in other people and have little feeling for them
  - d. I have lost all of my interest in other people and don't care about them at all
  
13.
  - a. I make decisions about as well as ever
  - b. I try to put off making decisions
  - c. I have great difficulty in making decisions
  - d. I can't make any decisions at all anymore
  
14.
  - a. I don't feel I look any worse than I used to
  - b. I am worried that I am looking old or unattractive
  - c. I feel that there are permanent changes in my appearance and they make me look unattractive
  - d. I feel that I am ugly or repulsive looking
  
15.
  - a. I can work about as well as before
  - b. It takes extra effort to get started at doing something
  - c. I have to push myself very hard to do anything
  - d. I can't do any work at all
  
16.
  - a. I can sleep as well as usual
  - b. I wake up more tired in the morning that I used to
  - c. I wake up 1-2 hours earlier than usual and find it hard to get back to sleep
  
17.
  - a. I don't get any more tired than usual
  - b. I get tired more easily than I used to
  - c. I get tired from doing anything
  - d. I get too tired to do anything
  
18.
  - a. My appetite is no worse than usual
  - b. My appetite is not as good as it used to be
  - c. My appetite is much worse now
  - d. I have no appetite at all anymore

19.
  - a. I haven't lost much weight, if any, lately
  - b. I have lost more than 5 pounds
  - c. I have lost more than 10 pounds
  - d. I have lost more than 15 pounds
  
20.
  - a. I am no more concerned about my health than usual
  - b. I am concerned about aches and pains or upset stomach or constipation
  - c. I am so concerned with how I feel or what I feel that it's hard to think of much else
  - d. I am completely absorbed in what I feel
  
21.
  - a. I have not noticed any recent change in my interest in sex
  - b. I am less interested in sex than I used to be
  - c. I am much less interested in sex now
  - d. I have lost interest in sex completely

ADJECTIVES USED FOR MOOD SCALE A

Wilted

Safe

Miserable

Gloomy

Dull

Gay

Low-spirited

Sad

Unwanted

Fine

Broken-hearted

Down-cast

Enthusiastic

Failure

Afflicted

Active

Strong

Tortured

Listless

Sunny

Destroyed

Wretched

ADJECTIVES USED FOR MOOD SCALE A

Broken

Light-hearted

Criticized

Grieved

Dreamy

Hopeless

Oppressed

Joyous

Weary

Droopy

ADJECTIVES USED FOR MOOD SCALE B

Downhearted

Lively

Unfeeling

Alone

Unhappy

Alive

Terrible

Poor

Forlorn

Alert

Exhausted

Heartsick

Bright

Glum

Desolate

Composed

Clean

Dispirited

Moody

Pleased

Dead

Sorrowful

ADJECTIVES USED FOR MOOD SCALE B

Bleak

Light

Morbid

Heavy-hearted

Easy-going

Gray

Melancholy

Hopeful

Mashed

Unlucky

ADJECTIVES USED FOR MOOD SCALE C

Cheerless

Animated

Blue

Lost

Dejected

Healthy

Discouraged

Bad

Despondent

Free

Despairing

Uneasy

Peaceful

Grim

Distressed

Whole

Buoyant

Tormented

Weak

Optimistic

Low

Deserted

ADJECTIVES USED FOR MOOD SCALE C

Burdened

Wonderful

Crushed

Somber

Interested

Joyless

Crestfallen

Lucky

Chained

Pessimistic

Name \_\_\_\_\_ Age \_\_\_\_\_

Address \_\_\_\_\_

Year at school \_\_\_\_\_ G.P.A. \_\_\_\_\_

Marital Status \_\_\_\_\_ Children? \_\_\_\_\_

Living Arrangements

Live at home \_\_\_\_\_ Other members of household \_\_\_\_\_

Do you plan to move to an apartment or dorm? \_\_\_\_\_ When? \_\_\_\_\_

Live in dorm \_\_\_\_\_ Live in apartment \_\_\_\_\_

If living in an apartment or dorm, when did you leave home? \_\_\_\_\_

Family

Mother - Living (yes or no) \_\_\_\_\_ Occupation \_\_\_\_\_

Father - Living (yes or no) \_\_\_\_\_ Occupation \_\_\_\_\_

Are you parents living together? \_\_\_\_\_

Siblings -(sex and age) \_\_\_\_\_

by circling the appropriate letter please indicate to what extent you agree or disagree with the statements below.

