# HAPPINESS AND AFFILIATION

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This is to certify that the

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Richard H. Gatley

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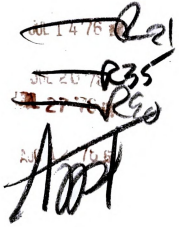
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ABSTRACT

HAPPINESS AND AFFILIATION

By

Richard H. Gatley

Previous research having shown that people affiliate in response to various forms of stress, the present study explored the proposition that people will also prefer to affiliate if they are made to feel happy.

A colorful motion picture about the sport of surfing was shown to 199 undergraduates in the experimental group to produce a mood of well-being or happiness. These subjects were then compared to 183 control subjects on three measures of happiness and affiliation: the Mood Adjective Checklist - Happiness (MACL-H), a 14-item measure of happiness; the IF Scale, a 50-item questionnaire developed as a measure of affiliation; and a Sign Up Sheet, offering subjects a choice among three fictitious "studies" which vary in affiliative potential. Birth order data were provided by subjects on a Cover Sheet.

Experimental subjects were happier, but they were also less, rather than more, affiliative than controls.

Sex differences in response to the film accounted for the apparent contradiction. Males were happier as a result of viewing the film, but were no more affiliative than controls. On the other hand, the film did not generate a happier mood in females, but had the unpredicted effect of making them less affiliative than controls.

Additional hypotheses suggested by previous research received little support. Happiness and affiliation were found positively related only for females under control conditions. Birth order, whether defined as an early-late dichotomy, or in the more refined terms of absolute ordinal position, proved essentially unrelated to happiness and affiliation, save that under control conditions, early-born females were more affiliative than those born later, a finding consistent with earlier studies. Birth order and the conditions of the study also interacted to affect happiness, but only in males.

By far the most consistent finding in this study was that males and females differ in how happy and gregarious they are. Under fairly normal circumstances females were both happier and more affiliative than males. Females also signed up to participate in at least one of the Sign Up Sheet studies more frequently than male subjects.

Because of the sex differences in happiness and affiliation, single factor explanations based on the notion that the film was not powerful enough, or conversely that

it provided an overabundance of affiliative cues, did not satisfactorily account for the results. The importance of sex as a variable in future studies of happiness and affiliation is clear, while further attention to birth order seems unnecessary, except as it bears on mood variability. Improvements in the MACL-H and IF Scale are recommended, although both measures proved reliable and had some validity in the study. The Sign Up Sheet, which proved insensitive as a measure of "participation affiliation," could be better replaced with a projective measure, or ideally, by observation of actual affiliative behavior.

# HAPPINESS AND AFFILIATION

By

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To Fran, with love.

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# CHAPTER I

## INTRODUCTION

That people wish to associate with one another is a common enough observation. After all, gregariousness is one of man's principal distinctive features. It is curious then, that psychologists have paid so little attention to this phenomenon. Only within the last ten years or so has any real research interest been directed toward understanding why people wish to be with others.

The pioneering work of Stanley Schachter (1959) is primarily responsible for the current interest in studying affiliation experimentally, and it has set the pattern for most of the studies undertaken in the last decade. Studies of individual differences in need or motivation for affiliation have a somewhat longer history than experimental studies, since Murray (1938) drew attention to affiliation as an important human need. Systems of scoring thematic apperception stories for need affiliation predate Schachter's work by some seven years (Shipley & Veroff, 1952). Experimental research is more important to the present study, however, because it deals more directly

with discovering the conditions and variables which affect affiliation.

The principal finding in the line of research initiated by Schachter is that people prefer to affiliate with others when they are made anxious or fearful. Researchers have offered a variety of theories to explain this phenomenon. Schachter considered a number of possibilities, but settled on two.

One hypothesis is that frightened or anxious individuals prefer to be with others in order to reduce their fear or anxiety (Schachter, 1959). A second hypothesis extends Festinger's theory of social comparison processes (Festinger, 1954), and suggests that anxious individuals need to be with others so that they can evaluate their feelings by comparing them to those experienced by other people.

> Just as one compares himself to other people as a means of establishing a framework and social reality for his opinions, so one may use other people to evaluate his emotions and feelings. In a novel, emotion-producing situation, unless the situation is completely clear-cut the feelings one experiences or "should" experience may not be easily interpretable, and it may require some degree of social interaction and comparison to appropriately label and identify a feeling (Schachter, 1959, p. 26).

Other investigators have generally followed Schachter's hypotheses, either accepting or rejecting them. A few have proposed alternative views. Helmreich and Collins (1967) recently suggested that affiliation under

stress is produced by a dependency motivation mechanism rather than, or at least in addition to, social comparison and direct anxiety reduction motives. On the other hand, Miller and Zimbardo (1966) state that when people are frightened, their self esteem is threatened, and as a consequence they need the "approval, support and acceptance of others . . . in order to raise self-esteem" (p. 482). Neither of these alternative theories seem to have supplanted those proposed by Schachter.

Although Schachter himself toyed with a general theory of affiliation based on the notion of drive states, after finding that hungry subjects prefer to affiliate more than satiated ones (Schachter, 1959, pp. 90-102), he did not pursue it further with respect to affiliation.

## The Problem

The intent of experimental research on affiliation has been to determine under what conditions people prefer to be with others. One might think of a number of conditions which could have an effect on affiliative behavior. Yet, affiliation has been studied almost exclusively under one or another form of stress. That this is so fits readily into the "consistent, disproportionate emphasis upon unpleasant feelings" to be found in psychology since the turn of the century (Carlson, 1966). Nonetheless, as far as research can tell us, it appears that people affiliate out

of fear, anxiety, and hunger. This conclusion is intuitively unsatisfying. Surely, some positive emotions or needs lead people to prefer the company of others. To suggest one, people might prefer being with others when they are feeling happy.

Schachter himself pointed out that ". . . though we have investigated only the effects of states of psychological disturbance on affiliative behavior, it would not be too surprising eventually to discover that the affiliative tendency also increases with joy" (Schachter, 1959, p. 102).

Although studies of joy or happiness are only too rare in psychology, a recent review of studies of the "correlates of avowed happiness" (Wilson, 1967) reported that the "most impressive single finding" in the research literature was the positive relation between happiness and successful involvement with people. From a correlational viewpoint then, there seems to be consistent support for the notion that gregariousness is linked with happiness. The relationship is often interpreted either explicitly or implicitly to mean that people are happy because they are actively in contact with others. Since all of the relevant studies cited by Wilson (1967) are correlational in nature, they might as easily be interpreted conversely as indicating that people tend to affiliate with others because they are happy.

The present study proposes to investigate the last proposition empirically, by manipulating the well-being of individuals to make them happier, and studying this effect on their preferences for being with others. Stated in the form of a general hypothesis, the thesis which this study examines is that people who are made to feel happy will have higher preferences for affiliation at that moment than people who are not.

# CHAPTER II

## REVIEW OF THE LITERATURE

Affiliation studies will be covered more extensively than the literature on happiness, recently reviewed by Wilson (1967).

### Affiliation

There have been two main lines of inquiry concerned with affiliation: those measuring affiliation motivation, and those studying the conditions under which experimental subjects choose or prefer affiliation. The latter will be taken up first. A summary of experimental studies of affiliation is presented in Table 1, and affiliation studies reporting correlational findings are summarized in Table 2. Experimental and correlational approaches correspond to the two principle lines of inquiry, and the consequent divisions of the review, but some overlap is reflected in the tables.[1]

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[1]Table 1 includes both studies of conditions and variables affecting affiliation and validation studies of affiliation motivation; it also reports findings on birth order, a correlational variable. Table 2 includes correlational findings reported by experimental investigators as well as correlates of affiliative motives.

Table 1.--Summary Outline of Experimental Affiliation Studies

| Study | Ss | Motive | Measures | Results | B.O.[a] |
|---|---|---|---|---|---|
| **A. Studies of Conditions and Variables Affecting Affiliation** | | | | | |
| Schachter, 1959 pp. 12-19 | F | anxiety | choice[b] & choice scale[c] | hi anxiety Ss more affiliative than low. | |
| Schachter, 1959 pp. 20-24 | F | anxiety | choice & choice scale | affiliation greater if "others" are waiting for same experiment than for something less stressful. | |
| Schachter, 1959 pp. 25-41 | F | anxiety | choice & choice scale | "truly" hi anxious Ss more affiliative than "truly" low, whether allowed to talk or not. | |
| Schachter, 1959 pp. 42-61 | F | anxiety | choice & choice scale | absolute ordinal position & affiliation directly related. | Y |
| Rapaport, 1964 | M | anxiety | choice | "oral" Ss affiliate regardless of anxiety level; "anal" Ss prefer isolation under hi anxiety. | |
| Pallazza, 1966 | M | anxiety | choice | no differences in affiliative or imitative behavior. | |

[a]Birth Order = early-born more affiliative than later-born: yes (Y), No (N), Opposite (O).

[b]Choice of waiting with others or alone.

[c]A scale of the strength of waiting preferences.

Table 1--Continued

| Study | Ss | Motive | Measures | Results | B.O. |
|---|---|---|---|---|---|
| Kissel, 1967 | M | anxiety | choice & choice scale | affiliation choice varied directly with anxiety, but intensity of choice did not. | |
| Wrightsman, 1960 | MF | anxiety | | waiting with others reduced anxiety for early-born. | |
| Kissel, 1965 | M | "stress" | | stress lower in presence of friend than stranger. | |
| Gerard & Rabbie, 1961 | MF | fear | choice & choice scale | no differences; affiliation weaker for informed than uninformed. | Y F O M |
| Sarnoff & Zimbardo, 1961 | M | fear & anxiety | choice scales | hi fear Ss more affiliative than low; hi anxiety Ss preferred isolation to affiliation. | Y |
| Hunt, 1962 | MF | fear | choice | "more fearful" Ss more affiliative than uninformed or "less afraid" Ss; uninformed more affiliative than Ss "equal" in fear. | |
| Gerard, 1963 | MF | fear | choice & choice scale | affiliation varied directly with uncertainty; similarity & certainty interact. | Y F O M |
| Rabbie, 1963 | F | fear | choice scale | affiliation varied directly with ambiguity; more affiliation if Ss allowed to talk. | |

Table 1--Continued

| Study | Ss | Motive | Measures | Results | B.O. |
|---|---|---|---|---|---|
| Zimbardo & Formica, 1963 | M | fear | choice scale | affiliation varied directly with fear; inversely if "others" were finished experiment; & stronger if "others" at same stage than if finished. | N |
| Miller & Zimbardo, 1966 | MF | fear & self esteem | choice | almost all chose to affiliate; similarity of personality chosen over similarity of situation; no relationship self esteem & affiliation. | N |
| Becker, 1967 | MF | fear | participation[d] | females preferred others taking same test, or a physiologist to being alone. | N |
| Helmreich & Collins, 1967 | M | fear | participation | more Ss chose to work alone or with leader group than with peers. | N |
| Helmreich & Collins, 1967 | M | fear | choice & participation | leader preferred over peers, but both over working alone; peers or leader over waiting alone. | N Wr<br>Y Wa |
| Singer & Shockley, 1965 | F | uncertainty of own ability | choice scale | uncertain Ss more affiliative than informed Ss. | N |

[d]Participation in fictitious studies varying in affiliative potential.

Table 1--Continued

| Study | Ss | Motive | Measures | Results | B.O. |
|---|---|---|---|---|---|
| Brehm & Behar, 1966 | MF | uncertainty of sexual arousal | choice & choice scale | no differences; most Ss preferred to affiliate. | |
| Hamilton, 1967 | MF | uncertainty of own opinion | choice scale | no differences. | N |
| Radloff, 1961 | F | uncertainty of own opinion | interest in joining a group | affiliation varied with strength of evaluative needs. | Y |
| Thompson, 1964 | F | uncertainty of own accuracy | unnamed questionnaire | no differences. | N |
| Schachter, 1959 pp. 90-102 | M | hunger | choice scale | affiliation varied directly with hunger. | |
| | B. | Validation Studies Employing Sociometric Procedures | | | |
| Shipley & Veroff, 1952 | M | affiliation | TAT type | higher nAff than control Ss. | |
| Atkinson, Heyns, & Veroff, 1954 | M | affiliation | TAT type | higher nAff than control Ss. | |
| Atkinson & Walker, 1956 | M | affiliation | TAT type | no effect on perceptual sensitivity to faces. | |

Table 1--Continued

| Study | Ss | Motive | Measures | Results | B.O. |
|---|---|---|---|---|---|
| Byrne, 1961 (a) | MF | affiliation | TAT type | nAff positively related to self ratings of anxiety; unrelated under neutral conditions. | |
| Rosenfeld & Franklin, 1966 | F | affiliation | TAT type | nAff increased when rated & rejected by peers; nAff unaffected by "positive feedback." | |
| French & Chadwick, 1956 | M | affiliation | Test of Insight | both "goal" & "threat" oriented nAff increased. | |

Table 2.--Summary Outline of Affiliation Studies Reporting Correlational Findings

| Study | Ss | Measures | Results | B.O.[a] |
|---|---|---|---|---|
| Conners, 1963 | M | TAT type; FIRO | nAff & self report questionnaire negatively related. | O |
| Dember, 1964 | MF | TAT type | | Y |
| Rosenfeld, 1966 | MF | TAT type | no relationship birth order & test anxiety. | N |
| Wolf & Weiss, 1965 | MF | participation | | N |
| Wolf & Weiss, 1965 | MF | participation | birth order effect found with males; not with females. | Y&N |
| Masling, 1965 | MF | behavioral | no relationship birth order & rooming or sports choices. | N |
| Shipley & Veroff, 1952 | M | TAT type | nAff negatively related to popularity. | |
| Shipley & Veroff, 1952 | M | TAT type | Ss rejected by a fraternity had higher nAff than accepted Ss. | |
| Atkinson, Heyns & Veroff, 1954 | M | TAT type | nAff negatively related to popularity. | |

[a]Birth Order = early-born more affiliative than later-born: yes (Y); no (N); Opposite (O).

Table 2--Continued

| Study | Ss | Measures | Results |
|---|---|---|---|
| French & Chadwick, 1956 | M | Test of Insight | no relationship total nAff & popularity; popularity negatively related to negative nAff responses. |
| Hardy, 1957 | M | TAT type | no relationship nAff & conformity or attitude change. |
| Burdick & Burnes, 1958 | M | TAT type | nAff positively related to opinion change & conformity. |
| Samelson, 1958 | MF | TAT type | no relation nAff & conformity; nAff & nAch interact to affect conformity. |
| McGhee & Teevan, 1967 | M | TAT type | nAff positively related to conformity. |
| Sistrunk & McDavid, 1965 | MF | EPPS | nAff & conformity positively related; nAff & nAch interact to affect conformity. |
| Byrne, 1961 (b) | MF | TAT type | interaction nAff & attitude similarity on interpersonal attraction ratings. |
| Byrne, 1962 | MF | TAT type | interaction nAff & attitude on attraction ratings. |
| Byrne, McDonald, & Mikawa, 1963 | MF | TAT type | hi nAff related to approach, low to avoidance & medium to mixture of both motive types. |
| Byrne, McDonald, & Mikawa, 1963 | MF | TAT type; questionnaire | questionnaire of approach Aff positively related to TAT nAff & an index of approach motivation. |

Table 2--Continued

| Study | Ss | Measures | Results |
|---|---|---|---|
| Fishman, 1966 | F | TAT type; Social Love & Affection; Inventory of Expectations; sociometric; behavioral observation | nAff positively related to friendliness for Ss hi in Aff expectancy; nAff inversely related to negative sociometric ratings; positive Aff related to nAff & generalized Aff expectancy; negative Aff related to nAff & low expectancy. |
| Berkowitz & Howard, 1959 | MF | Test of Insight | hi & low more verbal responses to deviating group member than medium nAff Ss; low nAff Ss rejected deviate more than hi or medium Ss. |
| Exline, 1962 | MF | Test of Insight | nAff inversely related to degree of control attempted over others in first communication in small groups. |
| Groesbeck, 1958 | M | TAT type | little relation nAff & nAch; interaction nAff & nAch on personality characteristics. |
| Littig & Yeracaris, 1963 | MF | TAT type | no relation nAff & academic achievement. |
| McKeachie et al., 1966 | MF | TAT type | college grades related to Aff cues in classes for hi nAff males, but not females. |
| Atkinson & Walker, 1956 | M | TAT type | nAff positively related to subliminal perception of faces. |
| Lansing & Heyns, 1959 | MF | TAT type | nAff positively related to use of local telephone. |

Table 2--Continued

| Study | Ss | Measures | Results |
|---|---|---|---|
| Kissel, 1965 | M | TAT type | no relation nAff & effectiveness of presence of another person in reducing stress. |
| Exline, 1960 | MF | Test of Insight | females more affiliative than males; social science higher nAff than other students. |
| Zimbardo & Formica, 1963 | M | choice scale | no relation affiliation & self esteem measure. |
| Sherwood, 1966 | MF | TAT type; self reports; ratings of behavior | projective & self report measures related but low; self reports best predictors of Aff behavior for women. |
| Sherwood, 1966 | M | TAT type; self reports; observer ratings | projective & self reports related but low; projectives better predictor for males; self reports predict for "self-revealing," but not for "concealing" males. |
| Knapp, Knapp & Weick, 1966 | F | choice scale; participation; FIRO; questionnaires | waiting choice not as reliable as participation measure under stress; other measures not correlated. |
| Knapp, Knapp & Weick, 1966 | F | choice scale, etc. | little relationship waiting choice & participation; other measures more related than under stress. |
| Pallazza, 1966 | M | choice | affiliation & imitation unrelated; both affected by social desirability. |

## Affiliation Under Stress and Uncertainty

Schachter (1959) induced "anxiety" in college students by describing an experiment in which they were supposed to participate. Some were told they would receive very strong electrical shock, others only subliminal electrical stimulation. Then they were told they would have to wait a short time before the experiment would begin, given a choice of waiting alone or with others, and asked to indicate the "intensity" of their preference on a five or six point scale.

