

THE RELATIONSHIP OF CHRONIC AND SITUATIONAL
LONELINESS TO SOCIAL SKILLS AND
SOCIAL SENSITIVITY

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BY

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the University of Manitoba in partial fulfillment of the requirements
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ABSTRACT

Based on the previous literature, loneliness is defined as a discrepancy, in which the person's achieved level of social relationships is smaller or less satisfying than he or she desires. The viewpoint developed in the current study suggests that loneliness may be the result of personal factors, and thus a chronic trait, or a result of situational variables, and a more temporary state. An argument was developed for associating chronic loneliness, but not situational loneliness, with a social skills, social sensitivity deficit. Specifically, differential use of influence attempts, conforming behavior, receptive and expressive non-verbal communication, and self-monitoring of expressive behavior were examined. Eleven hypotheses, derived from both the conceptual framework and supporting literature, were tested.

Subjects were selected for the study based on their responses to the UCLA Loneliness Scale (Russell, Peplau and Heim, 1978). Female introductory psychology students (N = 342) responded to the scale twice--once as they felt over the past two weeks, and once as they felt in general throughout their lives. Those who fitted into experimental categories: chronic lonely (high on both scales); situational lonely (high on recent but low on general loneliness); or

non-lonely (low on both scales), were asked to participate in the experiment. A final group of 74 subjects performed a number of tasks to provide dependent measures in three broad categories: six social influence measures, two measures of compliance, and six measures having to do with expressive communication.

The set of dependent measures pertaining to the subjects' use of different bases of social influence was obtained via a case-history technique. This yielded scores based on French and Raven's model, reflecting use of personal reward, concrete reward, personal coercion, concrete coercion, reference, and no action. The compliance measures consisted of conformity in an Asch situation using the Muller-Lyer illusion as stimulus material, and susceptibility to reinforcement in a verbal conditioning task. The six expressive communication measures were obtained by (a) having subjects react to one set of six slides showing only a stimulus person's face; (b) videotaping subjects' expressive behavior during exposure to a second set of slides and having other subjects decode this behavior (a method developed by Buck, 1972); and (c) having subjects complete the Snyder (1974) Self-Monitoring Scale. The six measures derived from these tasks were as follows: (1) each subject's tendency to spontaneously attribute emotion to facial stimuli; (2) each subject's ability to transmit to other subjects a facial expression reflective of the pleasantness she is

experiencing; (3) each subject's ability to emit a facial expression reflective of the content category of the slide being observed; (4) each subject's ability to detect from a videotape of the encoder's expressive behavior, the pleasantness of the stimulus slide the original observer was viewing when the videotape was recorded; (5) the category of stimulus slide being viewed; and (6) each subject's score on the Self-Monitoring Scale.

Hypotheses were tested, using one-way analyses of variance, with subject's loneliness status--chronic, situational or non-lonely--as the independent variable. Of these major planned analyses, three ANOVAS yielded significant differences between groups. With regard to influence strategies, it was found that the non-lonelys made significantly greater use of referent power than did the chronic or situationally lonely individuals. When scores on the various power bases were combined to form an overall assertiveness measure, a trend ($p < .14$) emerged, indicating that the lonely groups tended to use non-assertive influence strategies as compared to the non-lonely group. In general, the analyses of conformity measures did not support the hypotheses. When the two groups of lonely subjects were combined, a near significant trend indicated that, contrary to what was predicted, lonely females were less conforming on the Asch conformity test than the non-lonely females.

There was a main effect of loneliness on sender

accuracy in the expressiveness measures, both for category accuracy and for pleasantness accuracy: the situational lonelies were more readable than either the chronic lonelies or the non-lonelies. Receptive accuracy and Self-Monitoring scores showed no group differences, indicating that differences in expressiveness were in spontaneous, relatively uncontrolled, rather than controlled aspects.

The results were discussed in terms of their implications for a chronic-situational categorization of loneliness. It was suggested that situational loneliness may either be an early stage of chronic loneliness and therefore more aroused, or increased expressiveness may be a characteristic which keeps the situational lonely from becoming a chronic lonely. The evidence regarding social skills, as well as the expressiveness data, contrasted with studies on depression, and pointed out some critical differences between the two. Loneliness was seen as clearly differentiated from depression, and worth exploring as a distinct theoretical entity.

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TABLE OF CONTENTS

	Page
ABSTRACT	ii
ACKNOWLEDGMENTS	vi
LIST OF TABLES	xi
Chapter	
I INTRODUCTION	1
II LITERATURE REVIEW AND HYPOTHESES	6
Loneliness Defined	
Causal Attributions and Loneliness: Theoretical Concepts	
Weiner's Causal Attribution Model	
Causal Attributions and Loneliness: Empirical Evidence	
Motivation and Causal Ascription	
Precipitating versus Predisposing Causes	
Loneliness and Interpersonal Style	
Chronic versus Situational Loneliness	
Loneliness and Amount of Social Contact	
Loneliness and Social Skills	
Loneliness and Social Influence	
Power and Social Influence	
Bases of Social Power	
Interpersonal Power and Loneliness: A Perspective	
Interpersonal Power and Loneliness: Relevant Research	

Compliance: The Reception of Per- suasive Communication	
Reasons for Compliance	
Verbal Reinforcement and Compliance	
Nonverbal Influence and Influencing: Facial Expressions	
Recent Studies of Facial Expressions	
Individual Differences in Encoding and Decoding of Facial Cues	
Loneliness and Facial Expressiveness	
Self-Monitoring of Expressive Behav- ior	
Self-Monitoring and Loneliness	
Summary of the Study and Hypotheses	

Subjects	
Assessing Compliance	
Verbal Conditioning Task	
Conformity Task	
The Encoding and Decoding of the Content and Pleasantness of Stimulus Slides	
Expressive Manipulation	
Receptive Manipulation	
Spontaneous Attribution of Emotional State	
Self-Monitoring of Expressive Behavior	
Social Influence Strategies	
Post-Experimental Procedures	

Chapter	Page
IV	84
RESULTS	
Power Strategies	
Measure of General Assertiveness and Loneliness	
Compliance	
Expressive Communication	
Depression and Expressiveness	
Summary	
V	102
DISCUSSION	
Loneliness and Social Influence	
Referent Power and Assertiveness	
Coercion	
Loneliness and Compliance	
Loneliness and Facial Expressions	
Sending Expressive Communications	
Receiving Expressive Communications	
Self-Monitoring of Expressive Behavior	
Emotional Attributions	
The Present Study's Implications for a Theory of Loneliness	
Loneliness and Social Skills	
Loneliness and Depression	
Suggestions for Further Research	
Theoretical Research	
Applied Research	
Summary	

REFERENCE NOTES	126
REFERENCES	127
APPENDIXES	
I. UCLA Loneliness Scale	
II. Loneliness Questionnaire	
III. Test of Subject Awareness During Verbal Conditioning Task	
IV. Example Slides Used in the Beck Slide-Viewing Paradigm	
V. Form for Subject's Ratings of Slide Pleasantness	
VI. Form for Receiver Subject's Guesses of Categories and Pleasantness Ratings	
VII. Snyder's (1974) Self-Monitoring Scale	
VIII. Influence Strategies Questionnaire	
IX. Post-Experimental Questionnaire	

LIST OF TABLES

Table		Page
1	Analysis of Variance: Effects of Loneliness on Power Scores	86
2.	Power Base Scores as a Function of Loneliness	86
3	Pearson-Product Moment Correlations among Power Bases	88
4	Mean Assertiveness Scores as a Function of Loneliness	90
5	Analysis of Variance: Effects of Loneliness and Awareness on Compliance	92
6	Conformity and Verbal Conditioning Scores as a Function of Loneliness and Awareness	93
7	Analysis of Variance: Effects of Loneliness on Expressiveness Measures	95
8	Expressive Communications Scores as a Function of Loneliness	96
9	Mean Beck Depression Scores as a Function of Loneliness	98
10	Pearson-Product Moment Correlations between Depression and Expressiveness as a Function of Loneliness	98

CHAPTER I

LONELINESS

". . . The fun that everyone else is having is particularly visible. One walks, is not so often in the protective shell of a car--and too often one walks behind a charming couple holding hands. In the hallway of a building the laughter and arguments of other people's lives can be heard. . . . And of course there are always the newspaper columns--convenient daily reminders of the gatherings other people were invited to.

"Being lonely would be easier to bear if one could just admit it. But instead it is a dirty secret--a sign of weakness; worse, of unpopularity. . . ." (Ephron, 1978, p. 40)

This description of a lonely New Yorker could equally well apply to countless North Americans. Loneliness, experienced by everybody at some point in their life, can be one of the most painful experiences felt. Loneliness--experienced by children, adolescents, adults, and the aged--is becoming increasingly prevalent, as more and more people are living alone or in smaller-than-formerly families. People are marrying later, having fewer children, divorcing more often, and moving greater distances away from home.

The degree to which we all depend on social interactions is well known. On a very basic level, both human babies and monkeys may die if they are deprived of early social contact. At best they will grow up deficient of the normal skills necessary to survive. The early work by Spitz (1945) on hospitalized children, deprived of meaningful social

contact, demonstrated the importance of socialization in the development of intellectual and even physical capacities, not to mention the ability to interact in social situations later in life.

On a less extreme level, not enough social contact can affect learning processes, since much of what is "appropriate behavior" is learned through modelling others. Social contacts are necessary for getting jobs. People who are married tend to be more acceptable to others than those who are single in adulthood, and during adolescence, the "boyfriend" or "girlfriend" are necessary appendages to a socially acceptable teenager. In part, the lonely person not only suffers from his or her lack of contacts with others; there are also success and failure implications in the state of loneliness.

The pervasiveness of loneliness has been established by Bradburn (1969), who found 26% of his American sample reported recently feeling lonely. In a survey conducted by the student health service at a large American university campus, 116 undergraduates ranked 16 common health problems in terms of their occurrence among students. Loneliness was rated as fifth most common, "winning out" over drinking, smoking, and sexual adjustment. More than 70% of the students surveyed indicated loneliness as a serious problem, with 10% listing it as the most problematic for them (Pep-lau, Russell and Heim, 1978).

But despite the pervasiveness of loneliness, little work has been done in researching it (Weiss, 1973; Peplau et al., 1977). In this regard, Leiderman (1969, p. 155) noted,

Considering the fact that psychiatrists, as a group, are not reluctant to deal with and write about contemporary issues, one might reasonably expect loneliness to be mentioned frequently in the psychiatric literature. However, examination of this literature reveals few papers on this subject.

One might infer from this that practitioners are at a loss as to what to do with their patients who complain of loneliness, and in fact Burnside (1971) notes that health professionals may actually avoid the lonely. In addition, Gordon (1975) notes that there appears to exist a taboo in western societies against the discussion of social failure situations; presumably this taboo is carried over into scientific research.

In addition to these more personal reasons for avoiding the topic of loneliness, there has until recently been no published loneliness scale, nor a theoretical formulation about loneliness which was conducive to the generation of research. However, during the past year or two, both the theoretical (Peplau and Perlman, 1977, Note 2; Peplau, Russell and Heim, 1977), and the methodological groundwork (Russell, Peplau and Ferguson, 1978), for studying loneliness have been laid. The present study built on that foundation.

Loneliness is defined in terms of a discrepancy, in which the person's achieved level of social relationships is smaller or less satisfying than he or she desires. Loneliness, by this formulation, may be the result of personal variables (a chronic "trait"), or a result of situational variables (in which case it will be a more temporary "state"), or an interaction of the two.

The present study examined the relationship between loneliness and social skills. It was hypothesized that loneliness is a social deficiency in the sense that the individual who feels lonely is unable to achieve his or her level of desired social contact. In more behavioral terms, the lonely individual does not emit the appropriate behaviors to elicit social reinforcement. Particularly in the case of chronic loneliness, but perhaps not so clearly in the case of temporary loneliness, I expected to find a social skills deficit. Specifically, two issues were addressed: how do chronic and situational loneliness differ with regard to social skills, and how do social skills enter into the state of loneliness. I empirically examined differential use of influence attempts, conforming behavior, receptive and expressive non-verbal communication, and self-monitoring of expressive behavior.

The following chapter consists of three major parts: first, a review of the loneliness literature to date and a discussion of the conceptual viewpoint which underlies the

research; second, a review of the relevant research on the dependent variables; and third, a summary of the hypotheses in this study.

CHAPTER II

LITERATURE REVIEW AND HYPOTHESES

Loneliness Defined

The current definition of loneliness is based on a description by Sermat (1973), who notes that the

. . . intensity of loneliness is proportional to the discrepancy which an individual perceives to exist between the kinds of interpersonal relationships he sees himself as having at the time, and the kinds of relationships he sees as desirable, or would ideally like to have.

Loneliness here is defined as a social deficiency; it exists to the extent that a person's network of social relationships is smaller or less satisfying than that person desires (Peplau and Perlman, Note 1). Such a definition focuses on the relationship between two factors: the desired and achieved levels of an individual's social interaction.

Loneliness, as theorists generally concur (e.g., Ortego, 1969; Weiss, 1973; Peplau and Perlman, 1977), and as existing evidence suggests (Peplau et al., 1979), is associated with negative affect. It has been characterized by writers as "a gnawing . . . chronic distress without redeeming features" (Weiss, 1973); Ortega (1969) notes that ". . . Unhappiness is looking without finding. Loneliness is not even knowing where to look--the lonely person not

only feels lost, but also is quite sure no-one is looking out for him." A grade 10 student, writing about her loneliness, said,

Loneliness gives one a cold feeling like the loneliness the earth feels in winter when the birds and flowers have left her, and I feel as though I don't have a friend in the world. The whole house is lifeless now and that makes me feel depressed. Depression is truly a part of loneliness (Moustakas, 1972, p. 48).

Indeed, the link between loneliness and depression has been repeatedly confirmed in both clinical observations and empirical studies (Liederman, 1969; Ortega, 1969; Weissman and Paykel, 1973).

One of the contradictions in the loneliness literature is the viewpoints on the motivational manifestations of loneliness. On the one hand, Sullivan (1953) considers loneliness to be arousing. He is supported by Weiss (1973), who sees loneliness as generating a vigilance about interpersonal relationships, producing an oversensitivity to minimal cues. On the other hand, Fromm-Reichman (1959) and others (Liederman, 1969; Ortega, 1969) in linking loneliness with depression, implicitly or explicitly imply that loneliness decreases motivation. Given the present viewpoint we believe that different attributions about the causes of one's loneliness may determine whether loneliness increases or decreases motivation. However, before presenting this resolution of the controversy, an introduction to causal attributions vis-a-vis loneliness is in order.

Causal attributions and loneliness: theoretical concepts. Interest in causal ascriptions or attributions has generally stemmed from the belief that attributions can have significant consequences for how a situation or a problem is dealt with. In the case of loneliness, for example, it should be experienced, both affectively and behaviorally, quite differently for someone who believes the source of his loneliness to be his surroundings, than for one who attributes the problem to an aspect of his own character. In this regard, Weiner (see Weiner, Russell and Lerman, 1978) has developed a model of achievement-related behavior and the relationship between locus of causality and the intensity of affective experiences.

Weiner's causal attribution model. Attribution theory has typically been concerned with how people come to make causal ascriptions about their own or others' behavior, and what effect this attribution has on subsequent interactions, liking of the person (or self), and so on. It has been well established that judgments of another person's actions depend on the perceived intentions of the actor (Heider, 1958; Weiner, 1974). For example, whether an action, such as dropping a plate, or an error in making change at a cash register, seems deliberate or accidental will have an influence on subsequent liking of that person. If the locus of control, or perceived cause, of an action is internal (seen as produced by the actor), a judgment of the action

will be very different from that of the same action perceived as having an external locus of control--a cause due to the situation or due to luck or chance (Weiner, 1974).