- a) strongly agree
- b) agree
- c) neither agree nor disagree
- d) disagree
- e) strongly disagree

1. I am close to my mother.  
a b c d e
2. I have a conflict-free relationship with my mother.  
a b c d e
3. I was closer to my mother as a child.  
a b c d e
4. I would describe my current relationship with my mother as pleasurable.  
a b c d e
5. During my childhood, my relationship with my mother was pleasurable.  
a b c d e
6. My mother has a strong influence on my life.  
a b c d e
7. I am more independent than most people.  
a b c d e
8. I am prone to feel guilty about things more than most people.  
a b c d e

APPENDIX C

## Information about Experiment "SILVER"

There are many things which affect our moods and feelings. One important group of factors, we believe, are faint or indistinct experiences that people have. By experimentally studying this group of factors we hope to better understand what underlies the way we feel at any given time.

If you decide to participate in this study you will be asked at different points in time to indicate the degree to which you are experiencing different feelings. You will also be asked to answer some questions, perform a memory task, make up short stories, and look at flashes of light that will be words and pictures very quickly exposed. From past experience with these and similar procedures we expect no ill effect to you. Typically, the effect of these words and pictures is very fleeting. From this study we hope to learn a great deal about our emotions which should be useful in helping people in various ways.

You do not have to participate in this study, and if you do agree to participate you can still change your mind at any time and withdraw from the study. Your decision will in no way be held against you. This is simply a research study. All information will remain strictly confidential. Upon completion of this study the exact messages you received as well as the results of the experiment will be provided to each of you.

APPENDIX D



APPENDIX E

## STORY FOR STORY RECALL

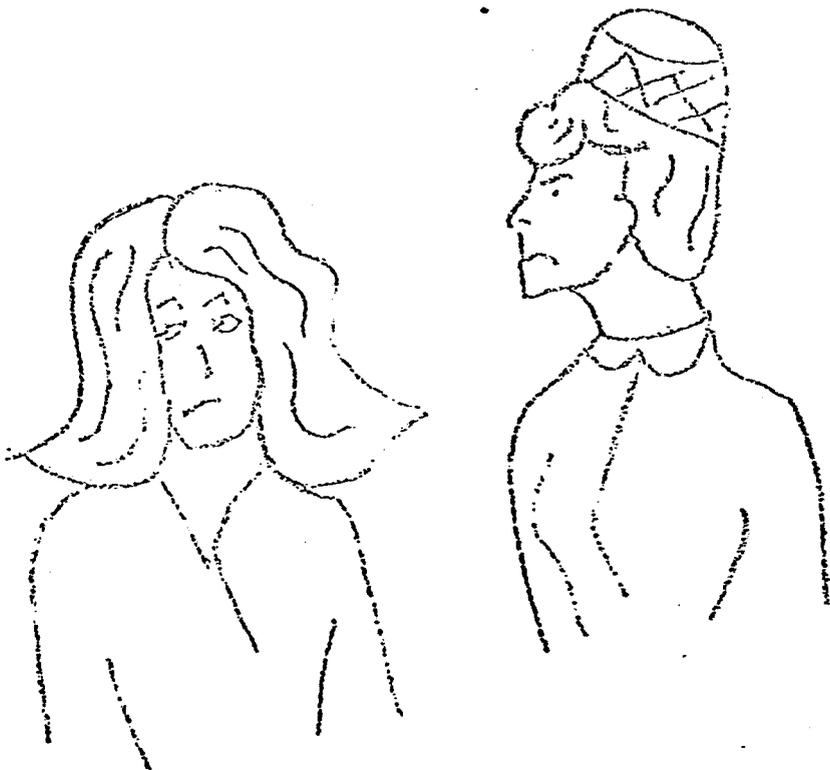
Following their first year at school, four friends were discussing how their relationship with their mother affected the past year. Elaine went to college in California and had a great year. She got all A's and made many good friends. She felt that her mother was very supportive of her new independence which gave her the encouragement she needed. Sally also went far away to school, but she did quite poorly. She felt pretty depressed the whole year and was constantly worried about her mother, who seemed very hurt by her decision to be that far away from home. She is thinking of moving back home since her mother has been feeling pretty badly lately. Nancy lived at home during the past year and attended a local university. Staying at home made her mother and her closer than ever. They did many things together and they both were quite happy. Her mother was always there when she needed her which helped quite a bit. Alice went East to college, but because of pressure from her mother, moved back home and attended a community college for the second semester. Leaving her first school and new friends made her very angry and upset. Since being home, she has fought often with her mother and doesn't know how much longer she can stay at home.