Under these conditions, Schachter found that affiliative desires increased with anxiety. Subjects expressed stronger preference to wait "together" with the other subjects under high anxiety. He also found that anxious subjects preferred to wait with subjects taking part in the same experiment rather than with subjects waiting to talk to advisors. According to Schachter, misery ". . . doesn't love just any kind of company, it loves only miserable company" (p. 24).

In a third experiment, Schachter failed to find differences in the affiliative preferences of high and low anxious subjects, but supported previous anxiety-affiliation findings with subjects he identified as "truly" anxious. Schachter also concluded that the opportunity to communicate with others was not a necessary determinant of the

anxious subject's desire to be with others, since it had made no difference whether or not subjects could talk to each other while waiting together.

Schachter eliminated all but two hypotheses which might account for the observed relationship between anxiety and affiliation. According to Schachter, anxious subjects preferred to wait with others: (1) in order to directly reduce their anxiety, or (2) to evaluate their own feelings by way of social comparison with others, an extension of Festinger's social comparison theory (Festinger, 1954).

Schachter (1959, pp. 104-122) extensively analyzed a study by Wrightsman (1960), supporting both anxiety reduction and self evaluation hypotheses. Wrightsman determined that actually being with others while waiting for a very traumatic experiment reduced anxiety more than waiting alone, but only for first-born subjects. The "serendipitous" finding of birth order effects in Schachter's own studies have stimulated a sufficiently large body of research to require separate discussion later.

Gerard and Rabbie (1961) were unable to confirm Schachter's anxiety-affiliation findings, because too few subjects chose to be alone to allow any comparison of high and low "fear" groups. Comparing subjects who chose to wait together, however, they found the choice weaker for subjects who were informed of the reactions of the other subjects, supporting a social comparison hypothesis.

Gerard and Rabbie used the word fear rather than anxiety to describe the emotion they manipulated. Although Schachter was explicitly aware that his studies ". . . involved only the manipulation of physical fear," he nevertheless continued to use the term anxiety. The importance of the distinction was illustrated by Sarnoff and Zimbardo (1961). As well as following Schachter's procedure for "fear" induction via shock, they induced "oral anxiety" by leading subjects to believe they would have to suck on objects related to infantile nursing. As predicted by these investigators, the results supported Schachter's with respect to "fearful" subjects, but were opposite in regard to oral "anxiety." While fearful subjects preferred to wait with others, anxious subjects preferred to be alone. The authors pointed out that social comparison is only one kind of response to a vague emotional state.

Rapaport (1964) manipulated "oral" and "anal" anxiety in a manner similar to Sarnoff and Zimbardo, using subjects identified clinically as oral dependent (drug addicts) and anal-obsessive characters. Oral individuals tended to choose affiliation without regard to level or type of anxiety aroused. Anal characters, on the other hand, tended to isolate themselves under high levels of anxiety, whether orally or anally aroused.

Hunt (1962) attempted to resolve the difference between the Schachter and the Sarnoff and Zimbardo studies

as a special case covered by a postulate of Festinger's theory (1954), which says that a person will not evaluate himself against someone seen as vastly different from himself. Hunt thought that anxious subjects in the Sarnoff and Zimbardo study might not have believed others were experiencing the same intensity of emotion as themselves and would not choose to affiliate for that reason. Hunt's own results, however, turned out opposite of prediction. Varying the information given subjects about how fearful they were compared to others, Hunt found that subjects who were informed that they were more fearful chose affiliation significantly more than those with no information or information that they were less afraid than others. Those informed of being equally fearful as others had less desire to affiliate than uninformed subjects.

Gerard (1963) felt that varying the level of anxiety of subjects did not necessarily manipulate the level of uncertainty, which is more relevant to social comparison theory. Consequently, he varied the degree of emotional uncertainty, as well as level of information about others. He found that, under fear arousal, greater affiliation was associated with greater uncertainty, as predicted by social comparison theory. Opposite of prediction, however, was the finding that information that others were similar to the subjects had less effect on reducing affiliation under uncertain than under certain conditions.

An experiment by Zimbardo and Formica (1963) replicated some of Schachter's findings. Fearful subjects chose to affiliate more than subjects who were not, even when they could not communicate about the experiment while waiting together. Furthermore, fearful subjects preferred to wait with other subjects in the same emotional state rather than with others in a "different" state, supporting an emotional comparison hypothesis. Most striking, however, high fear condition subjects expecting to wait with others who had already completed the frightening experiment wanted to affiliate even less than low fear subjects. If subjects already finished with a frightening experiment can be assumed to be less fearful than beforehand, these findings would seem to contradict Hunt's (1962), in which fearful subjects preferred to be with others less anxious than themselves. Rabbie (1963) reports that when given information about how anxious other subjects were, almost no one wanted to wait with a highly anxious person.

Rabbie's (1963) study is better noted for finding that it does make a difference whether subjects could or could not talk to each other if they chose to wait for a threatening experiment together rather than alone. Higher affiliative preference scores were found for a "talk" than for a "no talk" condition. Rabbie also found that affiliation varied with the uncertainty of subjects about which one of them would receive painful shock. He felt that his

experiment provided support for the hypothesis that "uncertainty about one's feelings" contributes to affiliation under fearful conditions, but raised the question of whether comparability or compatibility governs affiliative choices more.

A study by Miller and Zimbardo (1966) speaks directly to the issue raised by Rabbie. In it, the subject threatened with a chilling "blood chemistry" experiment was offered choices of waiting alone, with two others said to be similar to him in personality traits and interests but waiting for a different experiment, or with two people waiting like the subject for the same experiment but differing from him in personality and interests. Preference for the same personality over same "inferred" emotional state contradicted previous findings by Schachter (1959) as well as Zimbardo and Formica (1963). The hypothesis that affiliative preferences of frightened subjects are more a function of compatibility than comparability was supported instead.

Kissel (1965), in an experiment akin to the earlier Wrightsman (1960) study, found that the actual presence of a friend reduced stress responses more than the presence of a stranger. In this case "stress" was induced by failure on a task. The results support an anxiety reduction hypothesis and compatibility over a comparability hypothesis. Kissel (1967) more recently replicated Schachter's

anxiety-affiliation findings with a sample of institutionalized juvenile delinquents, but only for waiting choices. Unlike Schachter (1959), Kissel failed to find differences in the intensity of waiting preferences.

Becker (1967) gave volunteers a choice of taking a "pain tolerance test" alone or with others. He compared four different kinds of affiliative choice, finding affiliation chosen more frequently by subjects when the other person was described as someone undergoing the same treatment, or a physiologist who would give physiological feedback, as opposed to "others" who knew nothing about the experiment, or who had already completed it. Affiliation was also greater for females than for males under the first two conditions. This study does not help to distinguish compatibility from comparability hypotheses, and in fact may be seen to offer support to yet another hypothesis. Preference for taking the painful test with a physiologist could easily be seen as motivated by dependency.

Helmreich and Collins (1967) have posited just such a dependency motive for the affiliation of subjects under stress, rather than social comparison or direct anxiety reduction hypotheses. In two fear-evoking experiments, subjects favored waiting or working in a leader-dominated group rather than with peers. These findings are more sharply at variance with previous studies: "Contrary to most earlier studies of fear-induced affiliation, no

increase in preference for companionship over solitude was found under high fear" (p. 81). To clarify these findings, a second experiment contrasted a "work" with the usual "wait" conditions, and group rather than the earlier individual administration. This time subjects preferred not to be alone whether they waited or worked. However, ". . . desire for affiliation was clearly stronger among subjects who had spent a considerable amount of time in groups prior to the affiliation choice than it was among those who had been alone before being offered a chance to affiliate" (p. 83). The Helmreich and Collins study suggests then, that ". . . prior social setting can have a strong effect on the desire for gregariousness" (p. 83). Similar misgivings had been earlier expressed by Miller and Zimbardo (1966) who felt that a "set" for remaining in a group might have explained why almost all their subjects chose to wait with someone under any condition. On the other hand, group versus individual administration was found unimportant for self report measures of affiliation by Sherwood (1966).

Along with set affects created by group or individual administration, unintended or uncontrolled sets may also be created by the instructions used by researchers. Those used by Helmreich and Collins (1967) for example, to make choices of different waiting or working conditions plausible to subjects, seem to go so far in getting the

subjects to choose one having the "best" effect on themselves that other motives, such as achievement, may have been stirred up.

Another recent study raises yet another methodological problem. Knapp, Knapp, and Weick (1966), using both shock and painful heat to induce fear, examined affiliation preferences under several conditions, and compared a large number of affiliation measures. Among other things, the authors stressed that "waiting" preference was not as reliable a measure as preference for participating in "experiments" which vary in affiliation potential. Similarly, in a non-stress experiment they found that ". . . subjects have reasons for desiring to affiliate while participating in an experiment, which are different from those they have for desiring to affiliate while waiting for the experiment to start" (p. 234). They observed that fear did affect affiliation motivation, but may do so by reducing the saliency of need for social approval which they found stronger in non-stress situations.

Social approval motives may operate under fear-arousing conditions as well. Pallazza (1966) failed to find any relationship between affiliation and imitation, when subjects were given a choice of waiting alone or with an accomplice under shock conditions, but reported that subjects who scored high on the Marlow-Crowne Social

Desirability Scale affiliated and imitated more than subjects who scored low on this measure.

A number of investigators have tested Festinger's (1954) social comparison theory of affiliation by varying the cognitive uncertainty of subjects. Radloff (1961) found that interest in joining a group to discuss an opinion varied with the uncertainty of subjects about the adequacy of their own opinion on the issue. Likewise, Singer and Shockley (1965) reported that subjects had stronger preferences for affiliating while waiting for the second half of a task if they were uninformed about how well they had done on the first half. The self-evaluation hypothesis was not confirmed, however, when different levels of confidence were induced in subjects about their accuracy as self-evaluators (Thompson, 1964), or when the ambiguity and complexity of issues to be discussed by subjects were varied (Hamilton, 1967). Brehm and Behar (1966) were unsuccessful in generating dissonance in their subjects in the first place, when they varied information about levels of "sexual arousal," but most of their subjects preferred to affiliate anyway. Studies manipulating cognitive uncertainty, rather than emotional responses to stress, provide equivocal support at best for a social comparison theory of affiliation.

Schachter (1959) also studied affiliation under a more benign condition than stress. He found that very

hungry subjects preferred to be together more than moderately hungry or satiated subjects, supporting the notion that affiliation might be a positive function of the drive state of an individual. Schachter preferred, however, to limit generalization from his research to the conclusion that "affiliative tendencies increase with increasing anxiety and increasing hunger" (p. 102).

Affiliation and Birth Order

Schachter (1959) observed that first-born and only children were more anxious than later-born subjects. Absolute ordinal position in the family had a strong relationship to the affiliative response of anxious subjects; the later-born the subject the less likelihood she would choose to affiliate. In fact, the relationship between anxiety and affiliative tendency held for early-born subjects and rarely at all for later-born individuals.

Wrightsman's (1960) study was cited by Schachter as demonstrating that anxiety was reduced for first-born subjects but not for later-born, as a simple consequence of their actually being together with others while waiting for a very frightening experiment. Schachter did not find any birth order effects in his own hunger experiment. He espoused a dependency hypothesis to account for the observed relationship between birth order and affiliation. First-born and only children are more dependent than later-born children on other persons as "sources of approval,

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support, help, and reference" (p. 82), and consequently are more prone to turn to others when anxious or in doubt than later-born individuals.

Zimbardo and his co-workers confirmed Schachter's ordinal position findings under both fear and "oral anxiety" conditions (Sarnoff & Zimbardo, 1961), but later objected to Schachter's use of a dependency hypothesis (Zimbardo & Formica, 1963), and posited instead a social comparison one with self esteem as the mediating variable. According to Zimbardo and Formica, first-born children, having a more exaggerated and unrealistic self ideal than later-born, experience reduced self esteem under stress. "The consequences of low self-esteem would be feelings of inadequacy and social inferiority and a consequent greater reliance upon others for support as well as for sources of self-evaluation" (p. 143).

The study conducted to test this hypothesis (Zimbardo & Formica, 1963) failed to find any ordinal position effects on affiliation in the first place. Only a "trend" was found under fear arousal conditions for low self esteem subjects to have stronger affiliative preferences than subjects with high self esteem. In another attempt (Miller & Zimbardo, 1966), self esteem was manipulated via fictitious personality diagnoses, and subjects were frightened as well. Almost none of the terrified wanted to wait alone, so no birth order effects were

observed, nor any relationship between self esteem and affiliation. Undaunted, the authors suggested that the high levels of emotional arousal created uncertainty, threatened self esteem and thus led subjects to prefer being with others. This led to a new general hypothesis, in place of the more limited one about birth order, that ". . . one affiliates in order to raise self-esteem" (p. 482).

Two independent studies by Gerard (Gerard & Rabbie, 1961; Gerard, 1963) found sex differences in the birth order-affiliation relationship. Female first-born and only children had higher affiliation scores than later-born, but the reverse occurred for males. Wolf and Weiss (1965), after initially negative findings for either sex, found a sex difference in the opposite direction. First-born males preferred participation in a group rather than individual or isolation studies more than other birth ranks. But this did not hold for females. Their study differed from those by Gerard in more than results, however; a different measure of affiliation was used, and although Wolf and Weiss thought that some anxiety may have been aroused in their male subjects, conditions were clearly nowhere nearly as stressful as in the earlier studies.

The difference between "waiting" and "participation" measures was cited recently by Becker (1967) to explain a failure to support Schachter's findings. In his study

females had stronger affiliative preferences than males under two different conditions for taking a "pain tolerance test," but no sex differences were found with respect to ordinal position, nor was there a significant interaction between birth order and affiliation. Confirming Becker's suspicions, Helmreich and Collins (1967) failed to find any birth order effects when male high school students were offered different affiliative choices while working under stress, but replicated Schachter's ordinal position findings when the subjects were to wait for a stress experiment.

Birth order effects have generally failed to appear under conditions of cognitive uncertainty (Thompson, 1964; Singer & Shockley, 1965; Hamilton, 1967). But Radloff (1961), using level of interest in joining discussion groups as an index of affiliation, reported that first-born subjects were more strongly affected by varying evaluative needs than later-born. In another kind of non-stress situation, Masling (1965) found no difference between first-born and only children and later-born subjects in either their preferences for rooming alone or with others, or in their choice of group or individual athletic activities.

A few studies have looked specifically at birth order and projective measures of need for affiliation. Conners (1963) reported a "moderate" but significant relationship between need for affiliation and birth order. However, a greater amount of affiliation fantasy was found

for second than for first and only children. This is clearly opposite of what Schachter might have predicted. On the other hand, a self-report measure, which is more similar to Schachter's, indicated a weaker preference to be with others for second than for first and only children. Since the two measures were negatively correlated, Conners reasoned that need affiliation scores ". . . measure some aspect of early affiliative deprivation rather than positive experience of affiliative reward from others" (p. 416). Examination of this and other issues related to projective measures of affiliation motivation will be taken up later.

Dember (1964) reports precisely the opposite of Conners, using essentially the same thematic apperception measure of need affiliation. Dember found that first-born had significantly higher need affiliation scores than later-born subjects. While the techniques of measurement were substantially the same, the problems used to elicit stories may have differed. Rosenfeld (1966) conducted five studies using measures similar to Dember's. None of the five studies confirmed the hypothesis that first-born have higher need for affiliation than later-born.

In a recent review, Warren (1966) credited Schachter with getting people interested again in birth order. He suggested, however, that the ". . . variety of studies that have appeared since Schachter's book provide confusing evidence about the association between birth order and

affiliative behavior" (p. 38). Warren felt that the evidence for the association held only for women and under stress. Now privy to more studies, we can say that the evidence is more confusing and less convincing. The majority of studies reviewed failed to find birth order effects. The birth order-affiliation relationship seems to hold for both males and females, and more often under stress, but stress does not guarantee the appearance of the relationship. Furthermore, the birth order effect seems to be easier to find when "waiting" preferences are used to assess affiliation rather than "participation" preferences, although the latter tend to be more favorable to positive findings for males.

Affiliation Motivation

Studies concerned with individual differences in affiliative motivation form a second distinct line of research on affiliation. These studies have in common that they measure the magnitude of need or motivation for affiliation and make various comparisons of groups characterized as high or low in the need to affiliate. Most of their measures were based specifically on the thematic apperception method, growing out of need achievement studies which used these projective measures (Atkinson, 1958). There are other measures of need affiliation. The Edwards Personal Preference Schedule, for example, includes a need

affiliation scale. With few exceptions, however, interest in the need for affiliation has been too peripheral in studies using such tests to warrant review here.

Arousal of Affiliation Motives.--Shipley and Veroff (1952) are credited with developing a scoring system for need affiliation (nAff) using stories told to the Thematic Apperception Test (TAT) and TAT-like pictures. This scoring system measured ". . . predominantly that aspect of n affiliation characterized by fear of rejection. . ." (p. 354). Shipley and Veroff experimentally aroused affiliation need by giving members of a fraternity a sociometric test. They found that the stories of the aroused subjects were more related to affiliation than those of control subjects. They also reported a negative correlation between sociometric popularity and need affiliation. In a second experiment, freshmen who had been rejected by fraternities showed more of the fear-of-rejection imagery than subjects who had been accepted.