Weiner (1974) has subsumed the causes of success and failure within a three-dimensional taxonomy. One dimension is an internal-external description of the locus of causality: ability, effort, mood, and patience, for example, are properties internal to the person, whereas task difficulty, luck and causes from other persons are external causes. The second dimension of causality sets causes on a stable (invariant) versus unstable (variant) continuum. Ability, task difficulty, and patience tend to be perceived as relatively stable, while luck, effort, and mood are more variable. The third dimension of causality is intentionality. Some causes, such as an effort, are likely to be perceived as deliberate, while such characteristics as ability, mood or task difficulty are unintentional.

Causal ascriptions for success and failure influence both the expectation for future success and failure, and the effect associated with each. Concerning the expectancy of success, it has been found that attributing an outcome to a stable factor such as ability increases expectancy of success after a success, and decreases expectancy of success after failure, more than does attributing the outcome to an unstable cause, such as luck (Weiner et al., 1974).

In addition to influencing the expectancy of success,

Weiner (note 5) has suggested that causal attributions contribute to the determination of the affective consequences of that success or failure, contending:

Pride and shame, as well as interpersonal evaluation, are absolutely maximized when achievement outcomes are ascribed internally and are minimized when success and failure are attributed to external causes. Thus, success attributed to high ability or hard work produces more pride and external praise than success that is perceived as due to the ease of the task or good luck. In a similar manner, failure perceived as caused by low ability or lack of effort results in greater shame and external punishment than failure that is attributed to the excessive difficulty of the task or bad luck. In sum, locus of causality influences the affective or emotional consequences of achievement outcomes.

Empirical Evidence

Causal attribution and loneliness. Within the framework of Weiner's theory, Berke and Peplau (1976) examined what students at the University of California, Los Angeles (UCLA) perceived to be the source of their loneliness. In a forced-choice questionnaire, four possible reasons corresponding to ability, effort, task difficulty, and luck, were offered to the students. The majority of the students surveyed (53%) attributed their loneliness to external circumstances (being in a situation where making friends was difficult). Thirty-three percent blamed lack of effort (not trying hard enough to make friends). Less than 10% used a lack of ability to make friends as an explanation. Only about 4% blamed luck. Under the category of ability, such characteristics as "lack of social skills,"

"shyness," "lack of self-confidence," "personality," and "afraid to introduce themselves to meet people," were cited.

Another study (Michela and Peplau, 1977) took a closer look at causal attributions, examining what variables were important in ascribing cause, and attempting to clarify the meaning of such causes as "shyness" and "physical unattractiveness." Based on the prior study (Peplau et al, 1979), thirteen common causes were provided to a sample of UCLA students, who were asked to compare each cause with each other cause, and rate the similarity of the two. Using a multidimensional scaling procedure to determine perceived underlying dimensions, the similarity ratings were analyzed.

The results indicated that consistent with Weiner's (1974) model, three dimensions of perceived similarity are utilized: stability, internality, and controllability and intentionality. The internality dimension had internal causes of physical unattractiveness, fear of rejection, shyness, and not trying hard enough to meet people, while external causes were seen as being in impersonal situations, not having enough opportunities to meet people, and other people having their own groups. Through the stability dimension, stable causes were having an unpleasant personality and being physically unattractive, with unstable causes being shyness and lack of effort. The third dimension uncovered reflected intentionality and controllability. This continuum travelled from lack of effort, shyness, not

knowing what to do, and having unpleasant personality, to the uncontrollable causes of physical unattractiveness, others having their own groups, and the lack of opportunities and bad luck.

An implication of research in the area of attribution of social success and failure (Weiner, 1974) is that longer term loneliness will foster internal, stable attributions. Furthermore, a recurring pattern of loneliness should lead to more stable attributions, with the expectation of continued loneliness in the future. With an eye to supporting this deduction, a third UCLA study (Peplau et al., 1979) was conducted. Ninety-eight UCLA undergraduates were asked to give explanations for the loneliness experienced by two college students: one had been lonely for a short time, while the other had been lonely for six months. Free responses were coded for internality and stability, based on the Michela and Peplau (1977) results. The results indicated a marked effect of duration of loneliness on the intensity of attributions. In the case of short-term loneliness, less than 22% of attributions were internal; long-term loneliness was attributed to internal causes over 85% of the time. Interestingly, however, in both cases unstable rather than stable attributes were predominant, with the shift from short-term--external to long-term--internal going from such attributes as "no opportunities" to "lack of effort" or "too shy."

This latter finding, however, is not surprising when we recall that shyness and effort are seen as unstable variables rather than more permanent attributes. While they may be perceived as such, research suggests that they are actually quite stable traits.

Motivation and causal ascription. Applying what we know of attribution and loneliness to motivation, we can then suggest an explanation for the different perceptions of Sullivan and Fromm-Reichman. Peplau et al. (1979) state:

Our general expectation is that a pattern of active striving to overcome loneliness will be associated with attributing loneliness to unstable factors that the lonely person can control such as effort. In contrast, a depressive reaction of withdrawal and despair will occur when loneliness is attributed to stable causes, especially to factors such as ability or physical appearance that are perceived as internal to the person yet uncontrollable.

It is quite conceivable that Sullivan is talking about the former, while Fromm-Reichman means the latter. In this sense, there are two quite different kinds of loneliness.

Precipitating versus predisposing causes. Of course, as well as attributed causes of loneliness, there are actual causes which increase the likelihood of loneliness in an individual. These variables may be "precipitating" factors which simply set the state of loneliness in motion; alternatively they may be "predisposing" factors, which make a person more susceptible to loneliness. In general, precipitating events refer to changes in a person's achieved relations and changes in desired or expected social relations.

Factors which might predispose a person to loneliness are individual characteristics such as personality traits and physical attributes.

Situational variables leading to loneliness have been written about to a greater extent than more personal variables. Again, this may be a reflection of the fact that while loneliness due to a precipitating event (such as the death of a partner or breaking up of a relationship) is "excusable," loneliness due to personal variables is perceived as a social failure. Lopata (1973) wrote about the loneliness of widowhood. She notes that the decreasing functioning of the extended family has placed a tremendous emotional, social, and economic burden on the relationship, so that when it dissolves through the death of one partner, it leads to disorganization and a feeling of loneliness in the other. These widows have described their loneliness as: "a desire to carry on interaction with a particular other who is no longer available . . . as an object of love"; "a feeling of loneliness for the presence of another human being within the dwelling unit." Clearly for them it is the change in amount of social contact which they are feeling. Weiss (1973) has cited physical separation from family and friends (such as going away to college, soldiers in Europe during the wars) as roots of loneliness. Bromley (1974), in writing about aging, describes the loneliness that might accompany status changes such as retirement and the departure of one's

children.

When a man reaches the end of his working life, his social functions change abruptly, and he may feel useless and unwanted. The separation of generations within families, and the inadequate social and financial provisions for the elderly, make it difficult for parents and children to reunite after the parents have retired and the grandchildren have grown up. However, the difficulty can be social or psychological rather than economic, since parents and children do not share the same beliefs and feelings (Bromley, 1974, p. 133).

Finally, Peplau and Perlman (Note 1) identify reduced satisfaction in the quality of one or more relationships as a variable which might generate loneliness. In contrast to these precipitating situational variables, loneliness may be encouraged by predisposing personal factors. Characteristics reducing a person's social desirability may limit that individual's opportunities for social relationships (such as physical attractiveness). In addition, personal characteristics can influence behavior and success in social situations. Finally, personal qualities might affect an individual's reactions to achieved social relations, thereby influencing how effective that person is in avoiding, minimizing, or alleviating loneliness (Peplau and Perlman, Note 1).

Empirical evidence of personal variables is scarce, but it does point to some consistencies, as do the stereotypes held of lonely people. Regarding the latter, Weiss (1973, p. 12) notes that lonely persons are seen as "unattractive, shy, intentionally reclusive, undignified in their

complaints, self-absorbed, and self-pitying"; while Gordon (1966, p. 217) comments about being single: "to admit to being single would be to admit to having committed a cardinal sin in our culture--that of being unable to attract or hold a mate."

Empirical findings partially support the stereotypes. Zimbardo (1977) and Jones, Freemon, and Goswick (Note 2) reported correlations between loneliness and self-reports of shyness. Sermat (1977), examining social risk-taking, has found evidence for a cluster of related factors--shyness, low social risk-taking, lack of assertiveness, self-consciousness in social situations--leading to loneliness.

Jones and his associates (Note 2), in a series of studies on loneliness carried out on college undergraduates at the University of Tulsa, looked at several additional precipitatory and predisposing causes of loneliness. First, they looked at the relationship between loneliness (as measured by the U.C.L.A. Loneliness Scale) and "interpersonal status" (i.e., marital status, frequency of dating, dating and marital satisfactory interpersonal living arrangements, etc.). As expected, they found in general an inverse correlation between loneliness and indexes of frequency and satisfaction with dating and other heterosexual relations. In other words, having an identified heterosexual partner (spouse, steady date, etc.) was associated with lower loneliness than not having such a partner (as with divorced

individuals, singles who did not date steadily, etc.) In addition, they found indications that perceived or exercised control, such as choosing not to date or marry, inter-related with interpersonal status, with the result that infrequent dating by choice was associated with lower loneliness than infrequent dating by necessity. We might suggest that the choice factor separated situational aloneness from a more long term chronic loneliness, the latter being due to personal qualities which affected subjects' inability to maintain social relationships.

It was this area that was next explored by Jones and his students. They examined correlations between loneliness and a variety of theoretically related attitudinal, personality, and emotional variables. Loneliness was found to be associated with self-reported negative self-concepts, emotional arousal, and poor interpersonal skills as indicated by self-esteem (Sermat, 1977, found a similar relationship), shyness, assertiveness, depression, anxiety, "purpose-in-life," and feelings of acceptability to others. In addition, loneliness was related to a negative view of others and human nature, correlating with such variables as hostility, powerlessness, normlessness, social isolation, and attitudes toward human nature. In all instances significant correlations pointed to lonely subjects having a more negative, hostile, and pessimistic view of themselves and others. These results indicated that it might be fruitful to look

at the behaviors of lonely individuals in interpersonal situations. In addition to demonstrating effects of loneliness on interpersonal styles, it might also give clues to loneliness's antecedents.

Loneliness and Interpersonal Style

Jones' third line of inquiry begins to address this issue. In one study, unacquainted heterosexual dyads were instructed to have fifteen minute conversations with the goal of learning all they could about their partner's personality. Based on a median split, dyads were constructed by pairing all combinations of high and low loneliness scores. Following this interaction, each member of the dyad was asked to respond to a series of scales measuring: (1) interpersonal attraction; (2) personality characteristics attributed to the partner, using the FIRO-B scale; (3) accuracy of personality attributions; (4) impressions of the partner during the interaction (e.g., nervousness, talkativeness, etc.); and (5) physical attractiveness of the partner. A male and a female experimenter also rated each subject's physical attractiveness.

The results of this study indicated main and interaction effects in the attitudes and perceptions of lonely (vs. non-lonely) subjects. Overall, results indicated that the lonely subjects were less attracted to their partners; third, they tended more to describe their partner's personality and behavior during the interaction in negative terms.

Loneliness was not related either to partner or to experimenter-rated physical attractiveness. Finally, the other person in these dyadic interactions was not able to detect differences in the behaviors of the lonely versus non-lonely subjects.

Two points should be made regarding these findings. First of all, the time of interaction was short--fifteen minutes is long enough for the lonely subjects to demonstrate their negative outlook and lack of acuity in social perception, but not long enough for these to become apparent to a captive subject. With a longer session we may have found more behavioral differences in the reports of observers. Secondly, what seems to be demonstrated here is a receptive social communications deficit: loneliness was associated with an inability to accurately read personality variables from brief interactions.

In a second study on interpersonal behavior, Jones asked students enrolled in several small sections of an experimentally-oriented psychology class to rate: (1) themselves; (2) themselves as they thought others in the class would rate them; and (3) each other member of their class on a series of bi-polar rating scales, aimed at gathering self-esteem type data. Ratings were made during the first week of classes, with a follow-up during the last week of a summer term. From these ratings, the following variables were calculated: (1) self-ratings; (2) reflected self-ratings (self

as perceived by others); (3) rating by others (i.e., mean rating given by other members of the class to a subject). In addition, subjects completed the U.C.L.A. Loneliness Scale. The results from this study conceptually replicated the previous interactional study in that lonely subjects were generally not differentially rated by others; lonely subjects rated themselves more negatively than did non-lonely subjects; lonely subjects expected that others had rated them negatively; and lonely males rated others more negatively than did non-lonely males, while the effect with females was not reliable. These results were stronger in the post-test, after eight weeks of interaction, than in the pre-test. However, given that the lonely subjects had this negative view of others, it is quite likely that their interactions with others were minimal during those eight weeks.

Given the above findings, one would expect that lonely persons will interact differently with others. In an attempt to uncover some of the variables at play in a fairly open-ended situation, Jones is currently working on a study of videotapes of High, Medium, and Low lonely males and females, each of whom discusses with an opposite sex stranger the topic, "what attracts one to members of the opposite sex." They plan to analyze the content using a modified version of Lewinsohn's (1966) content analytic procedure. In addition, they will analyze eye contact, and some other selected non-verbal behaviors.

Chronic versus situational loneliness. In reviewing the literature, two different types of loneliness appear to emerge. On the one hand, we see loneliness described as being due to personal factors, such as shyness, lack of social skills, etc.; on the other hand, it may be attributed to external situational factors, such as being in a new environment. In the former case, following Weiner's (1977) and Michela and Peplau's (1977) results, we would expect reports of long-term loneliness, while the latter should be reported as short-term. In other words, the former will be a more "chronic," stable state, while the latter will be a more temporary "situational" state.

A number of additional clues exist which further differentiate between chronically and situationally lonely persons. We have already argued that stable causes, generally associated with long-term loneliness, are likely to lead to a demotivating state, while unstable causes associated with situational loneliness will increase motivation, particularly where social interaction is involved. Second, the social and sensory deprivation studies suggest that when isolation is novel, the subjects are in an aroused state with regard to social stimuli, and as such are particularly sensitive to influence (Suedfeld, 1969). As exposure to the deprivation situation is repeated, the subject becomes better able to assume an attitude of passive acceptance, so that the aroused state subsides and becomes

demotivating. Finally, in a parallel fashion, Merton (1968) described in effect that the men who are the most socially deprived are dulled to social nuances, while it is those "in the middle," the somewhat deprived men, who are most tuned in to social cues.

Loneliness and Amount of Social Contact

While the research on loneliness and amount of social contact is scarce, the available evidence generally suggests that loneliness is associated with decreased social interaction. Only one study found no relationship between students' reports of loneliness and their dating status or frequency of receiving mail from friends and family (Sisenwein, 1964). However, this study did not consider objective measures of social contact, nor did it tap the more subjective aspect of satisfactory relationships, nor did it assess the individual's desired level of social contact. Any one of these factors might explain Sisenwein's atypical findings. In contrast to Sisenwein, Jones et al. (1978) found that females who dated several different men reported feeling lonely more than females who were in a steady heterosexual relationship.

In support of the decreased social contact hypothesis, de Jong Gievelde (1977) found that people in her sample who reported feeling lonely tended to be: (a) older, unmarried persons rather than married ones; (b) divorced and deserted women even more so; (c) unattached, unwed mothers

more than older unmarried or married women, and (d) elderly people. In the case of all these people, loneliness is associated either with the long term absence of a continual social alliance, or the recent evaporation of such an alliance. In addition, it has been suggested (Lopata, 1973) that the status of being single goes along with a decrease in extra-marital social contacts, because of the fact that a single person does not fit so well into the couples-oriented culture of western civilization. Wood (1977) reported a correlation of $r = .53$ between loneliness and a scale questioning relationships with friends, family, romantic sexual partners, and the community.

In a study on adolescents and loneliness, Serfat, Schmidt and Wood (1977) reported that although simple physical isolation from all other people was rarely mentioned as the cause of loneliness, separation from people who are crucially important to our sense of belonging can cause severe loneliness. Most loneliness experiences are characterized by feelings of inability to communicate with others. In other words, one's sense of social isolation may not be due to an actual physical separation from all other persons, but rather may be due to a more subtle type of isolation created by a decreased level or amount of social interchange.