APPENDIX F

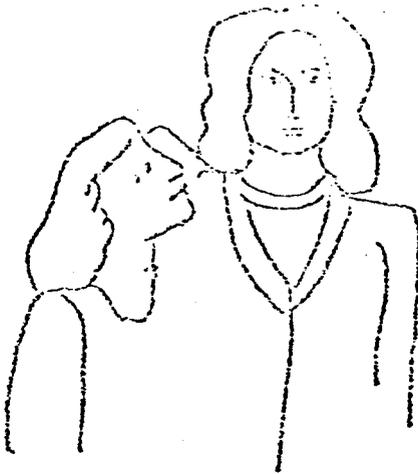
LEAVING MOM  
IS O.K.



LEAVING MOM  
IS WRONG

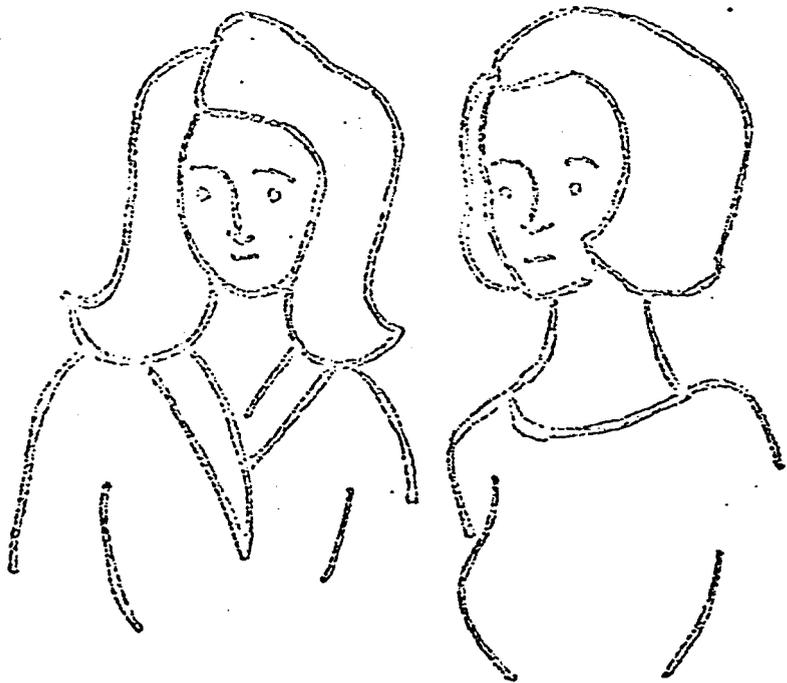


MOMMY AND I  
ARE ONE

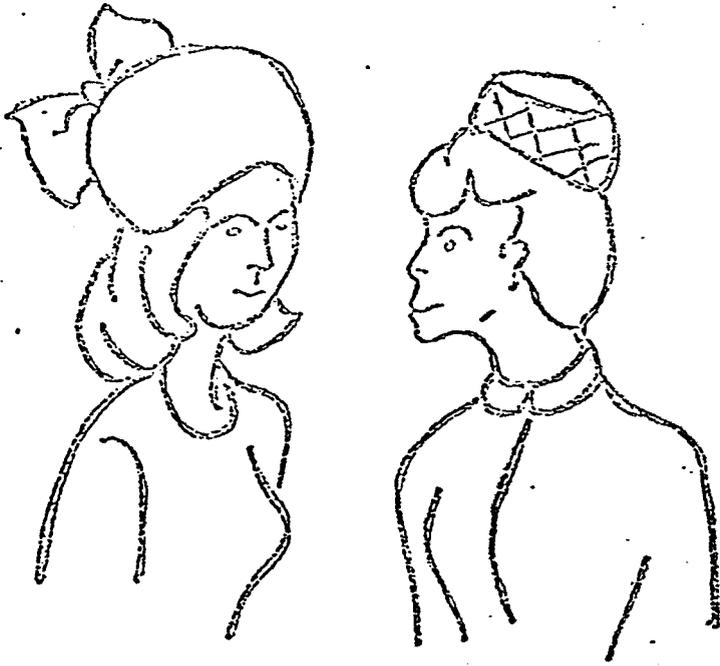




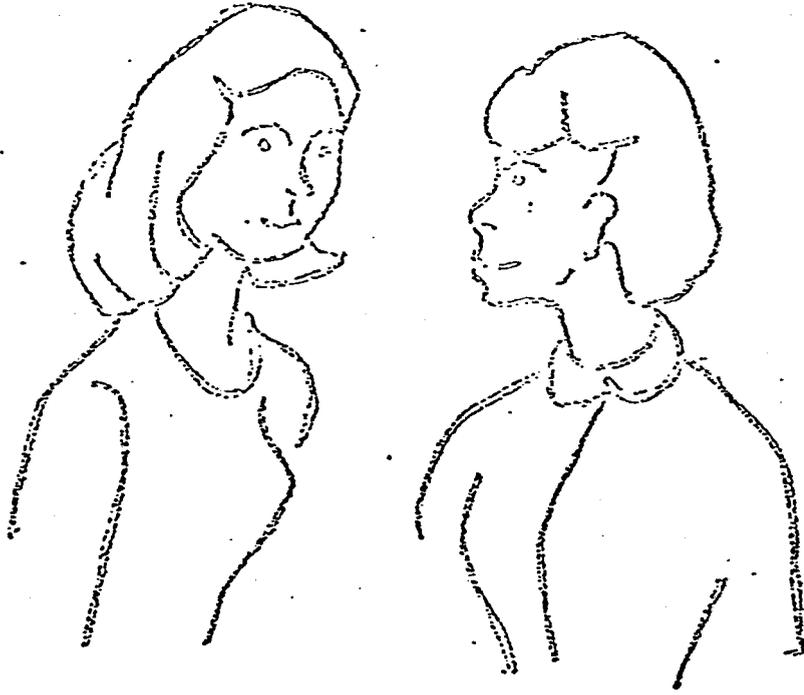
DESTROY  
MOTHER



PEOPLE ARE  
LOOKING

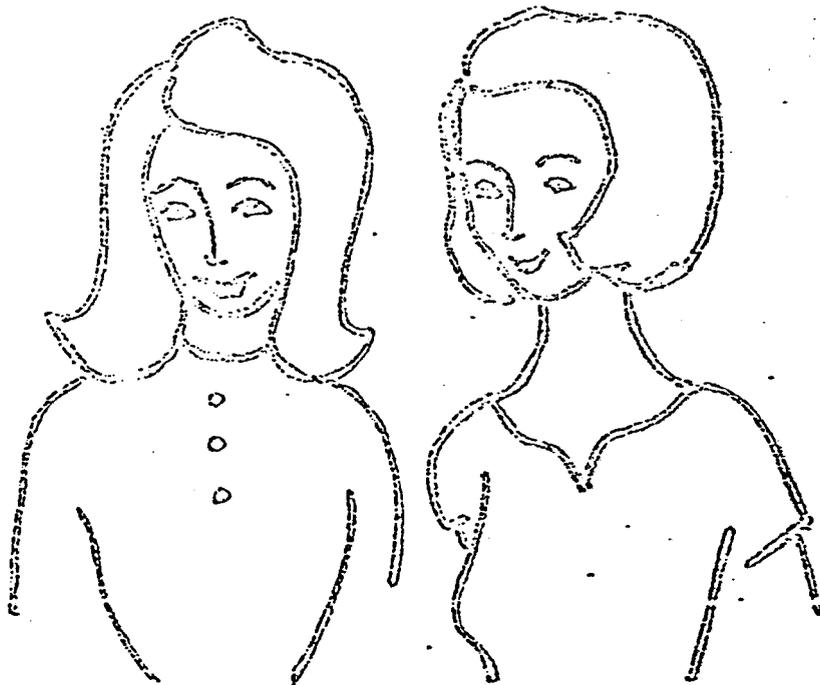


PEOPLE ARE  
TALKING



PEOPLE ARE  
STANDING

PEOPLE ARE  
WALKING



APPENDIX G

## DEBRIEFING FOR STUDENTS WHO PARTICIPATED IN EXPERIMENT "SILVER"

I would first like to apologize for the delay in mailing to you the explanation and results for experiment "Silver" which you participated in last spring. Unfortunately, I only recently completed all the work involved in this study.

As I indicated to you when I introduced the study, we were interested in testing whether our moods could be affected by subliminal stimulation. The messages and pictures you were shown subliminally were designed to arouse certain unconscious motivations within you which, it was hypothesized, would affect your emotions for a brief period to time. These messages were based upon certain psychoanalytic propositions.