Shipley and Veroff knew they were looking only at the negative side of affiliative needs, and expressed awareness of more positive reasons why people might want to associate with others. Subsequently, Atkinson, Heyns, and Veroff (1954) developed a method of scoring thematic apperception stories for positive motivation for "social acceptance," and found stories of ". . . attempts to establish, maintain, or restore positive affective relationships

with other persons" (p. 409). Like negative stories, the positive ones occurred more frequently in groups aroused by a sociometric procedure than in controls. Popularity was again found negatively correlated with need affiliation, but this time with a positively oriented measure of that need. High need affiliation subjects would seem to be unpopular regardless of whether their need is positively or negatively motivated.

Atkinson and Walker (1956) reported that high need affiliation subjects were more sensitive to faces in a subliminal perception experiment than a low need affiliation group, providing evidence of a relation between motivation and perceptual selection of motive-relevant stimuli. But a sociometric rating procedure expected to increase the differences between the high and low need affiliation groups in perceptual sensitivity to faces, consistent with previous findings, failed to do so.

On the same track as Atkinson, Elizabeth French (French & Chadwick, 1956; French, 1958) expanded Shipley and Veroff's negatively toned definition of affiliation motivation to include ". . . a desire to establish and/or maintain warm and friendly interpersonal relations" (French & Chadwick, 1956, p. 296). French was more explicit than Atkinson in positing a two-factor view of affiliation need. She developed the Test of Insight, a projective measure composed of single sentence descriptions of a person's

behavior which subjects must explain. The subject ostensibly projects affiliation and achievement needs into his responses. This test yields positive and negative scores as well as a total score for need affiliation. The measure has fair test-retest reliability, but an alternative form provided by French does not appear to be really equivalent (Himelstein & Kimbrough, 1960).

Using the Test of Insight, French and Chadwick (1956) supported previous studies (Shipley & Veroff, 1952; Atkinson et al., 1954). Increasing affiliative cues by a sociometric procedure resulted in increased levels of both positive (goal-oriented) and negative (threat-oriented) affiliative needs. With respect to popularity, however, the data supported only Shipley and Veroff. While popularity was unrelated to total need affiliation, it was negatively related to the number of negative need affiliation responses.

Recently, Rosenfeld and Franklin (1966) pointed out that detection of affiliation motives by thematic apperception measures had been documented only with male samples, so they used a sociometric test to arouse affiliation motives in females. Being rated by peers, and being rejected by peers (feedback of negative rating of herself) both led to arousal of TAT-type need affiliation, but social acceptance (positive feedback from the sociometric) had no effect. The authors thought the latter procedure

had probably satisfied rather than aroused affiliative needs. Because the rejection condition resulted in increased positive but not negative categories of affiliative fantasy, Rosenfeld and Franklin warned against making literal inferences from TAT measures about differential motivating states on the basis of manifest content.

An experiment by Byrne (1961a) suggests that anxiety is evoked by the experimental arousal of affiliation motives. He reported that subjects high in need affiliation rated themselves more anxious than low need affiliation subjects in a situation (rating self and others while being watched) designed to evoke affiliation motives. Anxiety and need affiliation were unrelated in a neutral situation.

Conformity, Opinion Change, and Affiliation.--A number of investigators have sought to relate conformity and opinion change to the need for affiliation, thinking that individuals with a high affiliation need should be more sensitive to group pressures than those with a low need. All but one of these studies drew on the Asch-type experiment, in which group pressures are exerted on the subject's attitudinal or perceptual judgments. TAT-type need affiliation measures were used in all but one study.

Hardy (1957) found no difference between high and low need affiliation groups in either conformity to the group or in attitude change. Samelson (1958) similarly found no significant relation between need affiliation and

conformity, although affiliation and achievement needs interacted to affect conformity. Recently, however, McGhee and Teevan (1967) did find that subjects high in need affiliation conformed more than low need affiliation subjects by yielding to an erring majority in making perceptual judgments. In a different kind of opinion change experiment, Burdick and Burnes (1958) likewise found that high need affiliation subjects tended to change opinions to conform to those of a liked experimenter more than low need affiliation subjects. Sistrunk and McDavid (1965), using the Edwards Personal Preference Schedule, found that a high need affiliation group yielded to group pressure to make erroneous judgments more than a low need affiliation group. They also found a significant interaction between achievement and affiliation motives; each motive seemed to operate to suppress the effects of the other on conforming behavior.

There seems to be some support from these few studies for the notion that people for whom affiliation needs are important are more susceptible to group influence. Many variables and conditions relevant to this relationship remain to be elucidated. For example conditions of social support seem to be important (Hardy, 1957).

Interpersonal Attraction, Expectancy, and Need Affiliation.--Byrne (1961b) reports that a stranger with attitudes similar to the subject's was rated equally positively by both high and low need affiliation subjects.

Where the attitudes were dissimilar, however, the mythical stranger received more negative interpersonal attraction ratings from the high need affiliation subjects. It may also be recalled that Miller and Zimbardo (1966) reported that subjects preferred to wait for a threatening experiment with others with similar personalities than with others unlike themselves but in the same predicament.

Byrne (1962) later found that the influence of similarity-dissimilarity of a stranger on interpersonal attraction was greatest for "medium" and least for low need affiliation groups. The medium affiliation group ". . . tended to react more positively to a stranger with similar attitudes, more negatively to a stranger with dissimilar attitudes, and were more apt to suggest that the latter alter his views" (p. 175). Another experiment suggested that medium need affiliation subjects respond this way because of the ambivalence of their affiliation motives. Byrne, McDonald, and Mikawa (1963) developed an Interpersonal Affect Scoring System for TAT stories to measure approach and avoidance motives. The usual Atkinson-type scoring was employed to distinguish need affiliation groups. As the authors predicted, the stories of high need affiliation subjects contained predominantly approach motives, low need affiliation subjects told stories predominating in avoidance motivation and medium need affiliation subjects had a mixture of both approach and avoidance themes.

Subscribing to a two-factor view of affiliation motives, Byrne (1962; Byrne et al., 1963) suggested that differences in need affiliation reflected different expectancies of interpersonal interactions based on past experience. Individuals who have had good experiences with others will have developed approach motives to affiliative cues. "Unsuccessful" interpersonal experiences, on the other hand, result in expectancy of poor future relationships, and avoidance of affiliation.

A recent study by Fishman (1966) looked more directly at the expectancy question and supported Byrne's theory. Fishman obtained both situational and generalized measures of expectancy of affiliation, and divided need affiliation scores into approach and avoidance. Results supported the view that positive affiliation reflects both affiliative need strength and high generalized affiliation expectancy, while negative affiliation reflects both affiliation need and low generalized expectancy of affiliation.

Byrne's findings do not fit well with those of an earlier study by Berkowitz and Howard (1959) using the Test of Insight. Unlike Byrne (1961b), these investigators found low need affiliation subjects more rejecting of a deviate than either high or medium subjects, and medium need affiliation subjects were the least responsive to a deviating group member, in contrast to another Byrne study (1962). Similarly, Exline (1962), using the same test as

Berkowitz and Howard and also concerned with communications within groups, found need affiliation inversely related to the degree of control over others attempted in the first message written in the process of group problem solving. Differences in measures and in the additional motives related to group interdependence and control which operated in the Berkowitz and Howard, and Exline studies, may account for the apparent contradictions to Byrne's conclusions. But, then, these factors may need to be considered in the theories advanced by Byrne and his associates (Byrne et al., 1963).

Other Studies of Affiliation Motivation.--In one of the earliest studies using the thematic apperception method, Lansing and Heyns (1959) found need affiliation correlated with frequency of use of the local telephone in a large sample of telephone subscribers. Letter writing, visits, and long-distance telephoning were less related or not related at all.

Despite the fact that the thematic apperception measurement of need affiliation grew out of need achievement studies and the two are found cheek by jowl in Atkinson's book (1958), there has been little attention to any possible relationship between the two. Groesbeck (1958) found just that--very little relationship, but reported interactions of affiliation and achievement need on personality characteristics. Other interactions between affiliation

and achievement motives in their effects on conformity were reported earlier (Samelson, 1958; Sistrunk & McDavid, 1965). In a sample of adults in a small community, Littig and Yeracaris (1963) were unable to find any relationship between need affiliation and level of academic achievement. McKeachie and his colleagues (McKeachie, Lin, Milholland, & Isaacson, 1966) thought that the grades of college students high in need affiliation would be higher in classes with many affiliative cues, such as friendliness and interest of the instructor, than in classes with few affiliative cues. Results were consistent enough in their studies to support this hypothesis, but only for males. Exline (1960) found a sex difference in the other direction, reporting that women gave more affiliative responses than men on French's test. He also found that subjects in a social science course gave more affiliative responses than a cross section of students.

More important sex differences, relevant to the measurement of need affiliation, were reported in a recent study by Sherwood (1966). Projective measures of need affiliation were found to be better predictors of affiliative behavior than self reports for males. The opposite tendency was found for females; self reports were found to be the best predictors for women. Self reports of need affiliation were correlated with affiliative behavior for males who reported themselves as self-revealing, but not

for concealing males. Projective measures then, seem to be the best to use with concealing males.

Fishman (1966) found ". . . self descriptive measures as strongly related to overt affiliative behavior as was the n affiliation thematic apperception measure" (p. 162). Since Fishman used only females, his results are basically in agreement with Sherwood's findings.

The Problem

Not one of the studies reviewed, under either line of research, investigated affiliative behavior under circumstances designed to make subjects happy. Certainly, most of the Schachter-type studies did their best to frighten the subjects, and studies experimentally arousing affiliative motives seem to elicit anxiety as well (Byrne, 1961a).

While the distinction between positively and negatively motivated affiliation has been established (French & Chadwick, 1956; Bryne et al., 1963; Fishman, 1966), less is known about the positive conditions leading people to affiliate than about the multitude of negative conditions already well documented in the studies just reviewed. In fact, it has yet to be established empirically that positive conditions do have any affect at all on affiliation. The present study is designed to investigate this question.

## Happiness

A parallel situation to the two major ways of studying affiliation exists in the rather spare research concerned with happiness and moods in general. Some investigators have been interested in generating such moods as happiness experimentally and examining the consequences on behavior. Others have concentrated on the differences in happiness between individuals and how these differences correlate with other variables. A few have also looked at intra-individual differences, observing moods in the same subjects over time.

The best representative of the first approach is the work of Vincent Nowlis (1965) and his colleagues. Most of his work and the research of others working in the area is summarized in Nowlis' review of research with his Mood Adjective Checklist (Nowlis, 1965). As one might expect, a great deal more interest has been shown in negative moods like fear, anxiety and anger than in positive ones. Of interest to the present study, however, is the fact that a number of people have effectively generated the mood of happiness or well-being in subjects by means of either motion pictures (Axelrod, 1963; Nowlis & Green, 1964; Miller, 1960), or tape-recorded narratives (Jacobs, Capek & Meehan, 1961b). Most of these researchers have obtained verbal reports of the mood states generated, in the form of the Mood Adjective Checklist or similar measures.

Although some researchers in the area have looked at the effects of generated moods on other behavior, such as social perception (Levinson, 1963), with one exception happiness or well-being has not been one of the moods studied. Miller (1960), in a study cited by Nowlis (1965), showed subjects an excerpt from the film One Summer of Happiness in order to study the effects of happy mood on subjective estimates of the desirability and probability of future events. Unfortunately, Nowlis does not say what those effects were. In any event, a search of the literature failed to reveal any experimental study of mood remotely concerned with affiliation. This is not the case with correlational studies of the second type mentioned above.

"Correlates of avowed happiness" (Wilson, 1967) are many and varied. One of the earlier studies, by Watson (1930), reported thirty-eight hypotheses resulting from questionnaire findings; some examples of these are: "1. intelligence has no relation to happiness;" and "2. failure in love is a major cause of unhappiness." Only some of the correlates found by Watson are relevant to the present study; for example: "5. popularity matters; 7. success in dealing with people is fundamental to happiness; 28. the married are happier than the unmarried; 36. fears, sensitiveness, shyness, are rightly regarded as major factors in unhappiness" (Watson, 1930, pp. 108-109).

The positive relationship between happiness and successful involvement with people of the kind seen in Watson's study was found with regularity in many of the studies reviewed by Wilson (1967). Wessman's (1957) dissertation is cited by Wilson, for example, to the effect that "liking one's community, being satisfied with one's friends, making friendships easily, . . ." were associated with happiness according to data from national public opinion surveys.

A very recent survey of 600 adults by the National Opinion Research Center at the University of Chicago found that the greater the extent of voluntary social participation, particularly in the number of times subjects got together with friends, the greater the degree of happiness these people reported (Phillips, 1967). In his own doctoral thesis, Wilson (1960) replicated findings from a number of previous studies including those of Watson (1930) and Wessman (1957) pertaining to good social relations.

There are enough studies of this kind now to offer confidence in the relationship between happiness and social contact. Wilson (1967) suggests, in fact, that "further studies merely correlating happiness with numerous other variables are not recommended." He recommends instead "studies involving direct attempts to manipulate the well-being of individuals. . ." (p. 305).

An excellent example of the study of intra-individual differences, and perhaps the best study of moods, including happiness, is the work of Wessman and Ricks (1966). In an intensive longitudinal study of eighteen Harvard males, conducted at the Harvard Psychological Clinic, they obtained daily reports of mood, which they correlated with a variety of other measures, clinical observations, and other data collected on the men over a period of several years. Their findings are too extensive and subtle to review here at any length, but a summary of the "personality characteristics of the happy and unhappy" offers some of the flavor and substance of their findings.

> The happy men were optimistic and possessed of self-esteem and confidence. They were successful and satisfied in interpersonal relations. They showed ego-strength and a gratifying sense of identity. There was excellent organization and purpose in their lives, together with the necessary mastery of themselves and interpersonal situations to attain their goals.
>
> On the other hand, the less happy men were more pessimistic in their expectations and lower in self-esteem and self-confidence. They were more unsuccessful and dissatisfied in their interpersonal relationships, feeling isolated, anxious, and guilty (Wessman & Ricks, 1966, p. 247).

The relationship between happiness and sociability is evident even from this brief excerpt. The intensive study of happiness in individual cases is consistent with findings from survey studies. The gregarious are happy. But, are the happy - gregarious?

# CHAPTER III

## METHOD

An overview of the design of the study will be of value at this point. An experimental group watches a film intended to generate a mood of happiness or well-being, while a control group receives no particular manipulation of mood state. Both groups are compared on questionnaire measures (1) of mood, including happiness, (2) of generalized preference for affiliation, and (3) of preference for participating in fictitious "experiments" which vary in affiliative potential.

### Happiness

Development of methods of manipulating and measuring happiness is described in the following section.

#### Manipulation

Although psychologists have been generally little interested in devising ways of making people happy, "feelings of well-being" or happiness have successfully been aroused experimentally through the use of tape-recorded narrative (Jacobs, Capek & Meehan, 1961b). Jacobs and his co-workers played a tape-recorded dramatization which

"describes in a stream of consciousness technique, the experience of a young man who is walking through the woods on a beautiful spring day and enjoying nature" (p. 128). Since a tape recording offering only auditory stimulation was effective in generating a happy mood, it seemed likely that the additional visual stimulation of motion pictures would prove even more effective. Research by Nowlis and his colleagues (Nowlis, 1965) has demonstrated that a variety of moods can indeed be effectively generated by motion pictures and reliably measured.

After several months of research, previewing, and not a little frustration, a film was selected for the study. Since the subjects were to be young college students, it seemed likely that a lively film about the currently "in" sport of surfing would have broad appeal to them, taking them into a world of fantasy with which they could easily identify and would have the overall effect of arousing feelings of happiness over and above those usually felt while sitting in a classroom.

The Film.--The Surfers is a 24 minute, 16 mm, color film, described by the distributor as follows:

> An extraordinary color documentary telling the complete story of surfers and surfing, from California to Hawaii, from the summer sun to the freezing fog of winter. It shows how a surfer begins, why he surfs, how, and where he finally ends . . . in the thirty foot surf of Hawaii. The film has an original musical score by Frank Hamilton, nationally known folk singer, and one of "The Weavers," and is narrated by Humbert Allen,

> founder and star of the Los Angeles Repertory Theatre (Audio Film Center 1969-70 16 mm Sound Films, 1968, p. 215).

While it seemed likely that a colorful, exciting, and often beautiful film would generate a happy mood among college student viewers, only an independent measure of happiness could offer evidence that the film actually had the desired effect. This necessitated the development of an instrument for measuring happiness.

Measurement

The simplest way of finding out how a person feels is to ask him. This raises the tacky problem of whether or not his answer can be given any credence. One of the principal reasons for doubt is the tendency for people to give the response they think is most desirable or expected. Nowlis (1965) reports, however, that his Mood Adjective Checklist (MACL) does not suffer much from this social desirability problem. His subjects filled out the MACL under the usual instructions to respond according to the way they felt "right now," under instructions asking how they "typically" felt, and under instructions to fake. Nowlis concluded that ". . . the social desirability status of a word has very little, if any, effect on how it is checked when the subject is asked to report how he feels at the moment he reads each word. This independence is based, in part, on the aforementioned fact that the individual in reporting a momentary feeling can be expected to be less

involved with standards of social desirability than when he reports more enduring personal phenomena" (p. 370).

Nowlis offers some assurance, then, that the MACL can measure moods reasonably free from social desirability effects. His checklist does not offer enough "happy" adjectives, however, to be used for more than "an excellent monitoring device" (Nowlis, 1965, p. 384). Happily, Jacobs, Capek, and Meehan (1959a) have developed an extended adjective checklist based on the MACL, measuring happiness, fear, anger, and depression. The measure proved sensitive to all these moods when they were generated by the taped narratives mentioned above (Jacobs et al., 1959b, 1961a, 1961b). Their checklist was modified to provide the measure of happiness used in the present study.

The Mood Adjective Checklist.--The 75-item, revised MACL consists of four randomly arranged lists of 14 adjectives each, which measure the moods of happiness, depression, anger, and fear, and includes an additional 19 filler adjectives.