Before transitting from the social contact of lonely individuals to their social skills, one additional argument should be noted. Social contact studies, given our perspec-

tive, should distinguish between temporarily and chronically lonely individuals. Situationally lonely people, in an aroused state for social contact, may do more activities with people in an attempt to find satisfactory social interaction. Therefore, their higher scores on social contact measures could cover any deficits one might find in more chronically lonely people.

Loneliness and social skills. While the area of interpersonal interaction has been initially explored in open-ended situations (e.g., Jones et al., Note (2)), to date no one has systematically studied specific areas of social skills in somewhat structured, defined settings. The current study was an attempt to begin examining how lonely persons attempt to influence others in interpersonal situations, how they themselves are influenced, and their abilities and tendencies to use facial cues in expressing themselves and interpreting others. In most cases, it was expected that chronic lonely subjects but not necessarily situationally lonely subjects, would display a social skills deficit.

The importance of effective interpersonal behavior has been stressed for decades by those concerned with the nature of human social relationships. One of the earlier modern theorists to emphasize the critical role of the interpersonal environment in determining human behavior was Sullivan (1953) who believed that personality could not be

studied apart from interpersonal situations. Sullivan believed that so-called mental disorders were simply a reflection of inadequate or inappropriate interpersonal relationships.

Carrying Sullivan's ideas over to a research mode, Zigler and Phillips (1960) investigated social skills of psychiatric patients and showed that the level of social competence, based on global measures of educational, vocational and marital attainment, was related to the degree of psychiatric impairment, with less social competence being associated with more severe symptomatology. Further, within a group of psychiatrically disturbed individuals, those who evidenced greater social skills were found to have a better prognosis than less socially skillful individuals.

Recently, interest in social skills from an empirical point of view has picked up (Eisler, 1976, reviews this literature), and in particular, the area of clinical psychology has been experimenting with social skills training as a treatment method. Such training has been reported successful with a wide diversity of clinical populations ranging from relatively well adjusted college students who report discomfort in various social situations, to chronic psychiatric patients who are unable to function outside of an institution (Eisler, 1976). The major assumption of the skills model is that maladaptive behaviors will gradually be replaced by the acquisition, performance, and rein-

forcement of more adaptive social behavior.

Unfortunately, at present there are no generally agreed upon definitions of social skills which apply to all interpersonal situations, and as Eisler (1976, p. 370) notes: "Most clinicians and researchers have relied on clinical intuition and definitions appropriate to their specific objectives." Some of the more commonly applied social skills, however, are assertive behavior, expressive social communication, receptive social communication, and heterosexual skills. In the present study we will be concerned with the first three; it is our intention to examine assertive behavior in both terms of influence techniques used and receptivity to social influence. Expressive and receptive social communication will be explored through the encoding and decoding of facial expressions, and self-monitoring of expressive behavior. One of the first conceptual areas to be delineated for interpersonal skills training was developed under the rubric of assertive behavior (Wolpe, 1958). Assertiveness training was designed for individuals who appeared either passive or overly aggressive during interpersonal interviews. Around the same time, French and Raven (1959), working from a social psychological perspective, developed a scheme of power bases.

Power and social influence. Central to social interactions are power and influence: whether the interactions are at a personal relationship level, at a business

level, or with a group, people are continually making requests and demands of one another. These requests may be concrete in nature: asking for money, job promotions, etc.; or they may be more personal, such as requests for respect or friendship. Here, we are interested in focusing on power as an aspect of social interactions.

Power as a psychological construct may be defined as the ability or potential to cause environmental change so as to obtain an intended effect. When this potential power is put to use, it is called influence. Social influence, then, is defined as a change in a person's cognitions, attitudes, or behavior which has its origin in another person or group, the influencing agent (Raven, 1973). In simpler terms, interpersonal power may be defined as the ability to get another person to do or believe something he or she would not necessarily have done or believed spontaneously.

Power is used almost "unconsciously"--it is built into our interpersonal style, rules about power are interwoven with our norms, and its use is an integral part of our regular interactions with all the people we are involved with, whether they be friends, shopkeepers, work associates, etc. To live one's own life as one wishes requires that each person be able to have some power with which to influence those around him or her.

Psychological literature in the area of influence techniques reports studies of how much power people have and

the ways in which they use their power (Schloper, 1965, reviews much of this literature). High power may be associated with a variety of resources: social status, self-confidence, money, expertise. When this power is successfully and appropriately exercised, it can lead to obtaining what one wants.

Research indicates that there are consequences, other than success and failure, of power use. In other words, in addition to some tactics of influence being more successful than others, some tactics lead to different attributions of power and self-and-other perceptions, than other forms. It has been hypothesized (Raven and Kruglanski, 1970) that the mode or style of influence chosen is important not only for immediate success but also for how one feels about oneself, how others feel about the influencer, and how successful one might be in future situations.

The present author expected chronic-lonely, situational-lonely, and non-lonely persons to use power styles differently, and expected that, particularly in the case of chronic loneliness, the style chosen would be maladaptive in terms of gaining social reinforcement.

The basis of social power. Raven (1965) proposed six power bases, or ways in which people use power: reward and coercion, referent power, expert power, legitimate power, and informational power.

Reward and Coercion

Reward power arises out of an influencing agent's ability to mediate reward for the influencee, while coercive power stems from the agent's ability to mediate punishment. Examples of reward include: a parent offering his child a higher allowance for curtailing television viewing; a supervisor offering higher pay for increased productivity; and a teacher promising a student an A if he completes his assignment on time. Examples of coercion include: a parent threatening to spank his child if television viewing is not reduced; a supervisor threatening to fire an employee for not increasing productivity; and a teacher threatening to fail a student if he or she hands in a paper late. Other forms of reward and punishment can be more personal: approval, love, acceptance, liking, and agreement can be viewed as personal commodities to be offered or withheld on the basis of compliance or non-compliance. The potency of such personal rewards and punishments can at times be as powerful, if not more so, than the previous mentioned concrete forms (Raven and Zubin, 1976).

Promise of reward and threat of punishment have typically been thought to be almost synonymous with power, and thus highly effective influence techniques. In fact, however, Raven and Zubin (1976) suggest that this is not the case. For one thing, surveillance is important; that is, because they are both highly dependent on the presence of

influencing agent, the agent must watch the influence to a certain compliance taking place. In addition, they suggest a number of interpersonal consequences of using coercion (p. 210):

- 1) When coercive power is used, the person tends to dislike the influencing agent and to feel negatively about the situation; by contrast there is greater probability that he will like the influencing agent who uses reward. . . . When the influencing agent is disliked, his ability to use other bases of power effectively (such as referent power) is greatly diminished. Thus, the agent can probably continue his influence with reward power, but not with coercive power.
- 2) By the same token, coercion may impel the person to try to leave the situation entirely, whereas reward may encourage him to continue his relationship with the influencing agent in order to receive the reward. . . .
- 3) Although surveillance is necessary for both reward and coercion, it appears that surveillance is easier to maintain for reward. . . .
- 4) Surveillance, which seems to be required especially under coercive conditions, seems to make the influencing agent somewhat suspicious of the person he is observing. . . .

If two people have had the same experience or if they are members of the same group, they will look at things in a similar way. Referent influence depends upon a person's identification with the influencing agent, or at least the desire for such identification. Such influence is dependent upon the influencing agent, whose saliency will of course depend upon such factors as his social status, the influencee's attitudes, etc. (Raven and Kuglanski, 1970). However, the advantages of such an influence technique are that

surveillance is not required: the effects continue whether or not the influencee believes that his or her behavior will become apparent to the influencing agent. In addition, Raven and Kruglanski (1970) suggest that the use of referent power has the additional effect of improving personal relationships and increasing similarity--if successfully used. In support of this, Raven, Centers, and Rodrigus (1975) found referent power to be the most common form of power used by both spouses in a marriage. Of course, in order to use such influence, the person must be of value to the influence. Therefore, we could expect such variables as self-concept, past experience, etc., to enter into a decision of whether or not to use reference.

In pure informational influence, the content of the communication is the critical factor. As a result, there is a cognitive change rather than simple compliance. And once this change has taken place, it is completely independent of the influencing agent. It is not likely that the influenced person's opinion would revert back to its original position simply because the agent left. A parent who tries to convince his or her child that television stunts growth is attempting informational influence. Other examples are: the vacuum cleaner salesperson explaining that his machine has a special kind of suction mechanism necessary to clean out deep dirt; the psychologists who explain to a parent that punishment may lead to problem behavior, and so on. In all

cases, the information content of the communication is the important factor, though elements of other power bases may enter into it (Raven and Zubin, 1976).

While these are less important to everyday social interactions, Raven (1965) also proposed expert and legitimate power bases. Expert power is based on having superior skills or knowledge. In addition, the influencee must have trust in those skills. Legitimate power relies heavily on prior socialization: for people to use legitimate power, they must feel they have the right to influence and the influencer must feel obligated to comply. The most blatant examples of legitimate power are found within hierarchical social structures--the sergeant has the right to influence the private; and the employer, the employee.

Interpersonal power and loneliness. Based on the Raven power bases proposed, Minton (1967) suggested further divisions into interpersonal organismic, and institutional powers. Interpersonal power derives from an individual's interactions with others and includes three types of power sources described above: coercive, referent, and reward. Organismic power stems from intrinsic characteristics and abilities of the individual. It includes Raven's (1965) category of expert power. Organismic power can serve as a power base in any interaction the individual has with his or her environment. Institutional power includes legitimate power, and has its roots within specific institutions. Minton

excluded informational power from his analysis, as he was interested in power as a personality variable, and informational influence is dependent on the content communicated rather than on the influencing agent. "Informational influence is thus not relevant as a personal base of power (Minton, 1967, p. 254)."

In the present study, it was the use of interpersonal power which we addressed. It was hypothesized that chronic, situational, and non-lonely individuals would differ in the choices of power strategies they made when attempting to influence another individual, and that these choices have consequences for maintaining their lonely status.

We have already mentioned that loneliness represents a gap between desired and achieved social relationships, whether that deficit be qualitative or quantitative. In other words, lonely persons are unable to get what they want in the way of relationships. With the chronic lonely person, we should expect a history of such an inability which would result in a feeling of powerlessness and the behavior of a powerless person. In addition, Jones et al. (1978) report finding loneliness associated with a negative view of others. One might expect, therefore, that the lonely individual would be untrusting in his or her supervision of others. Furthermore, loneliness has as a component a low self-esteem. All these characteristics led the present author to speculate that chronic loneliness would be associated with a greater

use of coercive powers rather than reward or referent powers when influence attempts were made. In addition, it was predicted that chronically lonely individuals would use less personal forms of persuasion than others, either because they are unlikely to expect such influence attempts to be successful, or because they do not perceive themselves as possessing personal power. As part of a self-perpetuating cycle, coercive power (and the failure to use referent) would serve to maintain loneliness by preventing relationships from developing. The next subsection reviews the literature from which this contention was derived.

Unlike the case of chronic loneliness, situational loneliness, as conceptualized here, is not associated with necessarily a long history of failure in relationships but rather with a recent failure history. We expected to find situationally lonely people to manifest some reduction in self-esteem but a heightened motivation to form affiliations with others. Remembering that referent power is the most effective for promoting relationships but requires that the agent be a salient magnet for attitude change, it was unlikely that the situational lonely person, who is in an anchor-less state, will choose this power base. Rather, he or she was expected to choose reward power, which would cause the influencee to like her more than coercion would, but not require that she be a salient stimulus for identification. For the same reason, he or she was predicted more likely to

use concrete rather than personal rewards or threats.

In the case of non-lonely persons, it was predicted that they would make more use of reference than coercion or reward. When the latter two were used, these would be personal threats or promises rather than concrete.

Interpersonal Power and Loneliness: Relevant Research

About how an influencing agent chooses a particular base of power when he or she has several available, Raven (1973, pp. 192-93) wrote:

On the assumption that man is rational, we would expect him to use the basis of power which is most likely to lead to successful influence. He should prefer to use the basis which would not require surveillance and which would be long-lasting. Obviously, informational power looks best, providing one has the informational and intellectual resources to convince the influencee logically. If not, then maybe he should select a private dependent basis, selecting the one which is most likely to lead to results. Coercion should be a last resort, since it requires expansive surveillance and gets the influencee mad at him.

He goes on to say, however, that the data gathered on this issue has not supported his reasoning; in fact, issues other than reason seem to be more important in selecting a power base.

The study of coercive power has been of particular interest to a number of researchers. Both situational and personal variables which are conducive to the use of coercive power have been investigated. In terms of situational variables, attribution of non-cooperation has been primarily researched in a field study among first-time supervisors.

Kipnis and Costentino (1969) found that 63 percent of those supervisors who attributed the cause of their workers' dissatisfactory performance to a lack of motivation, involved coercive means in attempts to alter this behavior. Among supervisors who attributed the dissatisfactory behavior to ineptness, only 26 percent involved coercion. Similar results were obtained in a laboratory simulation of an organizational setting (Goodstadt and Kipnis, 1970). In this study, subjects were appointed as managers of a manufacturing organization and requested to direct the performance of a group of workers. The managers were provided with a range of means of influence (power to reward, to punish, etc.). It was left to them to decide which, if any, of these means would be used. The experimental manipulation involved programming one of the workers to work at a substandard level. In one condition, the reason for this poor performance was ascribed to an absence of motivation, while in a second it was given a lack of ability. The results of this simulation paralleled the field study: more managers threatened to deduct pay, actually deducted pay, and fired the worker when poor work was due to motivation as compared to ability.

Other evidence that targets who wilfully resist a powerholder's influence invite punishment has been gathered via self-report data. In a questionnaire study among middle-level executives employed by a major oil corporation (Kipnis,

1972), direct support was found for the assumption that expectations regarding success of influence mediated the use of coercion: coercion was recommended when expected success was low. Eight case histories were presented to these executives: four of workers whose performance deficits were due to low abilities, and four due to low motivation. The executives: (a) had less expectation of being able to improve the low-motivation groups; and (b) were more likely to recommend coercive methods to influence that group. In addition to the target's behavior being a variable-setting expectation of the influencer's ability to have an effect, the powerholder's expectations can also be shaped by a wide variety of social influences that have nothing to do with the target's behavior (Kipnis, 1973). For example, under stress the powerholder may miscalculate the amount of resistance that will be shown by a target. Research by Kipnis and his colleagues (Kipnis and Cosentino, 1969; Kipnis, Silverman and Copeland, 1965) has found that more coercive means were invoked by supervisors in the following situations: (a) when the supervisors were directing large numbers of workers; (b) when the supervisors were directing union workers; and (c) when white supervisors were directing black workers.

What all these situations have in common is that they serve to reduce supervisors' expectations of being able to influence their targets successfully. We might therefore expect that individual differences in beliefs about one's

own effectiveness may help shape expectations of successful influence, and consequently, the decision to use coercion. A person who doubts his own competence as a source of influence may be more likely to see others as resisting that influence, when in fact such influence may not exist at all.

There is some evidence that in situations in which it is possible to influence others only by relying on personal powers of persuasion (e.g., promise of friendship, withdrawal of love, etc.) rather than concrete power (e.g., money, threat of firing, etc.), persons low in self-esteem and self-confidence do not attempt influence (French and Snyder, 1959; Hochbaum, 1954). However, when such individuals are given a choice of powers to use, their passivity subsides.

Kipnis and Lane (1962), in a study of Navy non-commissioned officers, found that those who stated they had little confidence in their own leadership abilities tended to recommend placing troublesome subordinates on official report more often than did the more confident officers. In addition, these confident individuals were more likely to use personal rather than concrete means of persuasion. Our lonely individuals, who apparently have a negative view of others, are likely to be affected in a fashion similar to the low-confidence officers. Therefore, we would expect lonely individuals to make greater use of influence attempts

involving concrete bases of power.

Raven and Kruglanski (1970) have suggested that the use of coercive power, when successful, may serve to enhance the self-esteem of the influencing agent, because a change is most attributable to that influence. In addition, the face value of coercion is greater than any other form of power, so that a person expecting to fail will use what he perceives as the most effective method.