Previous studies at other universities have used this technique to investigate many diverse areas of interest. Several of these studies looked specifically at mood change and therefore, part of this experiment was an attempt to replicate the findings of these prior experiments. It was found in this previous research that one stimulus when subliminally presented led to an increase in depressed mood, while another stimulus led to a increase in feelings of well-being. These were an aggressive stimulus and a symbiosis stimulus, respectively (each stimulus consisted of a verbal message and an accompanying picture). In addition to these two messages, we were interested in whether two other stimuli would produce changes in mood. We felt that a guilt-inducing message would increase depressed mood, while a guilt-alleviating message would increase feelings of well-being.

Thus, it was hypothesized that the aggressive and guilt-inducing messages would increase depressed feelings. While the symbiotic and guilt-alleviating messages would increase feelings of well-being. Of these four hypotheses, only one had a significant effect. It was found that the guilt-inducing message increased depressed mood.

As for the \$5 award for the best performance in the discrimination task (telling apart the different stimuli when flashed on the tachistoscope) it goes to CONNIE MUI, who received a check along with this debriefing material.

Finally, let me note that it has been our experience with experiments of this sort that for the overwhelming majority of subjects, the effects of the subliminal stimulation last but for a few minutes and then wear away. If you feel, however, that this was not the case with you, and there was a lingering effect, please feel free to contact me. I am also available if you have any further questions about any aspect of the experiment. I can be reached during the day at the Loyola University Counseling Center 274-3000 Ext. 431.

Thank you very much for your participation in this experiment.

Sincerely,

Richard B. Dauber  
Dept. of Psychology  
Loyola University

October 1, 1979

APPROVAL SHEET

The thesis submitted by Richard B. Dauber has been read and approved by the following committee:

Dr. Mark S. Mayzner  
Professor, Psychology, Loyola

Dr. Alan S. DeWolfe  
Professor, Psychology, Loyola

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

Nov. 28 1979  
Date

Mark S. Mayzner  
Director's Signature