The 14 items measuring "happiness" form the Mood Adjective Checklist - Happiness (MACL-H), the measure of happiness used in this study. These items are: expansive, pleased, contented, lively, glad, cheerful, jolly, gay, merry, happy, joyous, exultant, ecstatic, and elated. Examples of adjectives for the other three moods are: (1) depression: cheerless, downcast, miserable; (2) anger:

annoyed, irritated, infuriated; and (3) fear: concerned, worried, terrified. The 19 filler adjectives were drawn from Nowlis' list (Nowlis, 1965, pp. 373-374), representing items from factors he identified as "concentration" (e.g. concentrating, intent, attentive), "fatigue" (drowsy, dull, tired), "social affection" (affectionate, kindly, warm-hearted), "skepticism" (dubious, skeptical, suspicious).

With only a few slight variations, the instructions for the MACL in the present study are those used by Nowlis (1965, p. 356). They appear above the list of adjectives. (See Appendix B) The instructions emphasize that the subject describe his feelings "at the moment" he reads each word. To the right of each word are four alternatives the subject is to circle: a double check (vv) indicating a "definite" feeling; a single check (v) indicating a feeling "slightly" applying; a question mark (?), when the subject "cannot decide" whether or not the word applies to his feelings at the moment; and a "no," to indicate that the word "definitely" does not apply to his feelings at the moment.

Whereas it takes subjects only five to ten minutes to complete the MACL, scoring the 14 MACL-H items is time consuming, when subjects circle their responses on the checklist itself. A "key" consisting of a sheet of cardboard with holes cut out at the appropriate places served as an aid in locating the 14 MACL-H items scattered

randomly among the other 61 items. Several systems of scoring the MACL-H were considered during preliminary development of the instrument.

A pilot study, conducted during the 1968 summer term at Michigan State University, using 135 male and female college students in an introductory psychology course, evaluated the various measures developed for the study proper. Several scoring systems for the MACL-H were tried. The more complicated forms of scoring offered no advantages over the simplest. Consequently, in the study proper, an adjective on the MACL-H is scored as a "one" when given either a double or a single check, and a "zero" when the subject circles "?" or "no." An individual's score on the MACL-H may range, then, from 0 to 14.

The MACL-H proved internally consistent in the pilot study, with a Kuder-Richardson KR-20 coefficient of .93. In addition, a MACL-H mean of 4.47 for the pilot group suggested that the checklist offered enough ceiling to reflect the increase in happiness expected if the film succeeded in its purpose.

## Affiliation

Since making people happy was expected to have an effect on their level of affiliativeness, the development of sensitive measures of affiliation was of particular importance.

Measurement

Two measures of affiliation were used with the particular population under study. One is a questionnaire measuring a generalized preference for affiliation, and the other is a "participation affiliation" measure of the kind which grew out of Schachter's (1959) technique of asking subjects whether they preferred to wait with others or alone prior to taking part in an "experiment." It was a logical step for later researchers simply to vary the affiliative potential of the fictitious experiment the subject was supposed to take part in, rather than asking for waiting choices. A recent comparison of these and a number of other affiliation measures found that the affiliative preference for participation in a study was the most reliable and the least affected by social desirability (Knapp, Knapp & Weick, 1966). Consequently, a measure of the participation type was developed for this study.

The Sign Up Sheet.--A mimeographed Sign Up Sheet, ostensibly a genuine instrument for soliciting subjects for research, was designed after a study by Wolf and Weiss (1965) for use as the participation affiliation measure. (See Appendix D)

The Sign Up Sheet offers subjects an opportunity to participate in three "pleasurable" experiments supposedly part of "Pleasure Experience Project, #379." The three "studies" vary in affiliative potential. Each study is

said to involve a film describing and illustrating "various types of activities pleasurable to most people" but to be followed by either: (1) "a group discussion, in groups of three to six persons, regarding the effects of pleasure on the senses" (group); (2) "separate, individual interviews to test the effects of pleasure on the senses" (individual); or (3) "measures of pleasure sensitivity in which the subject is isolated from all other sources of distraction, including the experimenter" (isolation).

The emphasis on the experiments being pleasurable was designed to handle the problem presented by the fact that the Sign Up Sheet, for reasons discussed later, would come at the very end of testing. While it is unlikely that promises of an "enjoyable" experience as a subject would be enough to generate a happy mood among control subjects, it was hoped that keeping the instrument a "pleasurable" one might maintain a happy mood generated by a film. It was also hoped in this way to equate the attractiveness of the three studies so that they might vary primarily in their affiliative potential.

The pilot study, conducted during summer term 1968, served to answer two major questions about the Sign Up Sheet: (1) should subjects be asked to rate the three studies, or rank them; and (2) was there any "order effect" owing to which study was presented first or last, and if so, what order should be used in the main study.

Asking subjects to rank the three studies in order of their preference for them proved more useful than having subjects rate each study on a five point scale. Although the rating method offered the advantages of a continuous variable, and did seem to give a fair distribution of scores, closer examination showed that subjects who had actually signed up to participate in the studies tended to use only the favorable end of the rating scales. If a large percentage of subjects actually signed up, which was likely, the ratings would have no discriminatory power. Thus, in the final form, subjects are asked to rank the three studies by writing in "the letter of each study (A, B, or C) next to its appropriate rank." (See Appendix D) The Sheet also informs them that they may participate in all, two, one, or none of the studies, and asks them to check one of these four alternatives.

Two orders of presentation of the studies, ABC versus CBA, were examined in addition to the rating and ranking forms of the Sign Up Sheet. Friedman analyses of variance by ranks (Siegel, 1956) were helpful in examining data from the ranking form, already selected for use. Although the group study was preferred over individual or isolation studies under either order, the preference was most marked when the group study came first in order of presentation ($X_r^2 = 8.62$, $p<.05$). It being preferable that the three studies be ranked about equally under control

conditions, the reverse order: isolation, individual, and group ($X_r^2 = 1.05$, $p>.05$) was selected for use in the main study.

The Sign Up Sheet was not related to the MACL-H or the other affiliation scale (to be discussed next) for at least two reasons. First, the sample sizes were reduced for the comparisons by virtue of the fact that four forms of the Sheet had been tried. Secondly, the pilot study had been conducted during the research-busy summer term when most students had already completed their research participation requirements for the course and had little interest in any further studies. The next fall term promised more interested subjects.

It was felt that in addition to the Sign Up Sheet, a more generalized measure of affiliation, but one particularly attuned to the college students in the study population, would be a valuable addition. To this end the IF Scale was developed.

The IF Scale.--In its initial development, the IF Scale was a 31-item multiple-choice test. Each item had four alternatives, two of which were affiliative and two of which were not. In scoring, if either affiliative answer were checked, the item was counted as one affiliative response.

Instructions for taking the IF Scale were presented at the beginning of the scale and contained two important features which appeared in the first two sentences:

> The following questions call upon your ability to imagine yourself in a variety of situations and conditions. Try to imagine yourself in each one in the way it is described, and then choose one of the four answers which most fits you at this moment.

These two features were intended to involve the subject with the questions as much as possible, while permitting such involvement to be temporary or momentary rather than requiring a statement of habitual attitudes. No assumption was made about the responses reflecting only temporary states. The instructions merely attempted to facilitate subjects responding according to their preferences and attitudes of the moment.

Some of the items in the IF Scale were based on the "waiting" type of affiliative preferences studied by Schachter (1959) and others. For example, "If you were waiting to see the dentist, would you prefer to wait: (a) with other patients, (b) by yourself, (c) with a visiting minister, (d) with a good book." Other items were based upon Schachter's (1959) adaptation of Festinger's (1954) theory of social comparison processes. The following item is an example: "If you were not sure of your feelings about doing something, would you: (a) recall how you felt in similar situations, (b) check your feelings out with someone else, (c) consider doing something else instead,

(d) find someone else to do it with." Still other items were more specifically related to college students, such as: "If you were elected to an honorary society, would you: (a) attend meetings regularly, (b) earn the honor by studying hard, (c) make light of it, (d) mention it casually to a few people."

An attempt was made to keep the scale on the light side to maintain a mood of well-being or at least a neutral one. Items such as: "If you were feeling kind of low. . . ." were balanced by others like: "If you suddenly seemed to feel very elated and happy without knowing why. . . ." An effort was also made to make non-affiliative alternatives to questions at least as attractive as affiliative ones. In the question above about feeling "very elated and happy" for example, to "share your joy with others" was an affiliative response, while a non-affiliative one was to "just enjoy the feeling." Negatively stated items were also included so that an affiliative response would have to overcome any biases against giving negative or aggressive answers. For instance: "If you had just been told that a party to which you had been invited had been cancelled, would you feel: (a) relaxed, (b) irritated, (c) relieved, (d) frustrated."

The preceding examples give some of the flavor of the 31-item scale and the way its items were written. When this scale seemed to hold together well enough in

terms of the face validity of its items and some of the other features discussed, it received its first use in the summer, 1968 pilot study.

Not too surprisingly, this first form of the IF Scale proved less reliable than desired, obtaining a Kuder-Richardson KR-20 of .62. It also correlated only .15 with happiness on the MACL-H in the pilot study. Although the correlation was relatively low, it was in the expected direction despite the limited range of scores for both measures correlated. The MACL-H had a very skewed distribution in the direction of low scores, while the IF Scale scores clustered closely about the mean. Since the proposed experimental manipulation of happiness could be expected to spread out the distribution of MACL-H scores along with an increase in the mean, some improvement in its correlation with the IF Scale could be expected. But the IF Scale needed improvement.

An item analysis of the scale eliminated items which failed to correlate adequately with the rest of the test. The best items (those with highest point-biserial correlations with the whole scale) served as guides for writing new items, expanding the IF Scale to 50 items. Since some of the best items were sometimes the two affiliative alternatives to the same question, it was decided that the new items would have only three alternatives, one of which would be an affiliative response. This facilitated

development of the longer scale, as well as providing for more efficient machine scoring than the previous form permitted. These procedures were intended to increase the internal consistency of the measure, and to allow for a larger range of scores which would offer some advantage in detecting correlations with other measures.

In its revised form then, the IF Scale is a 50-item, multiple-choice test. (See Appendix C) Each item has three alternative answers, one of which is scored as an affiliative response. Instructions appear printed at the beginning of the scale and are identical to those on the 31-item scale except for allowing a choice of one of three rather than one of four answers.

## Birth Order and Other Information

In addition to measures of happiness and affiliation, a Face Sheet, served as the cover sheet for the stapled booklet made up of the MACL and IF Scale. The Face Sheet asks for the usual information such as date, student number, age, and sex, but also includes information about the subject's family size, birth order, whether or not the subject is a twin, and if either of his parents are other than his natural ones. (See Appendix A) The Face Sheet serves to classify subjects according to birth position within their families, "only, 1st, 2nd," and so on, in order to examine birth order hypotheses suggested by

previous research. Only non-twins with natural parents are typically used in birth order studies, thus the need for identification of these items on the Face Sheet.

## Subjects

Two groups of subjects, experimental and control, were drawn from among students enrolled in two large lecture sections of an introductory psychology course during fall term, 1968, at Michigan State University. The composition of these two groups is described in Table 3, below. All subjects were volunteers, and received "credit" for participation in the study. Aside from prestige value placed on earning such credit, a student's grade in the course could also be positively affected. If a student's grade fell between two grades, he would receive the higher one if he had accumulated sufficient research credits. This seems to serve as an effective motive for these students to take part in research.

Table 3.--Description of Experimental and Control Groups

| | Control Group | Experimental Group |
|---|---|---|
| N | 183 | 199 |
| Male | 84 | 57 |
| Female | 99 | 142 |
| Age Range | 17-25 | 17-23 |
| Mean Age | 18.39 | 18.42 |

## Procedure

Control group subjects were obtained, and data gathered, in eight recitation sections of about 20 to 25 students each, on the first day these sections met. Subjects were greeted, informed about research credit for research participation, and those who remained were administered the measures. The order of administration was as follows: Face Sheet, MACL, IF Scale, and Sign Up Sheet. The first three were bound as a booklet, into which a machine-scored answer sheet for the IF Scale was stuffed immediately preceding that scale. The Sign Up Sheet was not bound to the rest, but was always distributed to each subject underneath the packet of materials, so as to look like a genuine sign up sheet only indirectly related, and ostensibly separate from the current study.

The measures were administered to the control subjects by four experimenters, two males and two females, each of whom met two of the eight sections. All of the experimenters followed detailed written instructions for conducting the study (See Appendix E), and had a training session to further assure agreement and uniformity of administration.

Experimental subjects, drawn from a different lecture section than the controls, participated in two large groups, three days apart, during the last third of the

fall term. One group of 86 subjects took part early in the evening. They were cautioned after the experiment not to discuss it with anyone else. A second group was composed of 111 subjects, who agreed to participate during a regular morning lecture section.

Difficulties in selecting and booking a suitable film prevented study of experimental subjects early in the term. Similarly, smaller groups would have been used but for lack of adequate facilities in most classrooms for showing motion pictures. Excellent conditions were found in two large rooms, however, with theater style seating, good acoustics, closed projection booths, and other features satisfactory for film viewing.

The same experimenter handled both experimental groups, as well as two of the control groups. Except for the showing of the film, procedures were the same as for control subjects. The same measures were given in the same order, under the same instructions. (See Appendix E) Before questionnaires were distributed to experimental subjects, however, they received the following additional instructions to "explain" the showing of the film:

> The purpose of the research today is to standardize a questionnaire. In doing so, we would like to give everyone a standard experience before they begin this study; a painless way we've found to do this is to have everyone see a movie first. So, we are going to show a film, and after the film we would like you to fill out the questionnaire. We will have limited time because of the length of the film, so please do not talk to each other after seeing the movie, but begin

to fill in the first questionnaire as soon as the film is over. You may fill in the cover sheet of your booklets now, but do not turn to the first questionnaire until after the movie. I will give you further instructions at that time. If everyone has a booklet and pencil, we will begin the film now.

As soon as every subject had received the materials, the lights were extinguished and the film was started by the projectionist, who was in both cases an experienced, paid professional from the Instructional Media Center at M.S.U. At the film's conclusion, the lights were turned on and the standard instructions for completing the tests were given. The entire procedure was completed in one hour for both experimental groups.

# CHAPTER IV

# HYPOTHESES

Two kinds of hypotheses were formulated for study. The first are propositions derived from the proposed experimental manipulation, and the second kind test relevant statements from previous research.

## Major Hypotheses

The general thesis of the study may be stated in terms of the following hypothesis: if the mood of individuals is manipulated so as to bring about a feeling of well-being or happiness, they will have higher preferences for affiliating with other persons at that moment than will others whose mood is not systematically influenced to produce happiness.

Operationally, the hypothesis actually contains two statements, one pertaining to the assertion that happiness can be successfully manipulated, and the second that increasing the happiness of subjects will result in increased affiliativeness. These may be stated in terms of the operations and measures of the study as follows:

I. Subjects who see the film are happier than subjects who do not, and this is reflected by higher MACL-H scores in the experimental group.

II. Experimental group subjects, having seen the film, are more affiliative than control group subjects, and this is reflected by:

A. Higher IF Scale scores for the experimental group.

B. Greater preference among experimental subjects for group rather than individual or isolation studies.

C. A larger proportion in the experimental group signing up for the group experiment rather than individual or isolation studies.

## Secondary Hypotheses

A review of the literature on happiness suggested that a positive relationship exists between happiness and sociability. To the extent that affiliative preferences reflect a capacity for or tendency toward successful involvement with people, the following hypothesis should be valid:

III. Happiness is positively related to affiliativeness, and this is demonstrated by:

A. A positive correlation between the MACL-H and the IF Scale for both groups.

B. Higher MACL-H scores for subjects who select the group study as their first rank preference than for subjects who prefer either individual or isolation studies, regardless of group studied.

Although the review of studies of affiliation under stress raised some doubts about the relevance of birth

order, birth order hypotheses could be examined under the happier conditions of the present study. Since Schachter (1959) suggested that early-born subjects were more prone to anxiety, to the extent that anxiety-proneness precludes or inhibits happiness the following hypothesis should hold:

IV. Early-born subjects have lower MACL-H scores than later-born, under both control and experimental conditions.

Early-born individuals were also said to be more affiliative than later-born individuals, according to Schachter, which leads to the following two hypotheses:

V. Early-born subjects have higher IF Scale scores than later-born, under both experimental and control conditions.

VI. Early-born subjects show greater preference for the group than individual or isolation studies on the Sign Up Sheet under experimental and control conditions.

There is a more precise statement by Schachter (1959) of the birth order-affiliation relationship, often ignored by later studies, to the effect that affiliation is positively related to the absolute ordinal position of birth, i.e. the later-born a person is the less affiliative he will be. In terms of the current study, the hypothesis takes the following two forms:

VII. IF Scale scores occur in descending order of magnitude from first-born to last-born subjects, under either condition.

VIII. Preference for group over individual or isolation studies on the Sign Up Sheet occurs in descending order of magnitude from first-born to last-born, under either condition.

# CHAPTER V

## RESULTS

After preliminary methodological considerations, the results will be presented in the order in which they were analyzed. First, comparisons were made between experimental and control groups on the various measures. The data were then further analyzed separately by sex, this distinction being maintained into the final analyses of birth order. All statistical tests are two-tailed. Where different sample sizes are reported, it will be understood that some subjects did not complete all tests.

### Reliability of the Measures

The reliability of both the MACL-H and the IF Scale was determined separately for the experimental and control groups. It will be recalled that the internal consistency of the MACL-H had already been established as high in the summer pilot study, with a Kuder-Richardson KR-20 of .93. Similarly, the MACL-H was found reliable in both the control and experimental groups in the present study, with KR-20's of .86 and .90, respectively.