Given the above evidence, Goodstadt and Hjelle (1973) hypothesized that individuals high on the external-control dimension of the Rotter Internal-External Locus of Control continuum, would be more likely to use coercive means of control than his internal counterpart. Using Seeman's (1963) framework, he conceptualized externally and internally controlled persons as high and low in "powerlessness," respectively.

Using a laboratory setting similar to the Goodstadt and Kipnis (1970) study, Goodstadt and Hjelle (1973) tested out their hypothesis by having internally and externally controlled subjects supervise three fictitious workers with a range of powers provided to them (specifically, concrete reward, concrete coercion, and personal reward or coercion). They found that in dealing with the problem worker, externally controlled subjects (high powerless) used significantly more coercive power than did internally controlled (low powerless) subjects. In addition, internals relied more on

personal persuasion powers than did externals.

In summary, personality and situational variables contribute to the decision to use a particular power base in such a way that those who feel more trusting, confident, and self-assured will use methods that tend to support such sentiments and succeed; those who feel the opposite (unconfident, untrusting, and low in self-esteem) will tend to use methods which confirm those sentiments and in the long run will be less effective. It is such a vicious circle which we expected our chronic lonely population to fall into.

Compliance: The Reception of Persuasive Communications

The opposite side of power--on the receiving end of the persuasive communication--is compliance. Compliance refers to the tendency to change one's expressed attitudes or behavior to conform to what others would like it to be. Since people generally like those who are similar to themselves (Berscheid and Walster, 1969), it often means conforming to another individual's or group's norms; or it may mean conforming to the expectations of another person, such as in the case of non-verbal conditioning (Greenspoon, 1955). During the last thirty years, the field of social psychology has explored under what circumstances people will conform (e.g., Asch, 1956), what type of personality will be more compliant (e.g., Crutchfield, 1955), and what are the consequences of complying or not (e.g., Jones and Wortman,

1973).

The present author expected to find that with lonely individuals there would be more compliance than with non-lonely individuals when the social pressures were clear cut. However, when they were not so obvious, such as when subtle cues must be interpreted to understand the social pressure, it was expected that the chronic lonely individuals would be less compliant than others, while the situational lonely person would be more so. In the next sections we will examine the evidence on which these hypotheses were based.

Reasons for compliance. In an extensive review of the literature on compliance, Keisler and Keisler (1969) outline what they see as the reasons to comply to the demands--whether overt or covert--of another. One of the most important reasons to comply stems from the need to be liked. People generally prefer others who have attitudes similar to theirs and who behave like them. When people attempt to ingratiate themselves to another person, in an attempt to secure that person's liking, one of the most popular strategies used is to agree with that person (Jones and Wortman, 1973). Lonely people, consistent with their social contact deficit, have a greater than usual need to be liked, and therefore were expected to be more likely to comply.

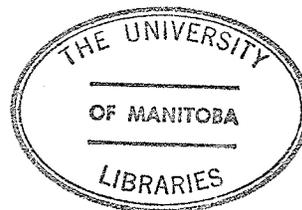
A second important class of variables influencing

conformity is personality characteristics. In one classic study Crutchfield (1955) administered a standard conformity-measuring procedure and an assessment battery to a sample of adult executives.

Therefore, for each of these persons whose conformity score was determined there was a comprehensive set of personality measures. A study of the correlations of these measures with the conformity scores offered strong evidence for some basic personality factors associated with a tendency to conform, or with the tendency to remain independent, in the face of group pressure.

Crutchfield found that conformity was higher for the line comparisons than for attitudes, and that total conformity correlated inversely with ratings of cognitive functioning, ego strength and self-esteem. In addition, the conformists exhibited intense preoccupation with other people as opposed to the more self-contained, autonomous attitudes of the more independent persons. The interpersonal behavior of the conformists tends to show far more passivity, suggestibility, and dependence upon others, while at the same time, there is considerable evidence of basically disturbed and distrustful attitudes toward other people. Moreover, the conformist proves to be poorer than the independent person in his ability to judge other people's traits accurately.

Of all these variables, the relationship of self-



esteem to conformity has been perhaps the most closely examined. In general, these studies have found a negative correlation between self-esteem and compliant behavior (Janis, 1954, 1955; Nisbett and Gordon, 1967; Zellner, 1970), although some limiting conditions of this generalization have been found. This relationship does generally hold vis-a-vis an Asch-type of situation, where the social pressures are fairly obvious. Since loneliness is associated with low self-esteem, we expected lonely persons to conform to this type of pressure.

Empirical support for the persuasability hypothesis came from studies in social and sensory deprivation. In his account of the origins of sensory deprivation research, Hebb (1961) mentioned "brainwashing" as a major source of interest in the technique. He based this statement on two of the earliest sensory deprivation studies done by his group of researchers, and concerned with attitude change. In the studies, subjects put through deprived conditions displayed more subsequent attitude change than control subjects in response to persuasive messages (Scott, Bexton, Heron, and Doane, 1959). This early work was continued by Suedfeld (1969, 1972, 1973) who found that sensory deprivation coupled with a persuasive message about the harmful effects of smoking was a powerful instrument for assisting in quitting smoking. He suggests that sensory deprivation induces general belief instability or cognitive

confusion, analogous to the "attitude unfreezing" postulated by Lewin (1958). This state leaves the individual open to the persuasive influence of new messages more than a person who does not have this induced cognitive confusion. Extrapolating from these findings, we might expect loneliness--consistent with a lack of social anchors--to be analogous to a state of sensory deprivation with attitude unfreezing. In addition, it is quite possible that sensory deprivation, as a state of no social reinforcement, leaves individuals in a social reinforcement deprived state, intensifying their search for social approval, and therefore their persuasability. It has been suggested, for example, in the case of depressed persons, that conformity behavior is a search for social reinforcement (Katkin, Sasmor and Tan, 1966). In an Asch-type conformity situation, diagnosed depressed patients showed a greater tendency to conform to social pressures than controls. Lonely subjects, also in a state of deprived social reinforcement, were expected to be conforming relative to non-lonely subjects.

Verbal reinforcement and compliance. Another area which more directly examined influencability as a function of social approval deprivation is the area of social reinforcement. Before looking at the work in this area, its relationship to traditional conformity should be made explicit.

Social reinforcement theory has typically been stud-

ied by behaviorists rather than social psychologists, which may explain why to a large extent it has not been incorporated with the conformity literature. Most research on attitude change is conducted within the theoretical context of dissonance theory or other balance theories. Central to such approaches is an emphasis on consistency among cognitive, affective, and behavioral components of an expressed attitude. But there is also a demonstrated reinforcement effect on attitudes and their expression, researched from a learning theory orientation (Kanfer, 1968, reviews this literature).

Within the framework of stimulus response learning theory an attitude may be regarded, like a habit, as an implicit anticipatory response which mediates overt behaviors, and arises out of them through response reinforcement (Doob, 1947). Such a conception has provided the basis for numerous studies of the effect on expressed attitudes of rewarding relevant behaviors (Greenspoon, 1955; Hildum and Brown, 1956; Scott, 1957).

The prototype of these studies by Greenspoon (1955) involved asking students to voice nouns ad libitum. For one group of subjects, the experimenter murmured "Hm-hmm" whenever a plural noun was produced, while for a control group, he said nothing at all. The subjects receiving verbal reinforcement used more plural nouns than the control subjects. In a subsequent study by Hildum and Brown (1956), a slightly

different technique was used. They administered a questionnaire by telephone, and the interviewer attempted to influence his subjects through the selective interpolation of two reactions--"Good," and "Mm-hmm." "Good" proved to bias the results obtained while "Mm-hmm" did not. Numerous studies followed, exploring such issues as whether or not the subject was aware of the contingencies (e.g., Spielberger, 1965); whether the change in attitude was actual or only behavioral (Scott, 1959); the circumstances conducive to verbal conditioning (Eisenberger, 1970), and so on.

At one point, Spielberger and DeNike (1966) criticized the paradigm suggesting that what was in fact being observed was not necessarily conditioning effects but could alternatively be interpreted as more conformity by subjects to the obvious reinforcement contingencies that they assumed the experimenter wished to be affected. The present writer agrees, but this is not seen as necessarily a flaw. In fact, one might interpret any conformity behavior as a search for reinforcement (e.g., as Jones and Wortman, 1973 suggest, conformity is often used as an ingratiating tactic); alternatively, succumbing to verbal reinforcement can be seen as compliance.

As with the case of compliance in the social psychological literature, the effect of social isolation on the salience of reinforcer as measured by conforming behavior has been investigated (Eisenberger, 1970, reviews this lit-

erature). The earliest studies in this area, conducted by Gerwitz and Baer (1958a, 1958b), led them to suggest that social reinforcers may be subject to deprivation-satiation effects in a manner similar to such primarily appetitive reinforcers as food and water.

Using school children, Gerwitz and Baer induced conditions of social deprivation and satiation by isolating and praising subjects respectively. Children in the deprivation condition were left alone prior to the test period for 20 minutes, while in the satiation condition, subjects received approximately 30 presentations of praise and admiration for whatever they said about themselves during an initial 20-minute conversation with the experimenter. All subjects were then conditioned, on fixed-ratio reinforcement schedules and with approval comments (e.g., "good," "fine") as the reinforcer, to drop marbles into a particular hole. As predicted, isolation produced the best subsequent performance on the conditioning test, followed, in order, by non-deprivation and satiation.

Adapting the paradigm to college students, Cohen, Greenbaum and Manson (1963) examined approval-contingent performance following the continuation or withdrawal of approval. In a pretest interview, the experimenter elicited subjects' opinions on various aspects of college life. During this 15-minute session the experimenter said "good" five times per minute for the entire interview, or for only

the first five minutes. The approval was non-contingent. A different experimenter then administered 100 conditioning trials and 80 extinction trials on a sentence construction task. On each trial, subjects were given a card containing a verb and six pronouns, having been told to make up a sentence using the verb and one of the pronouns. Each time a sentence began with either "I" or "We," a reinforcing "good" was delivered. In accord with the Gerwitz-Baer hypothesis, subjects receiving the smaller number of pretest approval presentations demonstrated the better performance in both acquisition and extinction.

Taken together, the results of studies like the two described above suggest that there is a change in approval-contingent performance following deprivation-satiation operations. This change is in the direction of greater susceptibility to social approval reinforcement in a social deprivation condition.

Walters (Walters and Parke, 1964) has proposed that social deprivation might be a limited form of general sensory deprivation, and like sensory deprivation it increases general drive level, facilitating correct performance on learning tasks. In addition, he suggests, social isolation increases anxiety, which is reduced by subsequent positive social interaction.

The general thrust of this evidence, at least superficially, suggested that lonely individuals might be more

susceptible to verbal conditioning. However, before stating the prediction about the loneliness-verbal reinforcement relationship, it is important to focus on chronic versus situational loneliness and to introduce McGuire's (1968) two-step analysis of compliance. McGuire claimed that conformity involved both "reception" mechanisms and "yielding" to the social influences once they have been received. He proposed that specific personality characteristics such as self-esteem could be positively correlated with the reception but negatively correlated with the yielding process. Therefore, depending on which mechanism (reception or yielding) was most important in determining conformity in a given situation, the personal characteristic might either enhance or reduce conformity. In the case of the Asch situation, the social pressure is so clear cut that all subjects should have received the influence attempt. Lonely respondents should have conformed because they would yield more readily.

In the case of verbal reinforcement, the social pressures are less clear cut. Reception of the influence attempt is a more crucial factor. In the reception process, chronic and situational loneliness were expected to differ. Having argued that situationally lonely people are more vigilant in interpersonal relationships than chronically lonely people, situationally lonely individuals were expected to be highly sensitive to verbal reinforcement, more so than chronically lonely individuals. Therefore,

rather than predicting that lonely people are more susceptible to verbal conditioning, the order of the groups from most to least susceptible was hypothesized to be: situational lonelies, non-lonelies, and chronic lonelies.

Nonverbal Influence and Influencing: Facial Expressiveness

It has long been known that much of the way people influence and are influenced is through the use of non-verbal cues. Darwin, in 1872, proposed that certain innate and universal facial expressions of emotional states exist in man. Later, psychologists challenged this notion, maintaining that the meaning of any facial expression depends on the culture of the expresser and the observer (e.g., Birdwhistell, 1970). But recent evidence suggests the existence of widespread agreement about the emotional meaning of certain facial expressions (Ekman and Friesen, 1975; Izard, 1971).

Research originally conducted in the context of experimental bias (Rosenthal, 1966) indicated that these facial cues are used by experimenters to communicate expectations to subjects. In addition, subjects seek out these cues and comply to the experimenter's expectations. Generalizing to other situations, this research indicates that one's expectations for the behavior of other people can unintentionally influence those people to change their behavior in the direction of the expectations. For example,

a teacher might communicate high expectations for a pupil in certain looks given to that person during success or failure experiences. If the pupil is insensitive to the unintentioned message it may go unnoticed. But if that pupil is sensitive to such cues, he or she could be influenced to change their performance in the direction of the teacher's expectation (Rosenthal, 1971).

As Rosenthal (1978) notes,

Teachers undoubtedly vary, like other people, in the clarity of their nonverbal encoding in different nonverbal channels. Pupils also vary, like other people, in their decoding ability or sensitivity to nonverbal communication in different nonverbal channels. Variations in these nonverbal abilities might determine the outcome of an interaction between two people.

Because it was believed that nonverbal communications through facial expression cues is an important part of the persuasion process, we examined these skills (i.e., encoding and decoding abilities) in lonely people.

Recent studies of facial expressions. Contemporary study of facial expression of emotions has centered around two major foci: accuracy and individual differences. Let us begin with the first issue. Researchers have been interested in finding evidence that people can encode and decode facial expressions at an above-chance level. Ekman and Friesen (1971; 1974; 1975) have been two pioneers in studying standardized facial expressions. Overall, they have found a general tendency for people to be consistent in labelling facial expressions (particularly, "happiness,"

"sadness," "surprise," "fear," "anger," and "disgust") regardless of culture. In addition, when people are asked to reproduce a particular expression (e.g., make an angry face") they do so in a manner that can be identified by a naive observer. But while the work of these men has been valuable in establishing these consistencies, they have not examined facial expression as it is used in actual interaction.

To overcome the problems of static photographs and enactment of posed emotional expressions, Buck (1972) developed a paradigm to study nonverbal communication in a more spontaneous setting. He based his paradigm on a "cooperative conditioning" approach which was developed by Miller (Miller, Caul, and Mirsky, 1967) to study the nonverbal communication of affect in monkeys.

Miller's method, as used with animals, involved the presentation of a conditioning stimulus to one of a pair of animals, the "sender," which is not provided with the instrumental devices required to respond appropriately to the stimulus. The second animal of the pair, the "observer," did not receive the stimulus but did have access to the manipulanda essential to the appropriate conditioned response. The face and head of the sender was televised to the observer so that an expressive reaction to the onset of the conditioning stimulus could be perceived by the observer who could, in turn, make the appropriate conditioned response to

the conditioning situation. In a series of experiments Miller demonstrated that monkeys perform at very high levels of accuracy in such a cooperative conditioning situation, and that monkeys which have been subjected to experimental isolation regimens that destroy or impair social behaviors fail to either send or receive adequate nonverbal messages when paired with other monkeys (Miller et al., 1967).

Adapting Miller's methodology to a situation appropriate to humans, Buck induced emotional states through the presentation of emotionally loaded visual stimuli. Colour slides with varied emotional content were presented to a human "sender," while an "observer" watching the sender's face on closed circuit television attempted to (a) judge what kind of slide the sender was watching (sexual, scenic, maternal, disgusting and unusual or ambiguous) and (b) rate the sender's emotional reaction along the dimension of pleasant-unpleasant. Using 10 female pairs, he found that in 9 of the 10 pairs the observer correctly identified more than a chance percentage of the stimulus slide categories. However, of 9 male pairs, only 3 observers correctly identified more than a chance number of slide categories. Overall, combining male and female groups, there was an above-chance slide effect. All of the pairings, both male and female, showed positive correlations between sender-subject's and observer-subject's ratings of the sender-subject's emotional responses to the stimuli. In a later study (Buck,

Miller and Caul, 1974), Buck had senders talk about their emotional response to each slide, which increased the strength of his or her facial expression. He subsequently incorporated this into his standard procedure for examining facial communications.