The original 31-item IF Scale had a KR-20 of .62 in the pilot study. A primary purpose of the extensive item analysis, revision, and extension of the first form of the IF Scale was to improve its internal consistency. The effectiveness of these efforts is seen in the increased reliability of the final 50-item IF Scale. The Kuder-Richardson KR-20 coefficient was .71 in the control group, and .78 in the experimental group.

## Comparison of Subsamples of Experimental and Control Groups

The experimental and control groups were composed of several distinguishable subsamples. Control subjects, for example, were tested by four different experimenters, one of whom later handled the experimental groups. The experimental subjects, on the other hand, participated in one of two groups, one at night and one in the morning, with the same experimenter.

Comparisons were made of MACL-H and of IF Scale means, by way of analyses of variance, for the four control groups run by different experimenters. In neither case did a significant F test result. There being no differences in either the MACL-H or IF Scale means for the four control groups, these groups were combined for further comparisons. In a similar manner, the two experimental groups were compared, without significant differences appearing in the

means obtained by these two groups on either the MACL-H ($t = 0.897$, $p>.05$) or the IF Scale ($t = 1.09$, $p>.05$). The experimental groups were likewise combined for further comparisons.

## Initial Analysis of the Results

In Table 4 are the means and variances obtained by the experimental and control groups on the MACL-H and the IF Scale.

Table 4.--MACL-H and IF Scale Means

| Test | | Experimental Group | Control Group | t |
|---|---|---|---|---|
| MACL-H | $N_2$ | 197 | 183 | |
| | $S^2$ | 19.4 | 14.5 | 2.63** |
| | M | 6.24 | 5.13 | |
| IF SCALE | $N_2$ | 189 | 177 | |
| | $S^2$ | 41.31 | 34.97 | 3.74*** |
| | M | 19.55 | 21.96 | |

**Significant at the .01 level
***Significant at the .001 level

Supporting hypothesis I, the experimental group obtained significantly higher MACL-H scores than control subjects ($t = 2.63$, $p<.01$), evidence that the film generated a happy mood among experimental subjects. With hypothesis I confirmed, it is possible to evaluate hypothesis II that the happier people are, the more they will

prefer to affiliate with others. The IF Scale means presented in Table 4 not only fail to support the hypothesis, but directly contradict it. The experimental, or happy group, actually has a significantly lower mean affiliation score on the IF Scale ($t = 3.74$, $p<.001$), in direct opposition to hypothesis IIA.

These results suggest that when people are made to feel happy, they feel less like being with others than usual. Firmer conclusions, however, depend on further analyses of the data.

Information from the other affiliation measure was disappointing. In Table 5 are the number of subjects in each group who ranked the group, individual, or isolation study as first, second, or third. Hypothesis IIB is not confirmed by these data; the experimental and control groups do not differ significantly ($p>.05$) from each other in the way their members ranked the three studies as first, second, or third.

Friedman two-way analyses of variance by ranks (Siegel, 1956, pp. 166-172), performed on ranks assigned to the three studies, indicate that the effort taken to determine the best order for presenting the three studies in the pilot study had been worthwhile since preferences for the studies were about equally divided under the control condition ($X_r^2 = 4.58$, $.05<p<.10$). However, a different order of study preferences was expected for the experimental

group. Although experimental subjects were happier than controls, the group, individual, and isolation studies were nevertheless ranked about the same by the experimental group ($X^2_r = 1.85$, $p>.05$). Consequently, the Sign Up Sheet rankings support neither the happiness-affiliation hypothesis nor the contradictory results of the IF Scale findings.

Table 5.--Frequencies with Which the Studies were Ranked as First, Second, and Third

| | Experimental Group | Control Group | $X^2$ |
|---|---|---|---|
| Study Ranked #1 | | | |
| Group | 46 | 58 | 0.038 |
| Individual | 42 | 53 | |
| Isolation | 58 | 70 | |
| N | 146 | 181 | |
| Study Ranked #2 | | | |
| Group | 41 | 42 | 1.058 |
| Individual | 70 | 92 | |
| Isolation | 34 | 46 | |
| N | 145 | 180 | |
| Study Ranked #3 | | | |
| Group | 58 | 80 | 0.798 |
| Individual | 33 | 35 | |
| Isolation | 53 | 65 | |
| N | 144 | 180 | |

## Sex Differences in Happiness and Affiliation

Striking sex differences are evident in the way subjects responded on happiness and affiliation measures. In Table 6 are the MACL-H and IF Scale means for both sexes in each group.

Table 6.--Sex Differences in MACL-H and IF Scale Means

| | | MACL-H | | | IF SCALE | | |
|---|---|---|---|---|---|---|---|
| | | Experimental | Control | t | Experimental | Control | t |
| Males | $N_2$ | 57 | 84 | | 53 | 80 | |
| | $S^2$ | 15.53 | 12.82 | | 36.72 | 35.66 | |
| | M | 5.58 | 4.14 | 2.21* | 18.49 | 20.04 | 1.45 |
| Females | $N_2$ | 140 | 99 | | 136 | 97 | |
| | $S^2$ | 20.79 | 14.58 | | 42.77 | 29.15 | |
| | M | 6.51 | 5.97 | 0.99 | 19.97 | 23.55 | 4.56*** |
| | t | 1.44 | 3.36*** | | 1.41 | 4.06*** | |

*Significant at the .05 level
***Significant at the .001 level

Comparisons between experimental and control groups indicate the film was effective in generating a happy mood for male subjects ($t = 2.21$, $p<.05$), but did not make females any happier than females who had not seen the movie ($t = 0.99$, $p>.05$). But the film did have an effect on the general affiliativeness of female subjects, while it made no significant impression on male affiliative preferences: IF Scale scores of experimental subjects dropped below

those of the control group for both males and females, but, while the decrease in affiliation was not significant for the males ($t = 1.45$, $p>.05$), it was highly significant for female subjects ($t = 4.56$, $p<.001$). The film seems to have made males happier and females less affiliative.

Table 6 makes it clear that sex differences were in operation under control conditions. Female subjects were both happier, according to their MACL-H scores ($t = 3.36$, $p<.001$), and more affiliative on the IF Scale ($t = 4.06$, $p<.001$) without seeing a film in the first place. These sex differences were in the same direction in the experimental condition, but were not statistically significant.

The initial results must be modified in the light of the findings for each sex. The film made male subjects happier than they otherwise might have been, but not females. Since the film did not significantly affect the affiliative preferences of males, however, it cannot be said that making males happier also makes them feel less affiliative, as the initial analysis of results suggested. Thus the main thesis is not contradicted by the data, but neither do they support hypothesis II. Since experimental female subjects were not made happier, their affiliation data do not bear directly on the main thesis of the study. However, since they do present the peculiar phenomenon of apparent lessening in affiliativeness after viewing the film, the IF Scale data of the female subjects demand discussion in the next chapter.

The frequencies with which males and females in each group ranked the studies as first, second, or third are presented in Table 7. Separate analyses of Sign Up Sheet data by sex show no evidence of the measure's sensitivity to affiliative preferences. In no case does a significant Chi Square obtain, whether males are compared with females in either group, or experimental and control groups are compared for each sex separately.

Table 7.--Study Rankings of Males and Females

| | Experimental Group | | $X^2$ | Control Group | | $X^2$ |
|---|---|---|---|---|---|---|
| | Male | Female | | Male | Female | |
| Study Ranked #1 | | | | | | |
| Group | 13 | 32 | | 26 | 32 | |
| Individual | 15 | 27 | ns | 21 | 32 | ns |
| Isolation | 14 | 43 | | 36 | 33 | |
| N | 42 | 102 | | 83 | 97 | |
| Study Ranked #2 | | | | | | |
| Group | 12 | 29 | | 13 | 30 | |
| Individual | 16 | 53 | ns | 48 | 44 | ns |
| Isolation | 14 | 20 | | 22 | 23 | |
| N | 42 | 102 | | 83 | 97 | |
| Study Ranked #3 | | | | | | |
| Group | 17 | 41 | | 44 | 35 | |
| Individual | 11 | 22 | ns | 14 | 22 | ns |
| Isolation | 14 | 39 | | 25 | 40 | |
| N | 42 | 102 | | 83 | 97 | |

## Participation Affiliation - Actual Commitment to Participate

The Sign Up Sheet asked subjects to indicate whether they wished to participate in one, two, all, or none of the three studies, thus adding weight to the particular affiliative preferences they had indicated by ranking the three studies. Large differences appeared between experimental and control groups in the proportion of subjects who actually signed up for the studies. While 162 of the 183 control subjects, or eighty-nine percent, signed up for at least one study, only 94 of the 199 experimental subjects, or forty-seven percent, made a similar commitment, and this difference is significant ($X^2 = 75.37$, $p<.001$).

Female subjects in both groups were more likely to sign up for at least one study than males, but sex differences in the proportions of volunteering to non-volunteering subjects reached significance only in the experimental group: 70 of the 142 females in the experimental group, or forty-nine percent, signed up, compared to only 24 of 57, or forty-two percent of the males ($X^2 = 11.57$, $p<.001$). Of the 99 control group females, 89 volunteered, while 73 of 84 males did so, or ninety and eighty-seven percent, respectively ($X^2 = 2.71$, $p<.10$).

Since the two groups differed considerably in terms of the proportion of subjects who signed up for the studies, the question arose as to whether these differences may have

entered into and affected the comparisons that had been made between experimental and control groups. There being marked sex differences in volunteering, the data were examined for both sexes separately as well as combined.

Table 8 presents the MACL-H and IF Scale means for subjects who signed up and those who did not. There are no significant differences in happiness or affiliativeness between volunteers and non-volunteers, whether male or female, or from control or experimental group.

Table 8.--MACL-H and IF Scale Means of Subjects Who Did and Did Not Sign Up

| Group | Sex | | MACL-H | | t | IF SCALE | | t |
|---|---|---|---|---|---|---|---|---|
| | | | Signed Up | Did Not Sign Up | | Signed Up | Did Not Sign Up | |
| Experi-mental | Male | N | 24 | 33 | | 22 | 31 | |
| | | M | 5.13 | 5.91 | ns | 19.27 | 17.94 | ns |
| | Female | N | 70 | 70 | | 66 | 70 | |
| | | M | 6.39 | 6.64 | ns | 20.27 | 19.69 | ns |
| | Both | N | 94 | 103 | | 88 | 101 | |
| | | M | 6.06 | 6.41 | ns | 20.02 | 19.15 | ns |
| Control | Male | N | 73 | 11 | | 69 | 10 | |
| | | M | 3.96 | 5.36 | ns | 20.48 | 19.00 | ns |
| | Female | N | 89 | 10 | | 87 | 10 | |
| | | M | 6.00 | 5.70 | ns | 23.47 | 24.20 | ns |
| | Both | N | 162 | 21 | | 156 | 20 | |
| | | M | 5.08 | 5.52 | ns | 22.15 | 21.60 | ns |

Signing up to participate in the study or studies subjects had ranked suggests a greater commitment to the ranking process itself than when subjects did not expect to take part in them. It would seem to be particularly important, then, that the effects of the group differences in actual volunteering on rankings made by these subjects, be evaluated. Unfortunately, a great many of the subjects who did not sign up did so either by failing to make any rankings, or failing to return the Sign Up Sheet at all. Because of the consequent sparseness of Sign Up Sheet data for these non-volunteering subjects, comparisons with volunteers could not be made of the way the studies were ranked. However, rankings could be studied when data for non-volunteering subjects were removed, leaving presumably "purer" rankings made by subjects who had actually signed up.

Table 9 presents the frequencies with which male and female volunteers selected the group, individual, or isolation studies as ranks one, two, and three. Similar to previous results with the Sign Up Sheet which included non-volunteering subjects, none of the Chi Square comparisons between sexes or between experimental and control groups are significant for first, second, or third rankings when only volunteers are examined. Despite the considerable differences that were observed between groups and sexes in

the proportion of non-volunteering subjects they contained, there appears to have been no impact on any of the measures as a consequence.

Table 9.--Frequencies with Which Male and Female Volunteers Ranked Group, Individual, or Isolation Studies as First, Second, and Third

| Rank | Study | Experimental Group | | | Control Group | | |
|---|---|---|---|---|---|---|---|
| | | Male | Female | Both | Male | Female | Both |
| #1 | Group | 10 | 18 | 28 | 21 | 28 | 49 |
| | Individual | 5 | 21 | 26 | 20 | 28 | 48 |
| | Isolation | 9 | 28 | 37 | 30 | 31 | 61 |
| | N | 24 | 67 | 91 | 71 | 87 | 158 |
| #2 | Group | 4 | 17 | 21 | 12 | 26 | 38 |
| | Individual | 12 | 33 | 45 | 40 | 39 | 79 |
| | Isolation | 8 | 17 | 25 | 19 | 22 | 41 |
| | N | 24 | 67 | 91 | 71 | 87 | 158 |
| #3 | Group | 10 | 32 | 42 | 38 | 33 | 71 |
| | Individual | 7 | 13 | 20 | 11 | 20 | 31 |
| | Isolation | 7 | 22 | 29 | 22 | 34 | 56 |
| | N | 24 | 67 | 91 | 71 | 87 | 158 |

If hypothesis IIC is correct, experimental subjects would be more prone than controls to volunteer to participate in the group rather than in individual or isolation studies. Since volunteers were defined as subjects signing up for at least one study, first rank preferences in Table 9 reflect studies for which subjects actually volunteered. There being no difference between experimental and control volunteers in first rank preferences for the studies,

hypothesis IIC is not confirmed by these data: experimental subjects showed no greater tendency to sign up for the group study than controls.

Relationships Between Happiness and Affiliation

The main thesis of the study suggests that happiness and affiliation are positively related. Table 10 presents Pearson product-moment correlation coefficients between MACL-H and IF Scale measures for male, female, and total subjects under both control and experimental conditions, separately and combined.

Table 10.--Correlations Between the MACL-H and the IF Scale

| Group | Males | Females | Both Sexes |
|---|---|---|---|
| Control | .10 | .30** | .27*** |
| Experimental | .03 | .06 | .06 |
| Combined | .04 | .12 | - |

**Significant at the .01 level
***Significant at the .001 level

Two important features may be noted. First, from the correlations for both sexes, it can be seen that the relationship between the MACL-H and IF Scale is positive, and significantly different from zero under control conditions ($r = .27$; $t = 3.67$, $p<.001$), but drops to virtually

zero in the experimental group ($r = .06$, $p>.05$). Furthermore, the difference between the correlations obtained by experimental and control groups is significant ($Z = 1.99$, $p<.05$).

The second major feature observable in Table 10 is the familiar difference between sexes. It appears to be female subjects in the control group for whom the relationship between happiness and affiliation holds most strongly ($r = .30$; $t = 3.06$, $p<.01$). The correlation for males in the control group does not differ from zero ($r = .10$; $t = 1.35$, $p>.05$), but the difference between the correlations obtained by male and female subjects in the control group is not significant ($Z = 1.35$, $p>.05$). Though the relationship is significant for female control group subjects, the correlation of .30 between the IF Scale and the MACL-H is relatively low, only nine percent of the variance being common to both measures for these subjects. As a consequence, the drop, or difference, in correlation from control to experimental conditions which appears in Table 10 fails to reach significance when only the female subjects are considered ($Z = 1.84$, $p>.05$).

Hypothesis IIIA receives only limited support, then, happiness and affiliativeness being related only for females, under control conditions.

## Relation of Participation Affiliation to Other Measures

There still remains to be understood the relationship between MACL-H and IF Scale scores and the way subjects ranked the Sign Up Sheet studies. To this end, analyses of variance were performed on both MACL-H and IF Scale scores to examine the differences between means obtained on these tests by subjects who ranked either the group, the individual, or the isolation study as their first choice on the Sign Up Sheet. In view of sex differences already evident from previous findings, these analyses were conducted for each sex separately as well as with both sexes combined, and for experimental and control groups separately, and combined. Table 11 presents the MACL-H means, and Table 12 the IF Scale means of subjects with different first rank preferences for the three studies, and the results of the analyses of variance performed on these means.

### MACL-H

Hypothesis IIIB, calling for a relationship between happiness and participation affiliation, is not confirmed; in Table 11, not a single F test for the nine analyses of variance performed on MACL-H data is significant, regardless of the subject's sex, or whether subjects viewed the film or not. The results might be taken as further indication

that the Sign Up Sheet is an insensitive instrument. But there is some indication, however, that the Sign Up Sheet and the IF Scale both measure affiliation.

Table 11.--MACL-H Means of Males and Females Ranking Either Group, Individual, or Isolation Study as First on the Sign Up Sheet

| Group | Sex | | Study Ranked As Number 1 | | | F |
|---|---|---|---|---|---|---|
| | | | Group | Individual | Isolation | |
| Experimental | Male | N | 13 | 15 | 14 | |
| | | M | 5.23 | 5.60 | 4.78 | 0.13 |
| | Female | N | 31 | 26 | 43 | |
| | | M | 7.52 | 6.15 | 6.44 | 0.71 |
| | Both | N | 45[a] | 41 | 58 | |
| | | M | 6.89 | 5.95 | 6.07 | 0.56 |
| Control | Male | N | 26 | 21 | 36 | |
| | | M | 4.65 | 3.48 | 4.17 | 0.61 |
| | Female | N | 32 | 32 | 33 | |
| | | M | 6.28 | 6.00 | 5.64 | 0.23 |
| | Both | N | 58 | 53 | 70 | |
| | | M | 5.55 | 5.00 | 4.84 | 0.58 |
| Combined | Male | N | 39 | 36 | 50 | |
| | | M | 4.85 | 4.36 | 4.34 | 0.22 |
| | Female | N | 63 | 58 | 76 | |
| | | M | 6.89 | 6.07 | 6.09 | 0.76 |
| | Both | N | 103 | 94 | 128 | |
| | | M | 6.14 | 5.41 | 5.39 | 1.06 |

[a]Slightly higher N's for "both" sexes appearing in some cases is due to inclusion of a few Ss who ranked some studies and not others. Criteria for excluding Ss for analyses of sexes separately are somewhat stricter; "odd" Ss were excluded because they appeared with different frequencies for each sex.