Research in facial expressiveness has used both posed and spontaneous facial expression. Although there is some question as to whether these are guided by the same parameters (Zukerman, Hall, DeFrank and Rosenthal, 1976) because of the obvious advantages of using posed stimuli to examine both encoding and decoding abilities, this method has continued use. However, a system such as Buck's is increasing in popularity as an experimental technique because of its closer relationship to natural interactional behavior.

Individual differences in encoding and decoding of facial cues. Individual differences in the encoding and decoding of subjects has been the second major focus of research on facial expressions. Early work in individual differences failed to uncover consistent personality factors related to nonverbal skills (e.g., Thompson and Meltzer, 1964; Drag and Shaw, 1967). However, these studies used posed and static faces, and their failure to find differences may be attributed to these methodological problems. Recently, Rosenthal, (1978), feeling that an important obstacle in investigating nonverbal communication has been the absence of standardized measures of individual accuracy in inter-

preting and conveying nonverbal cues, developed the PONS (Profile of Nonverbal Sensitivity) Test. Over the past few years, the PONS Test has been validated on a variety of populations in various settings, with some interesting results.

The PONS is a 47-minute black and white film and soundtrack composed of a number of auditory and visual segments. These segments are a randomized presentation of 20 short scenes portrayed by a young woman, who posed for the film. Each scene is then presented either visually, with part or all of the body displayed, or additionally, with masking so that only the voice quality rather than the verbal content can be detected. Subjects are then asked to decide the emotion being presented to them. While realizing the problems of ecological validity in any such standardized technique, Rosenthal has in the PONS a reliable measure of decoding, with content as representative of real life behavior as possible while maintaining experimental control.

In the analysis of factors correlated with decoding abilities, the strongest factor was named the "sophisticated-unsophisticated" factor because one pole was characterized by a relatively large number of college and professional groups, while the other pole was characterized more by young samples, mental patients, and "exotic" non-western samples. The "sophisticated" samples showed good performance on reading visual cues compared to the "unsophisticated" sample.

Females were consistently more accurate at the PONS than males for all age groups. There was also a developmental factor: visual sensitivity increased with age. Subjects scoring higher on the PONS also scored as better adjusted, more interpersonally democratic and encouraging, less dogmatic, more extroverted, more likely to volunteer for and appear for behavioral research, more popular, and more interpersonally sensitive as judged by acquaintances, clients, spouses, or supervisors (Rosenthal, 1978).

Earlier we made brief reference to a study by Miller et al. (1967) using a cooperative conditioning task. A group of rhesus monkeys which had been raised in total isolation for the first year of their life, and a control group of non-isolated (feral) monkeys of the same age were initially tested and compared on an avoidance test, with no differences in conditionability found. Subsequently, the same subjects were tested on a co-operative avoidance task in which a "sender" monkey was administered an electric shock on a Sidman schedule while a "receiver" monkey controlled the manipulanda which could be used in order to avoid shock for the other monkey. The sender monkey's face was broadcast to the receiver monkey via a closed-circuit television screen. A 6-second CS was presented to the sender monkey immediately prior to the administration of each shock. If during this period, the receiver monkey operated the manipulanda, shock could be avoided. All possible pairs of feral

and isolate monkeys were tested as both senders and receivers. The results indicated that while feral-feral pairs were able to acquire the conditioned response necessary to avoid shock, neither isolate-isolate nor isolate-feral pairs were effective. In the latter case, conditioning was poor whether isolate monkeys performed as senders or receivers. The authors suggested that these findings indicate an inability on the part of the isolated monkeys to emit facial cues facilitating the acquisition of an avoidance response by the feral monkeys as well as the inability to make use of the facial cues of feral monkeys in order to acquire an avoidance response themselves. We have already suggested the relationship of chronic loneliness to isolation, and as with other tasks, expect the chronic loneliness group of the present study to respond like the isolate monkeys. In other words, the chronic lonely individuals will both be poorer senders of facial expressions and poorer receivers than other subjects.

In a similar vein, Prkachin, Craig, Papegeorgis and Reith (1977) studied clinically depressed patients and found a nonverbal communication deficit in this population. Their finding is consistent with Rosenthal's (1978) reports of poor decoding skills in psychiatric patients. The Prkachin et al. study, using a cooperative conditioning task like Miller's but adapted to humans, was conducted within the context of Lewinsohn's (1974) account of the origins and maintenance of

depressive behavior. Lewinsohn suggests that a social skills deficit (in this case defined as the ability to emit behaviors that are reinforced by others and not to emit behaviors that are punished by others) exists. Prkachin et al., citing expressive and receptive nonverbal communication as a component of social skills, expected to find depressed patients to be deficient at "reading" faces as well as at expressing facially. The study, using three groups of 10 females (depressed, psychiatric control, and normal control) was carried out over two sessions. During the first session, subjects were exposed to a classical conditioning paradigm, where various lights signalled the onset of either an unpleasant noise, a pleasant picture, or nothing. The subject was videotaped during the anticipatory period. Then, during the second session, the subjects rated each other's tapes for the condition being anticipated. In this way, the experimenters were able to get objective measures of both encoding and decoding abilities of subjects. As predicted, depressed patients did display poorer nonverbal communication skills than the controls in encoding though not in decoding.

A word should be said about the relationship between encoding and decoding abilities. Are encoding and decoding independent skills, a part of a more general communication factor, or are they unrelated or even inversely related? Unfortunately, the literature reports all three relationships (Levy, 1964; Lanzetta and Kleck, 1970; Zukerman, Lipset, Hall,

and Rosenthal, 1974). Some of the conflict among these research results may be attributable to differences in procedure as well as the type of affect displayed. Some studies used spontaneous versus posed facial expressions; some used pleasant versus unpleasant emotions. Exactly how these factors are involved is not yet clear.

A final area which has been investigated is the effect of observer's emotional state on his or her judgments of the emotional state of others (Schiffenbauer, 1974a). Hypothesizing that aroused judges would tend to label more stimuli (i.e., facial expression slides) as experiencing the same emotion that they themselves are experiencing, than nonaroused judges, and that aroused judges would label as more intense stimuli showing all emotions (not just the one they are experiencing), Schiffenbauer manipulated the "arousal state" of his subjects by playing "comedy" tapes, "disgust" tapes, and low and high volume white noise. He then showed slides of facial expressions and asked the aroused subjects to label the emotion being displayed as well as the intensity. The results lent support to his contention that an observer's own emotional state affects his judgment of the emotional state of others. The comedy group gave more positive and less negative labels to expressions than the other experimental groups. In addition, the loud white noise group gave more intense labels to faces than the soft noise group.

In a following study, Schiffenbauer (1974b) addressed

the issue of when subjects would spontaneously attribute emotion to facial stimuli. The facial expression literature showed that subjects can, if instructed to, attribute emotion differentially on the basis of facial information, but not that they will do so under free-response conditions. To begin to explore the conditions (if any) under which facial stimuli will spontaneously elicit emotional attributions from subjects, Schiffenbauer again induced states of emotional arousal in subjects, again using "disgust," "comedy," and low volume white noise tapes. He presented the subjects with 35 mm colour slides, half of which were of common objects, and half of female faces. The face slides were previously rated as of either high or low intensity. The experiment was presented to the subjects as a study of the relationship between emotion and memory. Subjects were told that as each slide appeared on the screen, they were to tell the experimenter something about the slide; describe it in some way using a word or short phrase. Once the experiment was run, independent judges rated the responses as attributing emotion or not.

Overall, 25% of the responses had emotional attributions. The subject's emotional state had a significant effect on the mean attribution scores with the comedy and disgust groups having significantly higher emotional attribution scores than the low noise group. Thus, these findings indicate that arousal increases the probability that subjects

spontaneously report emotions when decoding facial expressions.

Loneliness and facial expressions. It was an easy step to make predictions about the sensitivity to facial cues of situational, chronic and non-lonely persons. Rosenthal (1978) has reported that poor decoders are less well-adjusted, less popular, and less interpersonally sensitive than good decoders; chronic lonelies are also described in this way. In addition, the chronic lonely person is comparable to Miller et al.'s (1967) socially isolated group of monkeys and Prkachin et al.'s (1977) hospitalized depressed group, who were both poor senders and poor receivers of facial cues. Chronic lonelies, like the latter subjects, have a long history of deprived (relative to what they would ideally desire) social interaction and reinforcement, presumably to the point where social nuances are no longer detected. This group of subjects, whom we saw as lacking in social skills, was expected to be the least "readable" as sender-subjects in a Buck-type of situation, and also to be the least able to read expressions in others. In addition, based on Schiffenbauer's (1974) finding that arousal enhances spontaneous attribution of emotion in others, we expected the chronic lonelies to attribute emotion in identifying facial stimuli less than other subjects.

In the case of the situational lonelies, we expected their state of arousal to enhance their sensitivity to facial

stimuli, and therefore predicted that they would be more likely than other subjects to report emotional attributes from facial stimuli. These subjects were also expected to be more readable from facial expressions, and more sensitive to facial expressions than other subjects.

Self-monitoring of expressive behavior. Ekman (1971) has suggested that individuals typically exercise control over their facial expressions to intensify, deintensify, neutralize, or mask the expression of a felt affect, according to various norms of social performance. However, there are undoubtedly individual differences in the extent to which individuals can and do monitor their self-presentation, expressive behavior, and non-verbal affective behavior. For example, clearly professional stage actors can do what others cannot in terms of manipulating their self-presentation.

Snyder (1974, 1977a), noting this difference, constructed the idea of "self-monitoring." He defined the self-monitoring individual (1974, p. 568) as:

. . . one who, out of a concern for social appropriateness, is particularly sensitive to the expression and self-presentation of others in social situations and uses cues as guidelines for monitoring his own self-presentation.

In other words, in the framework of impression management theory, the self-monitoring individual is a skilled impression manager, who is aware of the interpretations that others place on his or her acts, who has a desire to maintain "face,"

a wide range of self-presentational skills, and the willingness to use this repertoire of impression management strategies (Snyder, 1977b).

According to Snyder (1977a), the goals of self-monitoring may be: (a) to communicate accurately one's true emotional state by means of an intensified expressive presentation; (b) to communicate accurately an arbitrary emotional state not necessarily congruent with actual emotional experience; (c) to conceal adaptively an inappropriate emotional state and appear unresponsive and unexpressive; (d) to conceal adaptively an inappropriate emotional state and appear to be experiencing an appropriate one; (e) to appear to be experiencing some emotion when one experiences nothing and non-responsiveness is inappropriate.

Unlike the case with the Buck facial expressions paradigm, where the idea is to capture the subject's facial cues when he is not necessarily managing the impression (since he doesn't know he is being observed), Snyder is interested in examining the control aspects of expressiveness, which of course is a more pure self-presentation skills phenomenon. As Snyder himself notes, low self-monitoring individuals are not necessarily less emotionally expressive than their high self-monitoring counterparts. Rather, their self-presentation and expressive behavior seem to be controlled from within by their affective states and attitudes rather than managed and molded to fit the situation.

To measure individual differences in self-monitoring, the Self-Monitoring Scale (Snyder, 1974) was designed to transpose the self-monitoring construct into an instrument that reliably and validly measures it. The Self-Monitoring Scale is a set of 25 true-false self-descriptive statements, describing: (a) concern with social appropriateness of one's self-presentation; (b) attention to social comparison information as cues to situationally appropriate expressive self-presentation; (c) the ability to control and modify one's self-presentation and expressive behavior; (d) the use of this ability in particular situations; and (e) the extent to which one's expressive behavior and self-presentation are moulded to particular social situations (Snyder, 1977a).

The Scale was validated using peer ratings, criterion groups, measures of expression of emotion at will, and measures of sensitivity to the behavior of others. Peer ratings disclosed that individuals with high scores on the Self-Monitoring Scale are good at learning what is socially appropriate in new situations, have good self-control of their emotional expression, and can effectively use this ability to create the impressions they want. Administering the Scale to criterion groups, Snyder (1974) found that professional stage actors scored significantly higher than university undergraduates, while hospital psychiatric patients (generally a low social skills group) proved lower. Individuals with high scores on the Self-Monitoring Scale were much

better able than those with low scores to intentionally express and communicate emotion in both vocal and facial channels of expressive behavior (Snyder, 1974). In a self-presentation task, high self-monitoring individuals, when given the opportunity, consulted information about the model self-presentation of their introductory psychology class more often and for longer periods of time than did low self-monitoring individuals (Snyder, 1974). Finally, high self-monitoring individuals were much more accurate than low self-monitoring individuals in correctly identifying the truthful contestant on excerpts from "To Tell the Truth," and reading through the attempted deception of the other two contestants.

Self-monitoring and loneliness. Self-monitoring, by virtue of its being an impression management technique, is clearly a component of the social influencing process, as well as a kind of social sensitivity. As such, we expected the chronic lonely individual to score as a low self-monitor on the Self-Monitoring Scale. However, situational lonely individuals were not expected to differ from their non-lonely counterparts in this respect. While it was thought that they may behave in a particularly high self-monitoring fashion because of their aroused situation, the self-report nature of the scale would not likely reflect this situational effect, but more likely would reflect their more usual non-lonely status.

Summary of the Study and Hypotheses

In summary, the present research was an attempt to distinguish between two types of loneliness, situational and chronic, and to explore the overall hypothesis that social influence skills would differ as a function of the type of loneliness and degree of loneliness felt. The independent variable was loneliness (chronic, situational), or non-lonely). A number of empirical investigations were conducted to test the hypotheses below. The dependent variables are described in the next chapter.

Hypotheses Pertaining to Influence Strategies

Situationally lonely, chronically lonely, and non-lonely individuals will differ in their use of the various bases of social influence.

1. Chronically lonely individuals will make greater use of both coercive and concrete bases and less use of both reward and personal bases than will members of the other two groups.
2. Situationally lonely individuals will make greater use of concrete rewards as a basis of influence than will members of the other two groups.
3. Non-lonely individuals will use referent, and personal bases (both promises and threats) of influence more than will members of the other two groups.

Hypotheses Pertaining to Compliance

4. When the normative behavior is obvious, as in an Asch situation, the chronic lonely individuals will show the greatest amount of compliance, and the non-lonely subjects the least.

5. When the normative behavior is more subtle, as in a verbal reinforcement situation, the situational lonely individuals will comply to experimental demands the most, while chronic lonely subjects will be the least influenced.

Hypotheses Pertaining to Facial Expressiveness

6. Subjects will have the most difficult time inferring emotional state from the facial expressions of chronic lonely individuals (both the actual emotion as well as the pleasantness experienced), while the situational lonely individuals will be the most readable.

7. Chronic lonely subjects will be the least accurate at judging emotions from facial expressions, while situational lonely individuals will be most accurate.

8. Chronic lonely individuals will spontaneously attribute emotions in facial stimuli less than non-lonely individuals, who will do so less than situational lonely subjects.