Table 12.--IF Scale Means of Males and Females Ranking Either Group, Individual, or Isolation Study as First on the Sign Up Sheet

| Group | Sex | | Study Ranked As Number 1 | | | F |
|---|---|---|---|---|---|---|
| | | | Group | Individual | Isolation | |
| Experimental | Male | $N_2$ | 12 | 13 | 14 | |
| | | $S^2$ | 34.57 | 50.86 | 25.48 | |
| | | M | 21.25 | 19.77 | 17.64 | 1.17 |
| | Female | $N_2$ | 31 | 23 | 43 | |
| | | $S^2$ | 46.27 | 42.59 | 46.69 | |
| | | M | 21.84 | 19.04 | 18.98 | 1.86 |
| | Both | $N_2$ | 44[a] | 36 | 58 | |
| | | $S^2$ | 41.45 | 44.33 | 42.15 | |
| | | M | 21.75 | 19.31 | 18.48 | 3.24* |
| Control | Male | $N_2$ | 26 | 20 | 33 | |
| | | $S^2$ | 32.23 | 33.22 | 37.96 | |
| | | M | 22.08 | 19.20 | 18.91 | 2.35 |
| | Female | $N_2$ | 31 | 31 | 33 | |
| | | $S^2$ | 35.61 | 17.78 | 35.18 | |
| | | M | 23.71 | 22.58 | 24.06 | 0.64 |
| | Both | $N_2$ | 57 | 51 | 67 | |
| | | $S^2$ | 34.14 | 26.07 | 42.73 | |
| | | M | 22.96 | 21.25 | 21.58 | 1.32 |
| Combined | Male | $N_2$ | 38 | 33 | 47 | |
| | | $S^2$ | 32.21 | 38.88 | 33.95 | |
| | | M | 21.82 | 19.42 | 18.53 | 3.37* |
| | Female | $N_2$ | 62 | 54 | 76 | |
| | | $S^2$ | 41.16 | 30.86 | 47.59 | |
| | | M | 22.77 | 21.07 | 21.18 | 1.38 |
| | Both | $N_2$ | 101 | 87 | 125 | |
| | | $S^2$ | 37.31 | 34.13 | 44.53 | |
| | | M | 22.44 | 20.45 | 20.14 | 4.14* |

*Significant at the .05 level

[a]Slightly higher N's for "both" sexes appearing in some cases is due to inclusion of a few Ss who ranked some studies and not others.

IF Scale

According to the analyses of variance presented in Table 12, the differences between IF Scale means are significant under experimental conditions for total subjects ($F = 3.24$, $p<.05$), and for male subjects overall ($F = 3.37$, $p<.05$). Furthermore, for all subjects in the study there are significant differences in the IF Scale affiliation scores of people who selected different studies as their first choice ($F = 4.14$, $p<.05$). The IF Scale means are not significantly different when both sexes are combined in the analysis of control group data, or when analyzed separately for each sex in either the control or experimental group. The IF Scale means for female subjects in general do not differ significantly, unlike the results for males with different first choices.

Where significant F tests were found the data were further subjected to t-test comparisons of the means. The results indicate that subjects who ranked the group study as their first choice were generally more affiliative than those who preferred the isolation study. This was the case for the experimental group taken as a whole ($t = 2.53$, $p<.05$); for experimental and control males combined ($t = 2.63$, $p<.01$); and finally, for all subjects regardless of sex or research group ($t = 2.70$, $p<.01$).

Subjects who preferred the individual study fell between the two extremes. There was a consistent tendency,

however, for those prefering the group study to be more affiliative than subjects partial to the individual study, this trend reaching significance when all subjects are considered together ($t = 2.28$, $p<.05$). Thus, there is some evidence for the concurrent construct validity of the two affiliation measures used in this study, and these measures seem to be more reliably related for males than for females.

## Birth Order, Happiness, and Affiliation

A final series of analyses related birth order to affiliation under control and experimental conditions, again taking possible sex differences into consideration. Several items from the Face Sheet provided information about birth order position of subjects, and also identified subjects who were either twins, adopted, or had step-parents, so they could be eliminated from these comparisons.

### First-Born Vs. Only Children

The relevance of the distinction between "first-born" subjects, having siblings, and "only" children, without siblings was considered first. Comparisons of MACL-H and IF Scale means, and rankings of Sign Up Sheet studies (see Appendices F and G, respectively), show no difference between only-born and first-born in happiness or affiliation, permitting combination of the two kinds of first-born for further comparisons.

Only and First-Born Vs. Later-Born

Only and first-born subjects were compared next with later-born, subjects from all other birth order positions, beginning with second-born children and ranging up to twelfth child in the present sample. Table 13 presents the comparisons between only and first-born and later-born subjects on MACL-H and IF Scale means; the number of subjects ranking group, individual, or isolation studies as their first preference on the Sign Up Sheet appears in Appendix H. Comparisons were made for males and females separately and combined, under experimental and control conditions separately, and for all subjects combined. No significant differences in happiness appear between the MACL-H means of only and first-born and later-born subjects for any of the comparisons, thus failing to support hypothesis IV. Similarly, hypothesis VI is not confirmed by these data; birth order is not related to preferences for the three studies (see Appendix H). Table 13 does reflect a difference in IF Scale affiliativeness, however, between only and first-born and later-born females, the former being significantly more affiliative than the latter ($t = 2.02$, $p<.05$). This difference between birth orders does not hold for males, or for males and females combined under experimental, control, or both conditions combined. If there is a difference in affiliativeness between only and first-born children and those born later, as hypothesis V contends, it holds only for females.

Table 13.--MACL-H and IF Scale Means of Only and First-Born, and Later-Born

| Subjects | | MACL-H Birth Order | | t | IF Scale Birth Order | | t |
|---|---|---|---|---|---|---|---|
| | | Only & First | Later | | Only & First | Later | |
| Males | N | 56 | 77 | | 53 | 73 | |
| | M | 4.89 | 4.62 | ns | 19.68 | 19.04 | ns |
| Females | N | 86 | 139 | | 84 | 135 | |
| | M | 6.37 | 6.09 | ns | 22.54 | 20.79 | 2.02* |
| Controls | N | 71 | 99 | | 68 | 96 | |
| | M | 5.25 | 4.86 | ns | 22.43 | 21.53 | ns |
| Experimentals | N | 71 | 117 | | 69 | 112 | |
| | M | 6.32 | 6.16 | ns | 20.45 | 19.01 | ns |
| Combined | N | 142 | 216 | | 137 | 208 | |
| | M | 5.79 | 5.56 | ns | 21.43 | 20.17 | ns |

*Significant at the .05 level

The birth order comparisons made thus far do not specifically assess differential effects which the manipulation of happiness may have had on subjects of different birth positions. Table 14 presents comparisons of MACL-H and IF Scale means of the various groups.

In Table 14, males of both birth orders have higher MACL-H scores under experimental than under control conditions, but the difference reaches significance only for only and first-born males ($t = 2.66$, $p<.01$). When taken over both sexes, however, it is the later-born subjects

Table 14.--Comparison of MACL-H and IF Scale Means of Experimental and Control Groups for Subjects of Different Birth Orders

| Test | Birth Order | | Males | | t | Females | | t | Combined | | t |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Experimental | Control | | Experimental | Control | | Experimental | Control | |
| MACL-H | Only & First | N | 24 | 32 | | 47 | 39 | | 71 | 71 | |
| | | M | 6.42 | 3.75 | 2.66** | 6.28 | 6.49 | ns | 6.32 | 5.25 | ns |
| | Later | N | 30 | 47 | | 87 | 52 | | 117 | 99 | |
| | | M | 5.10 | 4.32 | ns | 6.53 | 5.35 | ns | 6.16 | 4.86 | 2.34* |
| IF SCALE | Only & First | N | 23 | 30 | | 46 | 38 | | 69 | 68 | |
| | | M | 19.30 | 18.97 | ns | 21.02 | 24.37 | 2.58** | 20.45 | 22.43 | ns |
| | Later | N | 28 | 45 | | 84 | 51 | | 112 | 96 | |
| | | M | 17.68 | 19.89 | ns | 19.45 | 22.98 | 3.43** | 19.01 | 21.53 | 2.94** |

*Significant at the .05 level
**Significant at the .01 level

and not the only and first-born who reach significantly higher levels of happiness after seeing the film than comparable controls ($t = 2.34$, $p<.05$). No differences in happiness scores are observed between conditions for females of either birth order.

Females have significantly lower IF Scale scores after seeing the movie than in the absence of the film whether they are only and first-born ($t = 2.58$, $p<.01$) or later-born subjects ($t = 3.43$, $p<.01$). No difference is observed for males of either birth order. When male subjects are considered along with females, subjects of both birth orders appear less affiliative under experimental conditions, but the difference reaches significance only for the later-born subjects ($t = 2.94$, $p<.01$).

In Table 15 are comparisons of first rankings made by experimental and control groups for subjects of different birth orders. As in previous comparisons of Sign Up Sheet rankings, none of the Chi Squares are significant for either birth order.

## Absolute Ordinal Position, Happiness, and Affiliation

Comparisons based upon the only and first-born versus later-born dichotomy do not take into account possible differences among individuals making up the later-born group. Since Schachter (1959) reported in fact, that it was "absolute ordinal position" which was related to

Table 15.--Comparisons of Experimental and Control Groups on First Rankings of Sign Up Sheet Studies for Subjects of Different Birth Orders

| Birth Order | Study | Males | | $X^2$ | Females | | $X^2$ | Combined | | $X^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Experimental | Control | | Experimental | Control | | Experimental | Control | |
| Only & First | Group | 5 | 9 | | 9 | 15 | | 14 | 24 | |
| | Individual | 8 | 6 | ns | 12 | 12 | ns | 20 | 18 | ns |
| | Isolation | 5 | 16 | | 14 | 11 | | 19 | 27 | |
| | N | 18 | 31 | | 35 | 38 | | 53 | 69 | |
| Later | Group | 7 | 16 | | 22 | 14 | | 29 | 30 | |
| | Individual | 7 | 12 | ns | 14 | 17 | ns | 21 | 29 | ns |
| | Isolation | 8 | 19 | | 26 | 20 | | 34 | 39 | |
| | N | 22 | 47 | | 62 | 51 | | 84 | 98 | |

the affiliativeness of his anxious female subjects, the present data were subjected to a final analysis for the following birth positions: only or first, second, third, and fourth or later. Analyses of variance of MACL-H, and IF Scale means for the extended birth order categories, and Chi Square comparisons of their first rank study preferences (Appendices I and J, respectively) are uniformly insignificant. Absolute ordinal position of birth is unrelated to happiness or to either measure of affiliation for either sex under the conditions of this study. Hypothesis VII and VIII are not confirmed, nor does hypotheses IV receive any support from these latter data.

# CHAPTER VI

## DISCUSSION

An initial analysis of the data found evidence in direct contradiction to the principal hypothesis that happiness should increase affiliativeness. While it appeared that subjects could be made happier by showing them a film, thus sustaining Hypothesis I, the procedure lowered affiliativeness on the IF Scale rather than increasing it as Hypothesis IIA required. Data from the Sign Up Sheet failed to support Hypotheses IIB or IIC: experimental subjects did not differ from controls in relative preferences for group over individual or isolation studies, when either rankings or number of subjects actually signing up were considered. But this apparent contradiction of the major thesis did not hold up when the data were examined for each sex separately. Only male subjects were made happier by the film. On the other hand, females became less affiliative after seeing the film, while affiliation in males was essentially unaffected.

Only males had been made happy by the film; only they met the condition stipulated in Hypothesis I. Thus, only affiliation data for male subjects apply to

Hypothesis II. Experimental group males did not differ from control males, however, on the IF Scale, or in their preferences for the studies, whether these preferences were measured by rankings or actual volunteering; the data for males fail to confirm Hypotheses IIA, IIB, and IIC, respectively. The thesis that people will become more affiliative as they become happier receives no support in this study.

The secondary hypotheses fair little better than the main proposition, and again highlight sex differences in the study. Although a positive relationship was found between IF Scale affiliativeness and MACL-H happiness, confirming Hypothesis IIIA for the control subjects at least, females rather than males seem to account for the finding. This was not the case when "participation affiliation" was considered, since the relationship between the MACL-H and first rank preferences for the studies, called for by Hypothesis IIIB, failed to materialize for either sex.

When birth order analyses of the data were made, whether birth order was considered in terms of early-born versus later-born subjects (Hypotheses IV, V, and VI), or in terms of the absolute ordinal position of birth (Hypotheses VII and VIII), birth order was found to be unrelated to happiness scores, affiliation on the IF Scale, and Sign Up Sheet rankings. Female subjects again provided the single exception: early-born females were more affiliative

than the later-born on the IF Scale, providing at least partial support for Hypothesis V.

## Sex Differences

As we have seen, female subjects differed from males not only because they became less rather than more affiliative when shown the film, but also because the secondary hypotheses seem to hold only for female subjects. Sex differences stood out in other ways as well. A summary of these differences may be useful at this point.

Females were happier and more affiliative than males under control conditions, and under those conditions happiness was positively related to affiliation for females. The film essentially had the effect of reducing these differences to insignificance. Neither of the conditions of the study contributed to any relationship between birth order and affiliation. Early-born females in the study proved to be more affiliative than later-born, while the birth order variable seemed irrelevant to affiliativeness in male subjects. On the other hand, the film increased MACL-H scores of early-born, but not later-born males, while having no effect on the happiness of females regardless of birth order.

Although the Sign Up Sheet did not prove useful in detecting affiliative changes with happiness, it did reflect some differences in the way the two sexes responded to it.

The measure seemed to be valid for males and not for females when it was related to the IF Scale. On the other hand, more experimental group females actually signed up to participate in at least one of the studies. So females seem to have been more prone to volunteer than males.

## Happiness and Affiliation

Clearly the findings do not support the major hypothesis of the study. Making people happy did not result in their feeling more affiliative. There is even the possibility that the reverse may occur.

Few of the theories of affiliation advanced in the research literature have direct bearing on the present findings, since most were specific to affiliation under stress (Schachter, 1959; Miller & Zimbardo, 1966; Helmreich & Collins, 1967). The social comparison theory advocated by Schachter (1959), however, would suggest that the feelings and emotions generated by the experimental procedure were not powerful or unclear enough to activate a need to compare them with the feelings experienced by other people. A similar explanation might also be offered by Schachter's (1959) drive theory viewpoint to the effect that the emotion of happiness aroused by the film had not been strong enough to function as a drive.

These views would suggest then that the film failed to make the subjects more affiliative because it had not

made them happy enough. Indeed it succeeded only in making male subjects happier. However, if the film did not increase the happiness of females, it clearly had a negative effect on their affiliativeness.

Looking first at the differential effect of the film in generating a mood of happiness in the two sexes, we find that similar findings have been reported in a very comparable situation. Nowlis and Green (1964) found a Harold Lloyd comedy, The Freshman, effective with male subjects in producing changes in mood, including elation. Axelrod (1963), using the same film and the same measure of mood, found females relatively unaffected. It takes something other than a film on surfing or a comedy to make girls happy, it seems. But why should a film on surfing that fails to affect male affiliativeness make female subjects less affiliative? The most straightforward response would be that The Surfers had a direct impact on affiliative inclinations in a direction favoring isolation.

One feature of surfing is that it is typically a solitary activity; there is usually only one person on each surfboard. True, the film showed many surfers, as well as people watching on the beach, but the viewer, identifying himself as a single surfer may well have experienced a pleasurable feeling of isolation, struggling alone to ride a wave successfully to shore. But then most of the surfers were males in the film. While this might account for males

enjoying the film more than the girls, it also suggests that, if viewing surfing has a "pull" toward isolation, it should have affected the males more than the females. The opposite was more the case, even though the males did tend to lower IF Scale scores under experimental conditions. The explanation might account for the failure to confirm the hypothesis with males, but it is less satisfying in explaining why females were least affiliative.

A different explanation can be offered for the negative findings with males and the reduced affiliativeness of the female subjects. The film, rather than generating isolative cues, may have generated sufficient affiliative cues to satisfy the needs of these subjects. This argument was proposed recently by Rosenfeld and Franklin (1966), who found that giving "positive feedback" on a sociometric test to female subjects failed to produce increased need affiliation, although negative feedback had been effective in doing so. According to the authors, positive feedback simply satisfied the affiliative needs of their subjects so there was none to be seen in their fantasy projections.

If positive feedback can be viewed as a way of making subjects happy, Rosenfeld and Franklin's results are quite similar to the present findings. Their explanation for the results does not fit the present study as well as it does their own. For reasons already advanced, the film itself does not seem very likely to have generated an

abundance of affiliative cues. Furthermore, having one's needs satisfied should also lead to increased happiness (Wilson, 1967, p. 302), but this was quite the reverse of what occurred. It was the males, not the females, who became happier when they saw the film, although it was female affiliativeness which declined.

Neither an explanation based on increased isolative cues, nor one positing satisfaction of affiliative needs by the experimental procedure is satisfying. What seems to make any single factor explanation of the results implausible are the differences between the male and female subjects in the way they responded to the conditions and measures.

## Sex Differences in Happiness

It is everywhere evident that the differences in the results for the two sexes were not due solely to the differential effectiveness of the film. The male and female subjects differed even more markedly in the control group, the girls being happier than boys.