Hypotheses Pertaining to Self-Monitoring of Expressive Behavior

9. Chronic lonely individuals will score lower on the Self-Monitoring Scale than will members of the other groups.

CHAPTER III

METHOD

The research design can be viewed as multiple one-way analyses of variance with an "independent" variable, loneliness, and several "dependent" variables. The independent variable was assessed in a screening session via the UCLA Loneliness Scale supplemented with additional questions to divide lonely subjects into two categories-- situationally and chronically lonely subjects. The dependent variables can be divided into three broader categories: two measures of compliance, six measures having to do with expressive communication, and six measures having to do with the respondents' influence strategies. The compliance measures consist of conformity in an Asch situation using the Muller-Lyer illusion as stimulus material and susceptibility to reinforcement in a verbal conditioning task. The six expressive communication measures were obtained by: (a) having subjects react to one set of six slides showing only the stimulus person's face; (b) videotaping subjects' expressive behavior during exposure to a second set of slides and having other subjects decode this behavior à la Buck; and (c) having subjects complete a personality scale. The six expressive measures derived from these tasks were as follows: (1) each subject's tendency to spontaneously

attribute emotion to facial stimuli; (2) each subject's ability to emit a facial expression reflective of the category of slide being observed; (3) each subject's ability to emit a facial expression reflective of the pleasantness she was experiencing; (4) each subject's ability to detect from a videotape of the encoders' expressive behavior the pleasantness of the stimulus slide the original observer was viewing when the videotape was recorded; (5) each subject's ability to detect from a videotape replay of the encoder's expressive behavior the type of stimulus slide she was viewing at the time of the recording; and (6) each subject's score on Snyder's Self-Monitoring Scale. A final set of dependent measures pertaining to the subjects' use of different bases of social influence was obtained via a case-history technique. Specifically, there were six scores reflecting: reward, coercion, reference, personal, concrete power, and no action.

From the subjects' perspective, the study consisted of a preliminary screening session in which a loneliness questionnaire was completed, telephone contact, and three experimental sessions. During recruitment, subjects were told that at some point in the experiment they would be videotaped without their knowing, and that later this tape would be shown to other subjects. During the first session, the subjects were run individually. Each subject was shown two different sets of slides introduced as only one general

task. As each slide was shown, the subject described her feelings about the slide, then rated it on a pleasantness scale. (Actually, the subject was videotaped while performing this task.) The task served multiple purposes. First, the subjects' reactions to one set of slides (faces) were used to measure their tendency to attribute emotions to facial stimuli. Second, the videotapes from this session were used to assess how well senders transmitted and other subjects subsequently decoded from videotapes the type and pleasantness of the stimulus material the original subject was viewing.

In a second session, the subjects did the verbal conditioning task. Each subject was presented with eighty cards, one at a time, with a verb on top and a series of pronouns on the bottom. Her task was to form a sentence from each verb. Every time she formed a sentence beginning with "I" or "We," the experimenter said "good." Following the final trial, the subject was asked to fill out an "awareness" questionnaire, and told that she would be phoned in the next two to three weeks to schedule the second session, which would be a group session.

During the third session, eight subjects were run simultaneously. After all the subjects had arrived at the

laboratory, each subject was seated in an individual experimental room containing a closed circuit TV screen and an intercom system. Once situated, they all received the same message over the intercom, telling them that they were to decide which of three comparison lines shown on the TV screen most closely resembled the Muller-Lyer line at the top of the screen. The subjects responded by pushing an appropriate button. Their turn to respond was always according to their assigned number (which was always fourth), since, as they were told, the machine could not process more than one response at a time. Once they saw three other judgments (presumably the responses from the three people in their half of the hall) on the monitor (compliance manipulation), they were to respond. Only then could they push the appropriate button to indicate their own judgment. Following this, they saw their own response on the monitor, and then a new trial began. Following forty trials of this, subjects then returned to a larger room to view videotapes of four other subjects from Session I. Subjects were asked for each trial to guess the category of slide being viewed and the sender subject's rating of pleasantness (from video only). Finally, subjects

were asked to complete a self-report social influence questionnaire, the Self-Monitoring Scale, and a post-experimental questionnaire, and were given a debriefing paper.

Subjects

Seventy-four subjects were selected, based on their responses to the UCLA Loneliness Scale (Russell, Peplau and Ferguson, 1977; see Appendix I). This is a short, 20-item general measure of loneliness. The items are in a Likert-type format, with statements such as, "My social relationships are superficial," to which subjects responded by circling either 1, 2, 3, or 4 for "I never feel this way," to "I often feel this way." All items are scored in the same direction, and totals may range from 20 (low loneliness to 80 (high loneliness). The UCLA Loneliness Scale has a high internal consistency (coefficient alpha = .96) and a test-retest correlation over a two-month period of .73. Concurrent and construct validity have been gathered by correlations with self-reports of current loneliness and related emotional status such as depression, and by volunteering for a "loneliness clinic" (Russell et al.,

1977). The results of these studies have been as predicted.

Students responded to the Loneliness Scale twice. The first time, they indicated how they had felt during the recent past (two weeks or so). The second time they answered the question, they indicated how they had felt generally during their life; that is, how they felt over the past several years. In addition, each subject was asked whether she saw herself in general as lonely (see Appendix II). This combined set of questions was administered to 354 female students who were required to participate in experiments for class credit. In addition, some of the subjects completed the Beck Depression Scale (Beck, 1967)

Experimental groups were selected in the following manner: non-lonely subjects were those whose test scores fell in the lower third on both forms of the loneliness scale (34 or less on the recent past responses; 39 or less on the long-term responses). This group consisted of 26 females, with mean loneliness scores on recent and long-range responses of 28 and 29 respectively. Twenty-one situational lonely subjects were selected with current loneliness scores in the top third for that scale (46 or more), and with general loneliness scores in the lower third for that scale (39 or less). Means for that group were 52 and 34 respectively.

The chronic lonely subjects were 26 females whose loneliness scores fell in the top third for both scales (46 or more for current loneliness; 49 or more for long-range loneliness). Mean scores for that group were 55 and 60 respectively.

Assessing Compliance

Verbal conditioning task. The stimuli for the verbal conditioning task consisted of 80 three-by-five white unlined index cards. In the center of each card was a different verb in the simple past tense; typed in upper case letters and on one line, were the pronouns, I, WE, YOU, HE, SHE, THEY. The sequence of the words varied for each card. The 80 cards were placed in random order. The subjects were given instructions as follows (taken from Taffel, 1955):

When I turn these cards over (experimenter will point to the cards) you will see a word in the center of each card. I want you to form a sentence using this word. Below the word in the center you will see a group of other words. Take one of these and use it to start your sentence. It doesn't matter whether the sentence you make is long or short, or even if it is complicated or not. It is important that you answer with the first thing that enters your mind. It isn't easy to do, but you will find that if you try to answer as quickly as you can you are more likely to give the first thing that enters into your mind. Are there any questions?

The first card was then exposed. The experimenter placed an "X" on a paper (hidden from the subject) if a sentence was constructed beginning with "I" or "WE," and an

"O" for any other pronoun. After marking the response, the card was removed, and the next one exposed. This procedure remained the same for trials 1 through 20. No reinforcement was administered during this first block of trials. For trials 29 through 80, the experimenter responded with the word "good" for sentences that started with "I" or "WE."

The difference between the frequency of occurrence of the selected responses in Trials 1 to 20 and the two last blocks of 20 trials was tabulated for each subject; the three resulting scores were then combined to give a compliance score.

A questionnaire based on one described by Page (1969) (Appendix III) was used for assessing the subjects' awareness that they were participating in a verbal conditioning process. The questionnaire is a funnel-type of scale which first asks a general question about the nature of the task, and becomes more specific (e.g., "Did her saying 'Good' change or have any effect on the way in which you made up the sentences?"). Questions were printed on separate pages so that information in later questions did not bias responses to earlier questions.

Conformity task. Stimuli for this task were presented on closed circuit TV screens via a Dec PDP8a computer system. This system was pre-programmed to present the standard comparison stimulus lines, bogus peer judgments on the two lines of "equal" length, and a visual display on

the TV screen of the subject's own response. There was a central monitor in the experimenter's room, and a TV display screen in each of eight separate subject rooms. In addition, each subject had a response panel with three buttons.

Actual responses and response latencies were recorded automatically on a printout in the experimental room. The bottom of the screen was masked except for openings where each subject could see her own and the other pre-programmed responses. The stimulus array remained on the screen until all eight subjects had responded, then a new trial began, for a total of 40 trials. Of the 40 trials, 14 gave group pressure toward an incorrect response. The compliance trials were distributed randomly in sequence. The dependent variable was the number of trials the subject complied to a wrong judgment, with the total number possible being 14.

In order to determine compliance trials, the stimuli were shown to 16 subjects exactly as in the experiment, but without the bogus "feedback" of others' responses. Compliance trials were selected (and false feedback contrived) from trials where no subjects gave the conforming response in the absence of feedback. In other words, if without feedback no subject said that line 2 looked most like the standard, then for the bogus feedback, all "responses" were 2. Then, if an experimental subject said that 2 looked most like the standard, that counted as a conformity response.

The Encoding and Decoding of the
Content and Pleasantness
of Stimulus Slides

Expressive manipulation. The slides used as stimuli for the experiment were those used by Buck et al. (1972, 1974) in their studies. Appendix IV gives examples of slides from each category. These were originally chosen by showing 50 selected slides to 18 female and 18 male undergraduates and asking them to categorize them into five content categories: sexual, scenic, pleasant people, unpleasant, and unusual. Most of the slides were categorized with over 94% agreement from the raters, and none had under 78% agreement. Sexual slides consisted of pictures of nude and semi-nude males and females; scenic slides were pleasant landscapes; pleasant people slides showed happy-looking children and adults; unpleasant slides depicted severe burns and facial injuries; and unusual slides showed strange photographic effects and art objects. The order of presentation of the slides, as determined by a randomly selected Latin square, was EABCDC-DABEACDBDBCEABEDAC, with A, a sexual slide; B, scenic; C, pleasant people; D, unpleasant; and E, unusual.

This part of the study took place in the group dynamics laboratory, a large room with a one-way mirror from an adjacent room. In the group dynamics lab, the subject sat facing a rear projection screen which was concealed behind the mirror. A microphone and an audio tape recorder were

positioned on a table near the subject. One experimenter (Experimenter I) was in the adjacent room behind the one-way mirror, in order to operate the video-tape recorder, which was focused on the subject's face.

The subject was seated in front of the projection screen and given the following instructions by Experimenter II:

The purpose of this first experiment is to find out your reactions to a series of pictures. To do this, we would like to have your description of your feelings about the pictures. When a picture comes on, just look at it until I push the button on the tape recorder. Then begin describing the emotional reaction you have when you look at the picture. The light will be on for about 20 seconds. You may keep talking all the time the recorder is on. Try to describe your subjective emotional reaction as accurately as you can. Feel free to say anything you like about your feelings. When I turn the recorder off, you may stop talking. Then write your emotional response to the picture, rating from pleasant to unpleasant, on the paper in front of you. There will be about 30 slides in all. Do you have any questions?

The first slide was shown 30 seconds after the end of the instructions. Each trial ran as follows: a slide was presented to the sender for 10 seconds (slide period). The tape recorder was then turned on, and Experimenter I began video-recording while the subject described her feelings about the picture (description period). After 20 seconds, the recorder and slide were turned off, and the video-recorder was stopped. This signalled the subject to stop talking and to rate on paper (see Appendix V) the pleasantness of her emotional reaction to the slide on a 7-point

scale. Thirty seconds later, the next slide came on.

The dependent variables for this "Sending accuracy" task were: (a) the number of slide categories correctly guessed by other subjects viewing the visual part of the sender subject's videotape only; as four subjects viewed each tape, there was a total possible of 100; and (b) the Pearson correlation coefficient between the sender subject's pleasantness ratings and observer's guesses of her ratings. The correlation was calculated from 100 sets of ratings.

Receptive manipulation. Videotapes from the expressive manipulation were replayed on a 21-inch television screen. Four subjects were seated around the screen at a time. Each receiver subject had a sheet of paper for each sender subject, numbered by sequence and with categories listed so that the appropriate category could simply be checked off for each sequence. In addition, there was a space for pleasantness ratings for each sequence (See Appendix VI). Subjects were read the following instructions:

You will now be shown some tapes of other subjects viewing the same slides that you saw in the first session. Your task will be to watch the subject on the TV for 20 seconds; then when it is switched off you will circle on your paper which category of slide you think the subject was viewing. The categories are listed on your sheet of paper. You must also rate on a 9-point scale how pleasant or unpleasant you thought her reaction was. Altogether you will see 25 segments for four subjects--100 segments in total. I will read the segment number before showing each one, so you don't get confused. Are there any questions?

Viewing then proceeded, with subjects having 20 seconds of viewing, then 10 seconds to respond, until all 100 trials were completed. Each group of four subjects viewed four other subjects' tapes, for a total of 100 sequences.

The dependent variables were: (a) the number of categories correctly guessed, with a possible total of 100; and (b) the Pearson product correlation coefficient between the sender subjects' ratings of pleasantness and the receiver subject's ratings.

Spontaneous attribution of emotional state. To test the spontaneous attribution hypothesis, subjects were shown six slides of faces (selected from the collection of P. Ekman) interspaced with the Buck slides. Each slide depicted a particular emotion. The subjects' descriptions of these slides were recorded on audiotape.

The dependent variable for this manipulation was the number of slides of faces which evoked attributes of emotion from the subject, with a total possible of six.

Self-monitoring of expressive behavior. Each subject completed the Self-Monitoring Scale (Snyder, 1974), a 25-item, true-false scale (see Appendix VII for scale and scoring direction of items). This scale is a measure of self-monitoring of expressive behavior: the degree to which an individual exercises control over his/her expressions. The Self-

Monitoring Scale has a Kuder-Richardson 20 reliability of .70, and a test-retest reliability of .83 over one month. The scale has been validated with peer ratings, criterion groups (theatre actors and psychiatric patients), posed expressive communication, and self-presentation tasks (Snyder, 1974). The scale includes items which describe: (a) concern with the social appropriateness of one's self-presentation; (b) attention to social comparison information as cues to appropriate self-expression; (c) the ability to control and modify one's self-presentation and expressive behavior; (d) the use of this ability in particular situations; and (e) the extent to which the respondent's expressive behavior and self-presentation is cross-situationally consistent or variable. The dependent variable was the subject's self-monitoring score, which may range from 0 (low self-monitoring) to 25 (high self-monitoring).

Social Influence Strategies

Data on power techniques was collected by means of a case history questionnaire (see Appendix VIII). Subjects were given a hypothetical event (e.g., "You are assigned to write a paper with another student and want that person to take the same approach as you.") Following this was a series of possible influence techniques, corresponding with (a) personal coercion (e.g., "I would tell that person I would be unhappy with her if she didn't do it my way");

(b) concrete coercion (e.g., I would threaten to tell the professor that I got no cooperation in doing the paper, if they didn't comply); (c) personal reward (e.g., I would tell that person that I would like and admire them for cooperating); (d) concrete reward (e.g., I would offer to do most of it myself if we could do it my way); and (e) reference (e.g., I would ask that person to do it my way because we are both students and friends who see eye to eye on things). The subject's instructions were to select the method she would be most likely to use. She could also select a response indicating that she would do nothing.

The questionnaire was developed by the author by constructing a number of items like the example given, and having these rated by two expert judges for the category of each possible influence technique. The final questionnaire was constructed of items with a 100 percent inter-rater-reliability. Six items were used in the final form.

This questionnaire yielded for each subject six scores, corresponding to the number of choices she made, which were concrete coercion, concrete reward, personal coercion, personal reward, reference, or to do nothing.

Post-experimental Procedures

Following the experimental sessions, subjects were requested to complete a post-experimental questionnaire (see Appendix IX). Finally they were given a summary of the

experiment. This debriefing included information that the feedback in the Asch conformity situation had been bogus, and told the subjects the purpose of the various manipulations. Finally, the subjects were asked not to tell other subjects about the manipulations until the entire experiment was completed.

CHAPTER IV

RESULTS

The major, planned analyses of the data gathered involved use of the analysis of variance (ANOVA) technique. The subject's loneliness status--chronic, situational or non-lonely--was treated as the independent variable in the analysis. The error rate was set at .05 per hypothesis. In addition to the calculation of ANOVAS, the eleven hypotheses of the study were divided into three categories (power strategies--six measures; compliance--two measures; and expressiveness--six measures). One multivariate analysis of variance (MANOVA) was performed for each cluster of dependent variables.