This finding has some intuitive appeal, but it is by no means consistent with the literature. In developing their version of the MACL, Jacobs and his co-workers (Jacobs et al., 1959a) found that males and females rated the four categories of adjectives very similarly on a 100-point scale, obtaining a positive rank correlation of .90

for the happiness items. Although males and females agreed how "happy" the adjectives were, this did not indicate how they would use them in describing their own moods. The investigators did not report comparisons between sexes in their later work with the MACL (Jacobs et al., 1959b, 1961a, 1961b). Furthermore, their conclusion that a happy stimulus increases feelings of well-being most for subjects already in a happy state (Jacobs et al., 1961b) was not borne out in the present study, where MACL-H scores of the initially happier females were less affected by the film than those of the less happy males.

Wessman (1957) noted that females, unlike males, tend to use the extremes of happiness on rating scales used in surveys. On the other hand, one of the earliest studies (Watson, 1930) reported that males believed themselves happier than women thought themselves to be. In a more recent survey, men and women reported similar levels of happiness (Gurin, Veroff & Feld, 1960). Similarly, in an intensive study of mood, Wessman and Ricks (1966) reported little difference between Radcliffe coeds and Harvard males on an elation-depression scale during six weeks of daily observations. What difference there was, however, did favor females.

There is some slight suggestion that there may be something to the current finding that females exceed males in happiness, but, considering the generally equivocal

nature of other findings, generalization beyond present circumstances does not seem warranted.

The circumstances of testing may be worth recalling. Controls took the various measures on the first day of class, at the beginning of a new academic year. Under these circumstances, and particularly for the many freshmen in the sample, males and females might be expected to vary in their relative level of well-being. Beginning college may be a more anxiety-provoking experience for males than females, or at least less an occasion for happiness, because of the greater pressures on males for achievement. For similar reasons, females may also see college as offering more opportunities for affiliation. Differences in affiliativeness however, do not seem quite as situation bound as happiness seems to be.

## Sex Differences in Affiliation

Less ambiguity surrounds the finding of sex differences in affiliativeness than seems to be the case with happiness. In the control group, females were decidedly more affiliative on the IF Scale than male subjects. Although it is possible that the questionnaire items may be biased toward "feminine" affiliativeness, the only other studies reviewed which directly evaluated the relative affiliativeness of the two sexes (Exline, 1960; Becker, 1967) agree with the present finding. Exline (1960)

thought that differences in need for affiliation might explain why females were more accurate than males in their perception of interpersonal preferences; he found that females did in fact give more affiliative responses than males to French's Test of Insight. Likewise, Becker (1967) very recently reported that females were more affiliative than males under two different conditions for participating in a "pain tolerance test." Females appear to be more gregarious than males when measured by a questionnaire, as in the present study, a projective test, or by a participation measure under some stress. So there does seem to be support for the generality of the present finding.

Consideration of the observed sex differences suggests that perhaps women may be more open in expressing their actual feelings and attitudes than men. In other words, the sex differences may be due to openness rather than actual feelings or behavior. Sherwood (1966), for example, found that self reports of affiliativeness correlated well with the actual affiliative behavior of females, but were relatively poor predictors of affiliation for males in general, although related for "self revealing" males. Less direct, projective devices were found better predictors for males, and "concealing" males in particular.

Since the IF Scale is basically a form of self report, it may be that the females were simply more open about their affiliative preferences than the males in the

present study. All the same, the fact that a similar finding has been reported using a projective technique (Exline, 1960) suggests that females are nevertheless more affiliative than males.

Sample, and Sex Differences in Volunteering

Additional support for the conclusion that females are more affiliative than males comes from an examination of differences in the way subjects volunteered to participate in the Sign Up Sheet studies.

Striking differences appear in the proportions of subjects who actually signed up for one or more studies. Control subjects volunteered far more often than subjects in the experimental group. Conclusions could be drawn from this fact about the effects of viewing the film. We have already seen that the film appears to have lowered the affiliativeness of subjects. A concomitant decrease in the readiness of subjects to volunteer for further studies would seem consistent and supporting evidence, but the difference between the groups was probably artifactual in nature.

Tested on the very first day of class, the control group had no research to their credit at that time, and no knowledge of other, competing studies to take part in. They were prime candidates for volunteering. For reasons discussed in the chapter on procedures, experimental

subjects, on the other hand, already had at least half the term to accumulate research credits and were also aware of many competing studies open to them. Thus the observed differences in signing up might easily be accounted for by this artifact. It is not clear, however, why the volunteering behavior of males and females should have been differentially affected.

Females volunteered to participate to a greater degree than males under both conditions, which is consistent with the fact that they also appeared to prefer the company of others more than males. Other explanations are possible. Aside from being more affiliative, for example, girls may simply be more cooperative than boys. Wolf and Weiss (1965) said just the opposite, however, when birth order effects obtained only for males on their participation measure. Since the Wolf and Weiss (1965) study involved stress, the "cooperativeness" of the sexes may depend on the conditions under which subjects are asked to volunteer.

## The Relationship Between Happiness and Affiliation

Although happiness and sociability have usually been found related (Wilson, 1967), it cannot be said that the results of the present study unequivocally support that general proposition, since only a moderate correlation appeared between the MACL-H and the IF Scale, only for

females, and only under control conditions. When happiness scores were related to the participation affiliation measure, not even that much support was mustered.

A sex difference in the magnitude of the relationship between affiliation and happiness suggested by these results, actually proved insignificant when tested. But sex was not considered a major variable in studies examining the "correlates of avowed happiness" (Wilson, 1967). Differences between men and women were cited by Wilson only incidentally, creating the impression that any differences there might have been must have been minor. Looking again at Wessman and Rick's (1966) longitudinal study, it is noteworthy that they found the Radcliffe females more interested in the social environment when happy than when depressed; unfortunately the authors did not include the social environmental items on the card sort used by their Harvard males. More to the point, factor analyses of different affects and feelings reported by their subjects led Wessman and Ricks (1966) to the conclusion that the two samples were greatly similar in the inner accompaniments of happiness they experienced, including feelings of receptivity and sociability.

The fact that the IF Scale MACL-H correlation was significant only under control conditions merely serves as another indication that the film tended to alter the relationship between happiness and affiliation in a direction

opposite to that predicted by the thesis of this study, for reasons already discussed.

## Birth Order and Affiliation

Birth order effects on affiliation have been rather doubtful, taken over all of the studies previously reviewed here and elsewhere (Warren, 1966). This conclusion is basically confirmed by the results of the present study. In Schachter's (1959) original finding, and over many subsequent studies, however, the birth order-affiliation hypothesis seemed to hold only for females. This is precisely the current finding. The only significant relationship in all of the birth order comparisons was the finding that first-born females had higher IF Scale scores than later-born females.

That the participation measure of affiliation failed to show any birth order effect is also consistent with previous findings. Among the few cases when a birth order-affiliation relationship was found with males rather than females, a participation measure was used (Capra & Dittes, 1962; Wolf & Weiss, 1965). The participation affiliation measure in the present case was not related to birth order even for males.

Hypotheses based on Schachter's (1959) more specific view that it is the absolute ordinal position of birth which is directly related to affiliativeness were not

sustained. If birth order has anything to do with gregariousness, it seems to be specific to first-born and only females, and does not seem to have any increasingly weak effect over successively later birth positions.

## Birth Order and Happiness

Since birth order had no bearing at all on how happy subjects were, the hypothesis derived from the observation that early-born subjects are more anxious than those born later was not sustained. But anxiety-proneness may not be very directly related to happiness. Factors related to unhappiness, such as anxiety, are not necessarily related to happiness, according to a study by Bradburn and Caplovitz (1965). Wilson (1967) also cites a study by Green (1965), which found even elation and depression factors uncorrelated in factor analyses of a number of measures. So, the results of the present study cannot be taken as directly refuting those by other authors concerned more specifically with birth order and anxiety.

## Interaction of Birth Order and Experimental Conditions

The conditions of the study appeared to affect early and later-borns differently; experimental and control group differences on the MACL-H and IF Scale were significant only for later-born. Since the magnitude of the

differences was about the same on each test for both birth orders, however, differences in sample sizes were probably responsible for significance obtaining for one and not the other birth order. But the film seems to have had an impact only on early-born males, despite their smaller number. Early-born males seemed more sensitive to both conditions of the study, in fact; they tended to be happier than later-born males under the experimental conditions, and less happy under the control conditions. This finding is reminiscent of the distinction drawn by Wessman and Ricks (1966) between variability and hedonic level as independent mood variables. Although there were no overall differences in MACL-H scores between early and later-born males, early-born males seemed to be more variable than those born later, corresponding to Wessman and Rick's (1966) "moody" and "stable" individuals. Thus, while birth order seems to be irrelevant to the level of happiness, it may be related to variability of happiness in males. Birth order was not considered by Wessman and Ricks (1966), nor any of the variability studies they reviewed (pp. 177-183).

## Suggestions for Further Research

If there is validity in the idea that happiness can lead to affiliation, the present study has been unable to demonstrate it. Viewed from this vantage point, however, more effective ways of pursuing the question can be seen.

It is clear that the potential, if not actual effects of the film that was used were more complex than desirable, and seemed to have direct effects upon the dependent variable which were not mediated by happiness. A surer way of making people happy is needed, one having as little direct effect upon affiliation as possible. A more useful film, for example, would have no people in it at all, nor would their absence be emphasized. Finding such a film, which is also capable of making people happy, is not an easy task. Other ways of making people happy should be tried. Manipulating self esteem, a variable closely related to happiness (Wessman & Ricks, 1965) is one possibility.

The measures that were used had reasonable internal consistency and some degree of validity. The IF Scale was found to have construct validity even when related to the rather insensitive Sign Up Sheet, and the validity of the MACL-H received support by virtue of the fact that the film increased happiness scores of at least male subjects in the sample. Still, the measures should be improved. The internal consistency of the IF Scale, for example, could be higher. Even after revision and extension of the scale, there were still some items which did not correlate well with the rest of the test.

Despite the fact that a participation affiliation measure like the Sign Up Sheet may be more reliable and

less sensitive to social desirability than other measures (Knapp, Knapp & Weick, 1966), the Sign Up Sheet as used in the present study does not appear versatile or sensitive enough to warrant further use. Projective measures of affiliation motivation might be more profitably used to study the effect of happiness on affiliation, since projective devices seem to have some predictive validity as measures of affiliative behavior, especially for males (Sherwood, 1966). Actual measurement of affiliative behavior has rarely been undertaken (Sherwood, 1966; Fishman, 1966), but should be encouraged.

Sex differences cannot be ignored in further research on affiliation or happiness. An understanding of differences in the affiliative behavior of males and females is necessary to an understanding of these variables. Failure to make a distinction as to sex can be very misleading, as the present study demonstrated. On the other hand, pursuit of differences in happiness and affiliation ostensibly owing to birth order position does not seem profitable. The relevance of birth order to mood variability, however, may be worth further investigation.

A few of the questions raised by the study are particularly worth consideration. Under what circumstances does happiness lead to affiliation and when to a preference for solitude? What responses other than affiliation are affected by happiness? Are there special circumstances

under which females are more affiliative than males, and vice versa, or are sex differences in affiliativeness general across most conditions? Considering the importance which both happiness and the company of other people play in everyday life, a plea for the importance of understanding these variables, at least as well as the negative ones which psychology seems to fixate upon, should be unnecessary.

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# APPENDICES

# APPENDIX A

# FACE SHEET

PROJECT #379, MSU, 1968, No. 1

DATE: _____

STUDENT NO.: _____

AGE: _____

SEX: _____

MAJOR: _____

FAMILY SIZE: (No. of children in your family): _____

BIRTH POSITION (Your birth position in family):
(circle one): Only, 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, later.
Twin? (check one): yes_____, no_____

PARENTS: Father: natural_____, other (step, adoptive, etc.):____

Mother: natural_____, other ____.

# APPENDIX B

## MOOD ADJECTIVE CHECKLIST

MOOD ADJECTIVE CHECKLIST

Each of the following words describes feelings or mood. Please use the list to describe your feelings at the moment you read each word. If the word definitely describes how you feel at the moment you read it, circle the double check (vv) to the right of the word. For example, if the word is relaxed and you are definitely feeling relaxed at the moment, circle the vv as follows:

relaxed (vv) v ? no (This means you definitely feel relaxed at the moment.)

If the word only slightly applies to your feelings at the moment, circle the single check v as follows:

relaxed vv (v) ? no (This means you feel slightly relaxed at the moment.)

If the word is not clear to you or you cannot decide whether or not it applies to your feelings at the moment, circle the question mark as follows:

relaxed vv v (?) no (This means you cannot decide whether you are relaxed or not.)

If you definitely decide the word does not apply to your feelings at the moment, circle the no as follows:

relaxed vv v ? (no) (This means you are definitely not relaxed at the moment.)

Work rapidly. Your first reaction is best. Work down the column, then go to the next. Please mark all words. This should take only a few minutes. Please begin.

| | |
|---|---|
| engaged in thought vv v ? no | elated vv v ? no |
| irritated vv v ? no | suspicious vv v ? no |
| glad vv v ? no | earnest vv v ? no |
| frightened vv v ? no | forgiving vv v ? no |
| dubious vv v ? no | sad vv v ? no |
| depressed vv v ? no | cheerful vv v ? no |
| miserable vv v ? no | exasperated vv v ? no |
| contemplative vv v ? no | irate vv v ? no |
| merry vv v ? no | attentive vv v ? no |
| angry vv v ? no | somber vv v ? no |
| skeptical vv v ? no | uneasy vv v ? no |

cowardly vv v ? no
tense vv v ? no
expansive vv v ? no
dull vv v ? no
ecstatic vv v ? no
serious vv v ? no
timid vv v ? no
subdued vv v ? no
warmhearted vv v ? no
gay vv v ? no
incensed vv v ? no
wretched vv v ? no
annoyed vv v ? no
cheerless vv v ? no
panicky vv v ? no
anxious vv v ? no
sluggish vv v ? no
infuriated vv v ? no
kindly vv v ? no
lively vv v ? no
downhearted vv v ? no
brooding vv v ? no
alarmed vv v ? no
gloomy vv v ? no
downcast vv v ? no
disgusted vv v ? no
apprehensive vv v ? no

worried vv v ? no
affectionate vv v ? no
concerned vv v ? no
resentful vv v ? no
concentrating vv v ? no
drowsy vv v ? no
happy vv v ? no
indignant vv v ? no
exultant vv v ? no
enraged vv v ? no
unhappy vv v ? no
provoked vv v ? no
jolly vv v ? no
pleased vv v ? no
intent vv v ? no
fearful vv v ? no
discouraged vv v ? no
terrified vv v ? no
contented vv v ? no
tired vv v ? no
joyous vv v ? no
mad vv v ? no
introspective vv v ? no
vexed vv v ? no
dejected vv v ? no
scared vv v ? no

# APPENDIX C

# THE IF SCALE

THE "IF" SCALE

The following questions call upon your ability to imagine yourself in a variety of situations and conditions. Try to imagine yourself in each one in the way it is described, and then choose one of the three answers which most fits you at this moment. Place your answer in the appropriate space on the answer sheet provided. Work quickly, but please answer every question. This should take only a few minutes. Please begin.

1. If you were able to choose one thing that would happen to you in college, would it be:

   (a) something academic
   (b) something social
   (c) something practical

2. If you were pleasantly anticipating doing something exciting and fun, would you

   (a) let your imagination go
   (b) tell somebody else about it
   (c) keep it under your hat

3. If you really wanted to kick up your heels, would you prefer to:

   (a) get a gang together and paint the town
   (b) drive a fast car
   (c) hop a plane for anywhere

4. If you were going to be subject in a psychological experiment on the discrimination of tastes in one hour, would you prefer to:

   (a) contemplate your favorite flavors
   (b) see what kinds of things others like
   (c) read up on taste discrimination

5. If you were at home now and the telephone rang, would you be:

   (a) aggravated
   (b) delighted
   (c) uneasy

6. If you were feeling really great about yourself, would you:

   (a) do your work really effectively
   (b) communicate your joy to nature
   (c) spread your good feeling around to others

7. If you found yourself with more free time than you had expected to have in college, would you:

   (a) join a special interest group
   (b) take more course work
   (c) catch up on your leisure reading

8. If you noticed that no one had come to visit you for some time, would you:

   (a) appreciate their consideration
   (b) visit someone yourself right away
   (c) be surprised that you had noticed

9. If you were elected to an honorary society, would you:

   (a) attend meetings regularly
   (b) earn the honor by studying hard
   (c) make light of it

10. If you were waiting in the lobby to see a movie, would you:

   (a) think about reviews of the movie
   (b) look around for someone you knew
   (c) buy yourself some popcorn

11. If you had just received an invitation to a class reunion, would you be:

   (a) too busy to go
   (b) uneasy about it
   (c) delighted to go

12. If you had just successfully completed a difficult but satisfying task, would you:

   (a) enjoy a deserved rest
   (b) tackle the next tough job
   (c) throw a party

13. If it were evening and you were completely free, would you prefer to:

    (a) watch T.V.
    (b) curl up with a good book
    (c) go visiting

14. If you were stranded by yourself on a desert island, would you prefer to spend the time:

    (a) trying to get back to civilization
    (b) meditating on the meaning of life
    (c) relaxing in the peace and quiet of it all

15. If you were not sure of your feelings about doing something, would you:

    (a) recall how you felt in similar situations
    (b) consider doing something else instead
    (c) find someone else to do it with

16. If you had just discovered a surprising, new capacity in yourself, would you:

    (a) keep your mouth shut about it
    (b) glow in your private revelation
    (c) write home about it

17. If you found yourself standing outside of a room in which a few people were talking, would you:

    (a) go in
    (b) walk away
    (c) stand still

18. If you really felt like rewarding yourself for something, would you:

    (a) go dining and dancing
    (b) buy something
    (c) luxuriate in sleep

19. If there was something you had to do in about 15 minutes and you had to wait nearby until then, would you:

    (a) read something
    (b) talk to a friend for a while
    (c) just sit and rest a while by yourself

20. If you were waiting to see the dentist, would you prefer to wait:

    (a) with other patients
    (b) by yourself
    (c) with a good book

21. If you were feeling kind of low, would you:

    (a) keep busy
    (b) avoid bothering anyone with it
    (c) join others having fun

22. If you suddenly seemed to feel very elated and happy without knowing why, would you:

    (a) share your joy with others
    (b) keep it to yourself for a while
    (c) just enjoy the feeling

23. If you felt you needed a break from studying, would you prefer to:

    (a) go to the grill
    (b) take a walk
    (c) sleep

24. If you had an opportunity to go abroad, would you prefer to:

    (a) go with a tour group
    (b) finish your studies
    (c) go alone

25. If you had just been told that a party to which you had been invited had been canceled, would you feel:

    (a) relaxed
    (b) relieved
    (c) frustrated

26. If you were going to move to another place to live, would you think most about:

    (a) meeting new challenges
    (b) seeing new things
    (c) meeting new people

27. If you found yourself apparently being ignored at a party, would you:

    (a) be glad to know this was not your kind of crowd
    (b) leave the party quietly, with dignity
    (c) talk to someone else who seemed to be alone

28. If you were going to be given electric shock in some spookey experiment would you prefer to wait for your turn to be shocked:

    (a) alone
    (b) with others
    (c) don't care

29. If you had your choice of living arrangements, would you prefer to:

    (a) join a fraternity or sorority
    (b) get your own apartment
    (c) live at home

30. If you felt like expressing your disagreement with some institution's policies, would you:

    (a) join a group protesting the policies
    (b) write a letter to the editor of a newspaper
    (c) make sure first that your ideas were better

31. If you felt at peace with the whole world right now, would you:

    (a) feel like a better person than before
    (b) feel like being with someone
    (c) feel like really working effectively

32. If you felt like becoming more interested in politics right now, would you:

    (a) study the important issues carefully
    (b) join a political action group
    (c) write your congressman about your views

33. If you had nothing to do this evening, would you take this opportunity to:

    (a) see a movie
    (b) have a friend over
    (c) read Playboy magazine

34. If you really felt like "turning on," would you:

    (a) pursue understanding through meditation
    (b) become deeply involved in the lives of other people
    (c) bathe in the sounds of groovy music

35. If no one seemed to sit near you in class, would you:

    (a) ask someone if your deodorant was working
    (b) use extra space for books and things
    (c) drop the class

36. If you wanted to broaden your horizons, would you:

    (a) read more widely
    (b) join a cultural discussion group
    (c) see some art exhibits

37. If you were trying to kill time until your next class, would you:

    (a) have a coke with someone
    (b) go over your notes
    (c) just relax and take it easy

38. If you weren't going to college right now, would you rather be:

    (a) starting a successful career
    (b) loafing on the beach
    (c) in the Peace Corps

39. If you were feeling sort of tense for no apparent reason, would you:

    (a) try to take your mind off it
    (b) talk to somebody
    (c) try to figure it out

40. If you were really feeling like having some privacy for a change, would you:

    (a) keep your door closed
    (b) disappear for awhile
    (c) go to the library

41. If you had just finished a tough job to your great satisfaction, would you:

    (a) take a refreshing rest
    (b) look forward to the next job
    (c) celebrate it quietly with somebody

42. If a thunder storm forced you to remain indoors on a Saturday, would you:

    (a) putter around at your favorite hobby
    (b) watch the beauty of the storm
    (c) gab with someone on the telephone

43. If there was some uncertainty in the way you felt about something, would you:

    (a) imagine yourself feeling one way or the other
    (b) try to forget about it for awhile
    (c) check your feelings out with someone else

44. If you were lost in the woods, would you prefer to find:

    (a) a compass
    (b) someone else lost
    (c) a boyscout handbook

45. If you found that you were intellectually so far superior to anyone that you stood in a class by yourself, would you be:

    (a) absolutely delighted
    (b) rather sad
    (c) very much surprised

46. If you were new around here, would you find yourself most interested in:

    (a) getting to know everybody
    (b) getting to know where everything is
    (c) getting to know how to succeed in college

47. If you had just realized that no one had telephoned you in two days, would you:

    (a) think nothing of it
    (b) be grateful for having peace and quiet
    (c) find out what was going on

48. If you were waiting in line for something right now, would you pass the time:

    (a) daydreaming about something nice
    (b) gleefully anticipating what you were waiting for
    (c) talking with someone in line

49. If you were going to a world's fair, would you feel like going:

    (a) with a church group
    (b) by yourself
    (c) at some other time

50. If you had really earned a bit of a treat, would you:

    (a) take time to see friends
    (b) get yourself something nice
    (c) do absolutely nothing for awhile

# APPENDIX D

## THE SIGN UP SHEET

PLEASURE EXPERIENCE PROJECT, # 379

SIGN UP SHEET

From time to time the department of psychology needs subjects to participate in various research projects. The present series offers an opportunity to serve as subjects in studies which we can happily recommend as not only educational for the student, but also as uniquely enjoyable too. You will receive credit for participation in these studies as well. Your preferences will be of much help to us whether you wish to participate or not. Thank you for your cooperation.

Please rank these studies in order of your preferences for them. The highest rank (the one you prefer most) is 1; rank 2 is next most preferred, and 3 is least preferred. Write in the letter of each study next to its appropriate rank, using the spaces below.

1 _____

2 _____

3 _____

Exp. A. This study will involve a film which will describe and illustrate various types of activities pleasurable to most people. The film will be followed by measures of pleasure sensitivity in which the subject is isolated from all other sources of distraction, including the experimenter.
Time: approx. 1-1/2 hrs.

Exp. B. This study will involve another film which will describe and illustrate various types of activities pleasurable to most people. The film will be followed by separate, individual interviews to test the effects of pleasure on the senses.
Time: approx. 1-1/2 hrs.

Exp. C. This study will involve a third film which will describe and illustrate various types of activities pleasurable to most people. The film will be followed by a group discussion, in groups of 3 to 6 persons, regarding the effects of pleasure on the senses.
Time: approx. 1-1/2 hrs.

You may wish to participate in all, two, one, or none of these studies. Please indicate your choice by placing a check mark in one of the spaces below.

I wish to participate in:

all three studies _____
my top two ranked studies _____
my top ranked study only _____
none of the studies _____

Name: _____
Student No.: _____
Age: _____
Sex: _____

(Note: The original Sign Up Sheet appeared on a single page, printed in elite type.)

# APPENDIX E

## GENERAL INSTRUCTIONS TO EXPERIMENTERS FOR ADMINISTRATION OF THE MEASURES

1900

INSTRUCTIONS

1. Your usual "hello" stuff.

2. Tell about research participation; credit received for it, etc., as you normally would.

3. Remainder of the hour (about one-half hour at least) they will complete some research material for which they will get 1 credit toward the 3 credits needed.

4. Distribute "credit" sheet so they can sign it and get credit for this research.

5. Distribute questionnaire packets yourself to assure each S gets the whole bunch. (The kids tend to think they should pass on some of the materials if you have them do it. It seems like a fat pack, but it really takes them very little time to do.) You can tell them to go ahead and fill out the first page (cover sheet) when they get the package.

6. Have several kids help pass around the pencils. The "IF" Scale will be machine scored, so please make sure they use the pencils.

7. Read the instructions for the Mood Adjective Checklist fairly rapidly. The kids usually catch on quickly. They are supposed to write right on the ACL form. Make sure they don't try to use the IBM answer sheet which goes with the next test. You can tell the class as much if you see them starting to use the IBM sheet.

The Mood ACL takes the kids very little time to do; usually 5 to 10 minutes.

IF Scale

8. The kids will do these tests at different rates though. So when you see them turning to do the next test--let them do so, and after about a third of them have proceeded to the next one, mention that they should be finishing the Adjective Checklist pretty soon and starting on the IF Scale.

(It is important to keep them busy rather than sitting around talking; the latter should be discouraged.)

When you notice a few kids starting on the IF Scale, tell them to make sure they use the IBM answer sheet provided. Tell them to simply put their student number in the upper right hand corner of the answer sheet and their section number (tell them what it is) and not to bother filling in the rest of the stuff.

Tell them to make sure they read the instructions before beginning. "I'll read them right now since some of you are beginning the IF Scale." Then, read the instructions fairly rapidly. Emphasize "remember to choose the answer that most fits you at this moment." You needn't stop everyone before you read the instructions--most will continue with one ear open. That's okay.

There are some typo errors on the IF Scale, but they don't seem to be serious ones. If someone asks you, you can tell them the correct spelling, but don't bother to correct them all to the class.

Sign Up Sheet

9. When you notice some Ss finishing the IF Scale, say: "Other experiments in the Project 379 series are going to be conducted in the near future. When you finish the IF Scale, you will find a Sign Up Sheet for these experiments under your test materials. Please be sure to read them very carefully and fill them out completely. Your rankings of these studies will be very helpful in deciding on priorities in doing the studies."

Then read the instructions about ranking. "Please rank . . . . etc."

Tell the kids to put down their sex along with the other information at the bottom of the sign up sheets--there was an error in printing which left it out.

10. You can tell them toward the end, that they can leave when they have finished, if you need to.

When they hand in their stuff, accept it personally and put it in a criss-cross pattern to keep the stuff separated. It does not matter what order they have their stuff in as long as it is all there together.

11. You can anticipate a number of questions the kids might ask (usually as they are leaving). Some examples:

(1) Why names and Student Numbers?

Ans: To keep the stuff straight and together. The name is needed so they can be contacted for the experiments (on the sign up sheet). Names shouldn't be placed on the other materials, because they will not be needed, but it doesn't matter if they do. All test materials are strictly confidential.

(2) Are these tests to be interpreted personally to them? What do they tell about my personality? etc.

Ans: These tests are strictly for research purposes only. They will not be interpreted or used individually at all, but only as grouped data, e.g. averages, etc. This also means that they will not get personal, individual feedback about the stuff. It just isn't used for that purpose.

(3) (During administration of Sign Up Sheet) Do I have to be in these experiments?

Ans.: No, you will notice there is a place for you to indicate whether or not you want to be in any of them at the bottom of the sheet. But please be sure to rate them anyway.

(4) When can I be in the experiments? (re Sign Up Sheets) etc.

Ans: They will be contacted about the studies by someone later if they signed up. Right now this is mainly to help in planning which study to do first, etc. The student is not necessarily 100% committed to being in the studies. They will hear about it later.

It is important to maintain the ruse about the sign up sheet throughout the administration of the tests--otherwise Ss overhearing will invalidate the research. Further research is going to be done using other 151 students (and also possible these same Ss) so it is better not to debrief them at all if you can.

However, they will be thinking they have got some studies to be in already for their research credits. In a week or two, you can tell them that the three studies have been postponed indefinitely because of some vague troubles in getting materials or something. And that they should not

wait around counting on them if they can get their research credits in some other way. (Especially if other researchers are trying to get Ss). Perhaps at the end of the term they could be told about the research but let's see about that later.

12. If you have any questions, or need any additional tests or materials, please call me:

Dick Gatley
Home: 351-0258
Counseling Center (Off.):
355-8270

# APPENDICES F THROUGH J

TABLES OF MACL-H AND IF SCALE MEANS, AND SIGN UP SHEET RANKINGS FOR ONLY CHILDREN AND FIRST-BORN, AND FOR EXTENDED BIRTH ORDER CATEGORIES

Appendix F.--MACL-H and IF Scale Means of First-Born and Only Children

| Subjects | | MACL-H Birth Order Only | MACL-H Birth Order First | MACL-H t Test | IF Scale Birth Order Only | IF Scale Birth Order First | IF Scale t Test |
|---|---|---|---|---|---|---|---|
| Males | N | 6 | 50 | | 6 | 47 | |
| | M | 4.50 | 4.94 | ns | 17.67 | 19.94 | ns |
| Females | N | 12 | 74 | | 12 | 72 | |
| | M | 5.92 | 6.45 | ns | 21.25 | 22.75 | ns |
| Controls | N | 7 | 64 | | 7 | 61 | |
| | M | 5.57 | 5.22 | ns | 18.57 | 22.87 | ns |
| Experimentals | N | 11 | 60 | | 11 | 58 | |
| | M | 5.36 | 6.50 | ns | 21.00 | 20.34 | ns |
| Combined | N | 18 | 124 | | 18 | 119 | |
| | M | 5.44 | 5.84 | ns | 20.06 | 21.64 | ns |

Appendix G.--Frequencies With Which Only and First-Born Subjects Ranked the Studies as First, Second, or Third

| Study | Rank 1 | | | Rank 2 | | | Rank 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Birth Order | | | Birth Order | | | Birth Order | | |
| | Only | First | $X^2$ | Only | First | $X^2$ | Only | First | $X^2$ |
| Group | 7 | 31 | | 5 | 31 | | 7 | 41 | |
| Individual | 4 | 34 | ns | 11 | 45 | ns | 4 | 24 | ns |
| Isolation | 8 | 38 | | 3 | 27 | | 8 | 38 | |
| N | 19 | 103 | | 19 | 103 | | 19 | 103 | |

Note: Subjects of both sexes from both experimental and control groups are combined for these comparisons due to the small number of only-born subjects in the sample.

Appendix H.--Frequencies With Which the Studies Were Ranked as First by Only and First-Born, and Later-Born Subjects

| Study | Birth Order: Only And First | Birth Order: Later | $X^2$ | Birth Order: Only And First | Birth Order: Later | $X^2$ | Birth Order: Only And First | Birth Order: Later | $X^2$ |
|---|---|---|---|---|---|---|---|---|---|
| | Males | | | Females | | | Controls | | |
| Group | 14 | 23 | | 24 | 36 | | 24 | 30 | |
| Individual | 14 | 19 | ns | 24 | 31 | ns | 18 | 29 | ns |
| Isolation | 21 | 27 | | 25 | 46 | | 27 | 39 | |
| N | 49 | 69 | | 73 | 113 | | 69 | 98 | |
| | Experimentals | | | Combined | | | | | |
| Group | 14 | 29 | | 38 | 59 | | | | |
| Individual | 20 | 21 | ns | 38 | 50 | ns | | | |
| Isolation | 19 | 34 | | 46 | 73 | | | | |
| N | 53 | 84 | | 122 | 182 | | | | |

Appendix I.--MACL-H and IF Scale Means of Extended Birth Order Categories

| Test | Subjects | | Birth Order: Only And First | 2nd | 3rd | 4th And Later | F |
|---|---|---|---|---|---|---|---|
| MACL-H | Males | N | 56 | 47 | 19 | 11 | |
| | | M | 4.89 | 4.36 | 4.47 | 6.00 | 0.61 |
| | Females | N | 86 | 86 | 36 | 17 | |
| | | M | 6.37 | 5.94 | 7.11 | 4.65 | 1.48 |
| | Control Group | N | 71 | 58 | 26 | 15 | |
| | | M | 5.25 | 4.64 | 4.73 | 5.93 | 0.62 |
| | Experimental Group | N | 71 | 75 | 29 | 13 | |
| | | M | 6.32 | 5.96 | 7.52 | 4.31 | 1.83 |
| | Combined Groups | N | 142 | 133 | 55 | 28 | |
| | | M | 5.79 | 5.38 | 6.20 | 5.18 | 0.68 |
| IF SCALE | Males | N | 53 | 44 | 19 | 10 | |
| | | M | 19.11 | 19.38 | 18.37 | 18.80 | 0.10 |
| | Females | N | 84 | 83 | 36 | 16 | |
| | | M | 22.54 | 21.06 | 21.11 | 18.63 | 2.06 |
| | Control Group | N | 68 | 56 | 26 | 14 | |
| | | M | 21.99 | 22.52 | 20.65 | 19.21 | 1.19 |
| | Experimental Group | N | 69 | 71 | 29 | 12 | |
| | | M | 20.45 | 18.87 | 19.72 | 18.08 | 0.94 |
| | Combined Groups | N | 137 | 127 | 55 | 26 | |
| | | M | 21.43 | 20.48 | 20.16 | 18.69 | 1.67 |

Appendix J.--Frequencies With Which the Studies Were Ranked as First by Subjects of Extended Birth Order Categories

| Subjects | Study | Birth Order: Only And First | 2nd | 3rd | 4th And Later | $X^2$ |
|---|---|---|---|---|---|---|
| Males | Group | 14 | 11 | 8 | 4 | |
| | Individual | 14 | 9 | 7 | 3 | 7.27 |
| | Isolation | 21 | 21 | 3 | 3 | ns |
| | N | 49 | 41 | 18 | 10 | |
| Females | Group | 24 | 22 | 11 | 3 | |
| | Individual | 24 | 19 | 7 | 5 | 2.24 |
| | Isolation | 25 | 28 | 13 | 5 | ns |
| | N | 73 | 69 | 31 | 13 | |
| Control Group | Group | 24 | 16 | 10 | 4 | |
| | Individual | 18 | 12 | 11 | 6 | 9.33 |
| | Isolation | 27 | 29 | 5 | 5 | ns |
| | N | 69 | 57 | 26 | 15 | |
| Experimental Group | Group | 14 | 17 | 9 | 3 | |
| | Individual | 20 | 16 | 3 | 2 | 4.82 |
| | Isolation | 19 | 20 | 11 | 3 | ns |
| | N | 53 | 53 | 23 | 8 | |
| Combined Groups | Group | 38 | 33 | 19 | 7 | |
| | Individual | 38 | 28 | 14 | 8 | 2.80 |
| | Isolation | 46 | 49 | 16 | 8 | ns |
| | N | 122 | 110 | 49 | 23 | |