The Finn (1972) program was used for both types of data analysis; this procedure controls the experiment-wise error rate for the MANOVA, and also provides a univariate F-test of all main effects on each of the dependent measures. For dependent variables where the univariate F-test was significant, octagonal comparisons among means for the three different loneliness groups were computed, using Scheffe's S method (Kirk, 1968). This method gives the amount of difference necessary between two groups for a significant difference. The results are organized in a straightforward manner. First, the power strategies data, then the compliance data, and finally the expressiveness results will be

presented. Each subsection will focus primarily on the planned ANOVAS, but some supplementary analyses suggested by the data themselves will also be presented.

Power Strategies

Analysis I (power strategies) included six dependent variables: concrete coercion, personal coercion, concrete reward, personal reward, reference, and no action. Tables 1 and 2 summarize the data and statistical analysis. Hypotheses 1 and 2, predicting main effects of loneliness on personal and concrete coercion, and personal and concrete reward, were not supported. Hypothesis 3 was supported by a minimum effect for the use of reference as a power base, $F(2,69) = 4.33$, $p < .02$. As predicted, Sheffe S tests, with error rate controlled per hypothesis, indicated that non-lonely individuals made greater use of reference as an influencing strategy than did individuals from the two lonely groups, $S = .58$. The situationally lonely and chronically lonely groups did not differ significantly from one another.

The multivariate analysis revealed no significant effects of loneliness when all influence techniques were combined as dependent variables. In other words, when power bases other than reference were used to predict loneliness, error increased to the extent that loneliness could no longer be significantly predicted, $F(12,124) = .706$, $p < .74$.

Table 1

Analysis of Variance:
Effects of Loneliness on Power Scores

Variable	<u>df</u>	<u>MS</u>	<u>F</u>
Personal Reward	2,69	0.04	0.03
Concrete Reward	2,69	1.34	0.87
Personal Coercion	2,69	0.25	0.61
Concrete Coercion	2,69	0.08	0.03
Reference	2,69	3.87	4.33*
No action	2,69	0.24	0.22

* $p < .02$

Table 2

Power Base Scores as a Function of Loneliness

Lone- liness Group	Power Strategy					
	Personal Reward	Concrete Reward	Personal Coercion	Concrete Coercion	Refer- ence	No Action
Chronic	1.04	1.68	0.36	0.08	1.00	1.56
Situa- tional	1.10	1.80	0.48	0.14	0.81	1.62
Non- lonely	1.12	1.38	0.27	0.19	1.58	1.42

Note: Scores may range from 0 (low use of base) to 6.

Measure of General Assertiveness and Loneliness.

In an effort to further examine the relationship between loneliness and power, correlations among the various power bases were calculated. These Pearson-product moment correlations were calculated using the statistical package for the Social Sciences (SPSS, 1975). On an a priori basis, it was hoped that the correlations among the specific states might provide empirical grounds for combining two or more measures. Such composite measures are advantageous because of their generally superior reliability.

Table 3 gives the intercorrelations obtained. There were significant negative correlations between personal reward and concrete reward, $r = -.33$, $p < .005$; between personal reward and doing nothing, $r = -.47$, $p < .001$; between reference and concrete reward, $r = -.47$, $p < .001$; and between reference, and doing nothing, $r = -.25$, $p < .036$. This was tentatively interpreted as indicating a general underlying continuum with two opposite ends: personal reward and reference were at the one end, while concrete reward and doing nothing were at the other end. Conceptually, reference and personal reward can be seen as a unit in that both rely on the value of the influencing agent for their success and make use of this in persuasion. On the other hand, both concrete reward and doing nothing imply no value of the agent, and instead either bribes must be used or influence abandoned. The attitude in both of the latter strategies is that on its

Table 3

Pearson-Product Moment Correlations
among Power Bases

Variable	1	2	3	4	5
1. Personal Reward					
2. Concrete Reward	$\underline{r} = -.33^*$				
3. Personal Coercion	$\underline{r} = -.11$	$\underline{r} = -.23^{**}$			
4. Concrete Coercion	$\underline{r} = -.14$	$\underline{r} = -.16$	$\underline{r} = -.11$		
5. Reference	$\underline{r} = -.12$	$\underline{r} = -.47^*$	$\underline{r} = -.19$	$\underline{r} = -.18$	
6. No Action	$\underline{r} = -.47^{**}$	$\underline{r} = -.13$	$\underline{r} = -.02$	$\underline{r} = -.10$	$\underline{r} = -.25^*$

* $p < .005$

** $p < .06$

own the influence attempt probably won't work. In other words, the former pair may be seen as assertive behavior, the latter pair as non-assertive behavior. (The two types of coercion may be seen conceptually as negative forms of influence, although in the present study there was no empirical evidence to link them together. This may be because of the overall low frequency with which they were selected at all as influence tactics.) When the four original scales were combined into two pairs (i.e., personal reward with reference and concrete reward with doing nothing), these two summary scores correlated very highly, $r = -.87$, $p < .0001$. Therefore all four scores were combined to provide a single assertive-non-assertive dimension. This measure was obtained by reverse scoring concrete reward and do-nothing (this was accomplished by subtracting the sum of these scores from 12 for each subject), and adding this to the sum of the reference and personal reward. A subsequent ANOVA was performed, using this general assertiveness measure as the dependent variable. Although no significant effect was found, there was a non-significant trend (shown in Table 4) for the non-lonely group to be more assertive than the lonely groups, $F(2,67) = 2.02$, $p < .14$. This tendency of lonely subjects to be less assertive isn't surprising, given the general notions about lonely people developed earlier.

Compliance

Analysis II (compliance) involved the following major

Table 4

Mean Assertiveness Scores as a
Function of Loneliness

Loneliness Group	Assertiveness Score
Chronic	10.75
Situational	10.47
Non-lonely	11.96

Note: Scores may range from 24 (high assertive) to 0 (low assertive).

dependent variables: compliance with the Asch task, and verbal conditioning. According to hypotheses 4 and 5 offered in Chapter I of this text, a main effect on both dependent variables was predicted. In addition to the major dependent variables, awareness on the verbal conditioning task was entered into the analysis as a factor. If McGuire's (1968) two-factor theory of conformity, stating that conformity involves an understanding of the norms as well as a decision to yield to the pressure, holds true, then there should have been a significant main effect for awareness.

The analysis was originally run as a 2 x 3 multivariate analysis of covariance (MANCOVA), with baseline on the verbal conditioning task as the covariate, two levels of awareness as one factor, and three levels of loneliness as the other. However, due to a significant baseline x awareness interaction, $F(5,55) = 2.36, p < .05$, a MANCOVA was inappropriate, and baseline was removed as a covariate. In the final analysis, baseline was subtracted from the raw verbal conditioning scores to yield the dependent variable for that task.

Tables 5 and 6 give the cell means for the manipulation and summarize the results of the 2x3 ANOVA. There was a significant main effect of awareness on the verbal conditioning task, $F(1,58) = 22.06, p < .0001$. Consistent with McGuire's (1968) expectation, the aware subjects showed more compliance to the task than the unaware subjects. No sig-

Table 5
Analysis of Variance:
Effects of Loneliness and Awareness on Compliance

Source	Compliance Manipulation					
	Asch			Verbal Conditioning		
	<u>df</u>	<u>MS</u>	<u>F</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Loneliness	2	4.71	1.01	2	24.32	0.82
Awareness	1	1.14	0.25	1	2625.95	22.06*
Loneliness x Awareness	2	4.65	0.38	2	67.82	0.57
Error	58			58		

* $p < .0001$

Table 6

Conformity and Verbal Conditioning Scores as a
Function of Loneliness and Awareness

Loneliness Group	Type of Compliance	
	Asch Conformity	Verbal Conditioning
Chronic lonely	3.957	7.826
Situational lonely	3.765	8.000
Non-lonely	4.708	6.583
<u>Level of Awareness</u>		
Aware	4.040	14.17
Unaware	4.313	1.120

Note: Scores on Asch conformity may range from 0 (low) to 14 (high). Scores on verbal conditioning may range from 0 (low) to 40 (high).

nificant differences were found among the loneliness groups on either measure of conformity. A χ^2 test for frequency (Young and Veldman, 1965) indicated no significant effect of loneliness on awareness, $\chi^2(2) = .47$.

One final statistical technique was used to explore the relationship between loneliness and conformity. As the situational and chronic lonelies reacted to the Asch situation in a similar fashion, these two groups were combined. A one-way ANOVA was then performed comparing lonelies (chronic and situational) with non-lonelies. One would expect the larger N in the lonely condition to increase the power of the analysis. A near significant trend indicated that the lonely females ($\bar{X} = 3.85$) were less conforming than the non-lonely females ($\bar{X} = 3.71$), $F(1,59) = 2.80, p < .09$.

Expressive Communication

Analysis III (expressive communication) included six dependent variables: category accuracy as sender; pleasantness accuracy as sender; category accuracy as receiver; pleasantness accuracy as receiver; spontaneous emotional attributes; and self-monitoring. Tables 7 and 8 display the results of the analysis. Hypothesis 6 for a main effect of loneliness on sender accuracy was supported, both for category accuracy, $F(2,63) = 4.24, p < .02$, and near significant for pleasantness accuracy, $F(2,63) = 3.37, p < .04$. Orthogonal Scheffe S tests, controlled for hypothesis-wise error rate,

Table 7

Analysis of Variance:
Effects of Loneliness on Expressiveness Measures

Variable	<u>df</u>	<u>MS</u>	<u>F</u>
Sender Pleasantness Accuracy	2,63	0.09	3.37*
Sender Category Accuracy	2,63	10.70	4.23**
Receiver Pleasantness Accuracy	2,63	0.01	0.23
Receiver Category Accuracy	2,63	1.57	1.01
Spontaneous Attribution	2,63	1.01	0.44
Self-monitoring	2,63	13.74	0.7830

* $p < .02$

** $p < .04$

Table 8
Expressive Communications Scores as a Function of Loneliness

Loneliness Group	Type of Expressive Communication					
	Sender Category Accuracy	Sender Pleasantness Accuracy	Receiver Category Accuracy	Receiver Pleasantness Accuracy	Spontaneous Attribution	Self-monitoring
Chronic	6.55	0.17	6.69	0.18	4.83	10.65
Situational	7.56	0.27	6.80	0.21	4.42	11.53
Non-lonely	6.16	0.15	6.30	0.18	4.50	9.92

Note: Sender and Receiver Category Accuracy Scores could range from 0 (low accuracy) to 100 (high accuracy).
 Sender and Receiver Pleasantness Accuracy Scores could range from -1.0 (low accuracy) to +1.0 (high accuracy).
 Spontaneous Attribution Scores could range from 0 (low) to 6 (high).
 Self-monitoring Scores may range from 0 (low) to 25 (high self-monitoring).

indicated that, as predicted, the situational lonely group were significantly more accurate senders by both measures than the chronic lonely and non-lonely groups: $\underline{S} = 1.07$ for categories; $\underline{S} = .11$ for pleasantness. The latter did not differ from one another. Hypotheses 7, 8 and 9 were not supported. Loneliness did not have any significant effect on receiver accuracy in expressiveness or on the number of spontaneous emotional attributes made, or on self-monitoring. The multivariate F-test did not yield significance, $F(12,116) = 1.55$.

Depression and Expressiveness

As a test of the soundness of the methodology, to see if previously obtained relationships between depression and loneliness (Prkachin et al., 1977) and depression and expressiveness, could be replicated with the present data, the Beck depression scores of subjects, where they were available, were analyzed. A total of 56 subjects had depression scores. Table 9 shows the mean depression scores for the loneliness groups. As expected, both the situationally lonely and the chronically lonely individuals were significantly more depressed than the non-lonely individuals, $\underline{F}(2,53) = 12.35$, $p < .0001$. The two lonely groups did not differ from each other on this measure.

A Pearson-product moment correlation indicated that the same negative correlation found by Prkachin et al. (1977) between depression and sender expressiveness accuracy also was

Table 9

Mean Beck Depression Scores as a
Function of Loneliness

Loneliness Group	Depression Scores
Chronic	42.86
Situational	42.47
Non-lonely	32.84

Note: Scores may range from 26 (low depression)
to 104.

Table 10

Pearson-Product Moment Correlations between
Depression and Expressiveness as a
Function of Loneliness

Loneliness Group	Type of Accuracy Measure	
	Category	Pleasantness
Chronic	$r(21) = -0.121^*$	$r(21) = -0.62^{***}$
Situational	$r(15) = -0.09$	$r(15) = -0.03$
Non-lonely	$r(17) = -0.30^{**}$	$r(17) = -0.29^{**}$

* $p < .09$

** $p < .06$

*** $p < .001$

evident in the present study. Although the relationship between depression and sender accuracy of slide category was weak, $r(53) = -.06$, $p < .38$, on measures of pleasantness accuracy of sending the relationship was near significant, $r(53) = -.21$, $p < .06$, despite the fairly small sample size.

A curious paradox of this is that from the depression scores one would predict that the situational lonely group is less expressive than the non-lonely group. However, the reverse is the case: the situationally lonelies are significantly more expressive. In an attempt to solve this puzzle, separate Pearson correlations were computed for each group. Table 10 gives the results of these computations. While the negative correlation between depression and expressiveness held for the chronic and non-lonely groups, $r(21) = -.62$, $p < .001$ for the chronic lonelies; $r(17) = -.39$, $p < .06$ for the non-lonelies, the situational lonelies yielded a near zero correlation between sending accuracy and depression, $r = .03$, ns. A z test for differences between the correlations indicated that this is a significant difference, $z = 1.84$, $p < .03$. In short, there seems to be an effect in the situational lonely group which overrides the negative effect of depression on expressiveness. Because of the significant interaction effect of loneliness by depression on expressiveness, an analysis of covariance cannot be computed on the current data, but one would predict from the correlations that if depression were covaried out of an ANOVA for loneli-

ness by expressiveness, that the situational lonely group would show an even stronger expressiveness effect.

Summary

Of the major, planned analyses, three ANOVAS yielded significant differences between groups. With regard to influence strategies, it was found that the non-lonelys made significantly greater use of referent power than did the chronic or situationally lonely individuals. When scores on the various power bases were combined to form an overall assertiveness measure, a non-significant trend emerged, indicating that the lonely groups tended to use non-assertive influence strategies as compared to the non-lonely group.

In general the analyses of conformity measures did not support the hypotheses. However there was a significant main effect of awareness on the verbal conditioning task, with the aware subjects showing more compliance to the task than unaware subjects. When the two groups of lonely subjects were combined, a near significant trend indicated that the lonely females were less compliant than the non-lonely females during the Asch conformity manipulation.

There was a main effect of loneliness on sender accuracy in the expressiveness measures, both for category accuracy and for pleasantness accuracy; the situational lonelys were more accurate than either the chronic or the non-lonelys. In addition, an interesting interaction effect

between loneliness and depression was uncovered. Both the situational and the chronic lonely groups were significantly more depressed than the non-lonely group. In addition, there was an overall negative correlation between pleasantness-sending accuracy and depression. When the three lonely groups were examined individually, it was found that while the negative correlation held up in the non-lonely and chronic lonely groups, the situational lonely group showed no such correlation. In short, there seemed to be another effect overriding the effect of depression on expressiveness.

CHAPTER V

DISCUSSION

The present study focused on the relationship between loneliness and various measures of social skills and social sensitivity. It was suggested that loneliness is a social deficiency in the sense that the individual who feels lonely is unable to achieve his or her level of desired social contact. From this premise followed the view that the lonely individual does not emit the appropriate behaviors to elicit social reinforcers. It was expected that chronically lonely individuals would manifest social skills deficits. In the case of situational loneliness, this wasn't expected to be so clear. In general, two issues were addressed: how do people experiencing chronic and situational loneliness differ with regard to social skills? In what way do social skills relate to loneliness in general? Specifically, I empirically examined differential use of influence attempts, conforming behavior, receptive and expressive non-verbal communication, and self-monitoring of expressive behavior. Although the findings did not support all of the author's specific hypotheses, there was some support for the dual classification system (chronic versus situational loneliness), and evidence that loneliness affects both influencing styles and the sending of expressive communications.

The following discussion is divided into four sections. First, each of the findings will be discussed separately, under the headings of the influence strategy data, the conformity data, and the expressiveness data. Finally, the implications of the present results for the area of loneliness as a whole will be discussed. The implications of the present findings for a social deficit model of loneliness will be considered throughout the chapter.

Loneliness and Social Influence

Referent Power and Assertiveness

It was hypothesized that chronic lonely, situational-lonely, and non-lonely persons would use power styles differently, both as a causal effect on loneliness and as a consequence of being lonely. Specifically, non-lonelines were expected to be distinguished by a greater use of reference and personal reward (based on Raven's (1965) taxonomy of influence strategies), while the chronic lonelines were expected to make greater use of coercion. The former prediction received some support from the data: the non-lonely group reported using significantly more reference-based attempts to influence others than did the lonely groups. In addition, when an "assertiveness score" was created by combining assertive (reference and personal reward) and non-assertive (concrete reward and no action) subscales, a strong but non-significant trend showed the non-lonely group to be

distinguished by their higher assertiveness scores.

These findings are consistent with the Raven and Kruglanski (1970) notion that using reference depends upon the agent's feeling that he is a salient influencer. Referent influence depends upon a person's identification with the influencing agent, whose saliency depends on such factors as social status, the influencer's attitudes, etc. A non-lonely person presumably sees himself as a more salient agent for reference influence than a lonely person. The main advantage of using referent influence is that it does not require surveillance since it is more likely than other strategies to produce a change in attitude as well as in behavior. The use of reference has the side effect of improving personal relationships and increasing similarity (Raven & Kruglanski, 1970). The effect of all this presumably is to maintain the status quo. The non-lonely person who uses referent influence reaps the benefits which serve to maintain his or her good relationships and hence ward off loneliness.

Coercion

The expected results on coercion were not obtained. This was a surprise since theoretically the evidence for such a prediction was strong. Given that the "powerless" have consistently been found to prefer coercion more than other persons (e.g., Kipnis, 1972; 1973) and the findings by Jones et al. (1978) that lonely persons do see themselves as low on

power as compared to the non-lonely, it follows that particularly the chronic lonely should use coercion more than the non-lonely. Since the theoretical ground is strong, we might look to other reasons for not obtaining the expected findings.

One might question the adequacy of the measures used. Having been developed especially for this study, all of the influence strategy measures were of unknown reliability and validity. Unfortunately, the coercion measures may not have been sensitive to real differences among respondents. Combining the three loneliness groups, the mean coercion scores were only .138 for concrete and .369 for personal (out of a possible 6). In short, this was a low-frequency choice for any group as compared with reward, reference or no action (all with means of greater than 1.0). Other studies which used a similar choice of influence technique method (e.g., Kipnis, 1972; 1973; Kipnis and Cosentino, 1969; Kipnis, Silverman and Copeland, 1965) offered the choice of only two or three methods of influencing, which probably increased the power of the measure.

A study using a technique similar to that used in the present study did find a positive correlation between loneliness and the use of concrete coercion among senior citizens, $r = .16$, $p < .06$ (Perlman, Gerson, and Spinner, in press). Besides using a different population of respondents, the Perlman et al. study used a correlational statistical analysis rather than dividing subjects into groups of lonely and non-

lonely subjects which again probably increased the power of the measure.

There is an additional possible difference between the present study and the Perlman et al. study worth noting. It related to the problem of social desirability. In a study on power strategies with an undergraduate female population, Falbo (1977) found that people who scored low on the Marlowe-Crown Scale of Social Desirability tended to use threat more than other types of influence. By the current definition of loneliness, social desirability is an important element to the lonely individual in that he or she desires more or better social contact, and therefore presumably works where possible towards it. In addition, research on experimenter influence has generally uncovered the tendency for the introductory student to try to please the experimenter (Rosenthal, 1966). The subjects in the present study, who received class credit for participation in the project, may have felt the need to please even more so, because their participation was under the evaluative umbrella of a course grade. Therefore, in the present university population there may have been a tendency to avoid reporting the use of such socially undesirable behavior as coercive behavior. This would limit the range of scores and truncate the loneliness-coercion correlation. On the other hand, subjects in the aging study participated under different conditions. They were not receiving "credit" for their participation and

were far removed from the experimenter in that they were volunteers who filled out the questionnaire in their own homes. In short, their answers may not have been as influenced by the need to respond in a socially desirable manner. They did, in fact, give more concrete coercive responses ($\bar{X} = .37$), and this in all likelihood provided a more sensitive test of the prediction. At this time the whole issue of the relationship between loneliness and coercion should not be thrown out, but should be explored with measures and designs more sensitive to the issue. The seniors' data do provide at least limited support for the hypothesis that lonely individuals are prone toward using coercive influence strategies.

Loneliness and Compliance

Hypotheses about loneliness and compliance were derived from McGuire's (1968) model. According to McGuire's two-step theory of compliance, compliance consists of "reception" of the message as well as a decision to "yield" to the social influences once they have been received. On the basis of this theory, it was predicted that lonely individuals would comply more than non-lonely individuals when the social pressures were clear cut, such as in an Asch-type of conformity manipulation. However, when these pressures are not so obvious, such as when subtle cues must be interpreted to understand the social pressure, it was expected that the chronic

lonely individuals would be less compliant than non-lonelies, while the situational lonely person would be more so.

Support was received for McGuire's two-step analysis in that subjects who deciphered the reinforcement contingencies in the verbal conditioning task were more likely to conform to the task demands than those who did not. However, awareness did not differ among the three loneliness groups. Thus this finding failed to support the view that differences in social sensitivity exist as a function of loneliness. In addition, no significant differences were found due to loneliness on the measures of conformity used in the present study.

A near significant trend for lonely individuals, both chronic and situational, to conform less than non-lonely individuals, was uncovered from the Asch manipulation data. This was opposite to what had been predicted, which was that on a task where the norms were clear, the lonelies would conform more than the non-lonelies. It had been suggested that because lonely subjects had a greater need for social contact, they would be more likely to conform in an effort to gain approval from others. However, the data suggests instead that loneliness is associated with a lack of roots and therefore no felt need to conform. This area is by no means clear, as is evidenced in a study by Hansson, Heinze, Allen and Langstrom (1978) on the relationship between loneliness and social comparison.

The Hansson et al. study investigated the relationship between loneliness and (a) willingness to engage in social comparison; (b) social modelling; and (c) conformity. While no group differences were found on the first variable, there was a sex by loneliness interaction effect for both social modelling and conformity. In both cases, lonely males were less likely than non-lonely males to model bogus subjects, while lonely females were more likely to conform than non-lonely females. The tasks were similar to the Asch manipulation in the present study. Subjects in the social modelling task were asked to volunteer time, and told of another bogus subject who volunteered six hours. In the conformity task, subjects were asked to recommend treatment for a college student after reading his case history, and being told that others had generally recommended hospitalization for ninety days.

The methodology in the Hansson et al. study was similar enough to the present study that one would expect the same results. At this point the evidence is too mixed to reach a firm viewpoint on the relationship between conformity and loneliness.

Loneliness and Facial Expressions

It was hypothesized that there would be differences among the groups in both the encoding and decoding of facial expressions. Chronic lonelies, who were seen as lacking in

social skills, were expected to be the least "readable" as sender-subjects in a Buck-type of situation, and also to be the least able to read expressions in others. In fact this was not the case: the chronic lonelies did not differ from the non-lonely group on these measures. In the case of the situational lonelies, we expected their state of arousal to enhance their sensitivity to facial stimuli, and therefore predicted that they would be more accurate encoders and decoders of emotional reactions than other subjects. Although no significant differences were found in the ability to receive expressive communications, the situationally lonely subjects were more expressive than either the chronic-lonely or the non-lonely subjects.

Sending Expression Communications

The findings regarding the sending of emotional communications is interesting for a number of reasons. First of all, loneliness is clearly different from depression in its manifestation on expressiveness. The study by Prkachin et al. (1977) using a similar manipulation found clinically depressed individuals to be less expressive than either a non-depressed hospitalized group or a normal control group. The present study replicated this finding in obtaining a negative correlation between Buck depression scores and expressiveness. We also found the lonely groups to be more depressed than the non-lonely group. Yet with our lonely

groups, we found either no difference from the non-lonelies, as with the chronic lonely group, or heightened expressiveness, as with the situational lonely group. Prkachin et al. used their finding as support for Lewinsohn's (1974) theory that depression is the result of a social skills deficit which results in the depressed person's inability to elicit social reinforcers. While depression is highly correlated with loneliness, it apparently has quite different effects on behavior. The data suggest, at least in the case of situational loneliness, that something is overriding the effect of depression on expressiveness.

One possible explanation of the moderating effect of loneliness on the depression-expressiveness correlation is that, as suggested in the introduction, loneliness may in fact begin as a motivating factor and over time level off. In this sense, both Sullivan (1953), who considers loneliness to be arousing, and Fromm-Reichmann (1959) who links loneliness with depression, may be correct. The situational-lonely subject sees loneliness as an unstable factor which is not her usual state. As we know from attribution theory, attributing an undesirable state to unstable causes tends to lead to expectations that it can be changed, and a striving to overcome it (Weiner, 1978). Thus we find the accentuated expressiveness one would expect to find with a socially motivated person. The chronic-lonely person sees loneliness as a long-term state. She is more likely to exhibit a depres-

sive reaction of withdrawal and therefore not the heightened expressiveness.

An alternative explanation is that the situational lonely individuals are prevented from becoming chronic lonelies by the fact of their greater expressiveness. If this were the case, then situational loneliness and chronic loneliness would really be two very distinct phenomena, the former a state and the latter a trait. This question could best be explored in a longitudinal study, an issue which is discussed here later.

One more finding has yet to be explained, however. Within the chronic lonely and non-lonely groups, expressiveness correlates negatively with depression. Yet the chronic lonelies, who are considerably higher on measures of depression than the non-lonelies, are not less expressive than the latter subjects. In short, were one to co-vary depression with expressiveness, one would probably find that the chronic lonelies were more expressive than the non-lonelies. Even with this group, though not to the same extent as with the situational lonely group, loneliness seems to override the dampening effect that depression has on expressiveness.

Receiving Expressive Communications

No differences were found among groups on measures of skill at decoding expressions. It was expected that due to a social skills deficit, the chronic lonelies would be less

skilled at decoding than the non-lonelines or situational lonelines. This may be due to methodological problems, as a number of studies having a similar paradigm have found significant sender effects but not receiver effects (e.g., Buck, 1977b; Prkachin et al., 1977). While Rosenthal et al. (1978) have revealed a number of relationships with non-verbal sensitivity using the Profile of Nonverbal Sensitivity (PONS) described in the second chapter of this manuscript, his manipulation was posed stimuli, which may have a stronger effect on observers. On the other hand, Buck, who developed the present paradigm, notes that "nonverbal receiving ability has proved to be a more elusive phenomenon than nonverbal sending accuracy" (1977, p. 8). The strength of Buck's paradigm, however, is that it makes use of spontaneous rather than posed stimuli, so that it has greater ecological validity than Rosenthal's method. It is possible that in real life the ability to detect facial cues is not a simple task.

Self-Monitoring of Expressive Behavior

No differences were found among groups on self-monitoring of expressive behavior. This latter measure takes into account not simply the expressiveness of the individual but the control exerted over these expressions. As Ekman (1971) has suggested, individuals typically exercise control over their facial expressions to intensify, de-intensify, neutralize, or mask the expression of a felt affect, according

to various norms of social performance. The degree to which a person does so says something about their social competence. Thus, the non-significant relationship between loneliness and self-monitoring in the present study suggests that social competence is not a factor moderating the relationship between expressiveness and loneliness.

The Buck paradigm looks at expressiveness without the "noise" of the subject being apt to control their expressiveness. It includes studying spontaneous facial expression in a setting where the individual does not know that he or she is being observed. As Buck (1977b) noted, this tends to eliminate the attempt by the subject to control nonverbal behavior for some social end. In short, what we find is an augmented expression of emotions in the situational lonelies, not in the controlled aspects but in spontaneous display.

Emotional Attributions

No differences were found among subjects in the number of times they made reference to emotions in describing facial stimuli. This negative finding may have been due to a problem in measurement. Unlike Schiffenbauer (1976) who found that approximately 25% of the time spontaneous emotional attributions of emotions were made to facial stimuli by his subjects, in the present study approximately 75% of the time emotional attributes were made, and most subjects made these

attributions on all of the pictures. This discrepancy may have been because of the arousing effect of the slides in which the facial slides were embedded. Schiffenbauer (1976) found that when his subjects were emotionally aroused they made more attributes of emotion on facial slides. All of the subjects in the present study may have been unwittingly aroused by the Buck slides, so that any stable differences in emotional attribution were masked by situational arousal.

The Present Study's Implications for a Theory of Loneliness

Loneliness and Social Skills

One of the central expectations behind the present study was the view that the chronic lonely individual should show a deficit in social sensitivity and social skills while the situational lonely individual would show more sensitivity than others, and not necessarily differ on skills. In fact, very few social skills deficits were identified in the chronic lonely group. They were no less aware of the reinforcement contingencies of the verbal conditioning task, no less sensitive to facial expressions, and scored no lower on the Self-Monitoring Scale than the other subjects. However, both lonely groups did report less use of reference as a power base to influence others than the non-lonely group, so in terms of actual reported behavior, both lonely groups exhibited something of a social skills deficit.

In defence of the social skills deficit view, two points can be made. First, no statistically significant evidence was found for concluding that chronically lonely people have greater skills than non-lonely people. Second, in nearly all the cases where no significant differences were found between non-lonely and chronically lonely subjects, one could raise questions about the measuring devices used in the present study. Armed with such arguments, a diehard could maintain his belief that chronic loneliness reflects a skills deficit.

However, given this meagre support for the social skills deficit viewpoint, other frameworks for explaining the reference finding are worth considering. Hockenbury, Jones, Kranau and Hobbs (1978) noted that while the lonely person is not negatively evaluated by others, he or she does tend to interact with others in a self-focused manner, with less awareness and less responsiveness. They suggested that loneliness persists independently of the evaluations of others because lonely people find their own interactions dissatisfying and therefore expect others to reject them, thereby creating their own self-fulfilling prophecy by expressing less interest in and acceptance of others. By the same token, their reluctance to use reference as an influencing tactic probably arises out of the expectation that they have no value to others and will not be successful as influences. Consequently they use tactics which are indeed less powerful and

the self-fulfilling prophecy phenomenon once again occurs. Taken together, such behaviors would tend to maintain a vicious cycle of low self-esteem, low influencing success, and greater loneliness.

Chronic versus Situational Loneliness

Two major dependent variables distinguished the chronic from the situationally lonely in the current study: the category and pleasantness sending accuracy of the subjects in the Buck manipulation. In addition, loneliness moderated the depression-sender accuracy relationship: while the chronic lonelies' expressiveness correlated highly with depression, there was no such correlation with the situational lonelies. Two possible explanations come to mind for these findings. One possibility is that loneliness begins as a motivating factor and then levels off over time to become demotivating. This is consistent with previously articulated ramifications of the social deficit notion. According to this analysis, situational loneliness reflects a state of arousal more than social inadequacies. Drawing on social and sensory deprivation research, it was postulated that when isolation is novel, the subjects are in an aroused state with regard to social stimuli, but that as exposure to the deprivation situation is repeated, the aroused state subsides and becomes demotivating. Thus, the greater expressiveness of situationally lonely subjects was anticipated.

A second possibility is that the situational lonely subjects were more expressive, not because of anything about loneliness but because the students selected as situational lonelies were those who differentiated sharply between their regular and their current situation. As a result perhaps they are uncomfortable with themselves and prone to over-reacting, overdisplaying their feelings relative to the two groups of individuals who are little more or less lonely than usual. One way to determine which explanation is more correct would be to compare the situational lonelies to people who are less lonely than usual, or to people who find themselves in unfamiliar character for reasons other than loneliness. If this second interpretation is valid, then these other groups should also be accurate senders of emotion.

Loneliness and Depression

In introducing the topic of loneliness, it was mentioned that a close link exists between loneliness and depression. This same relationship was found in the current study: a strong relationship between loneliness and depression emerged. In fact, some researchers have questioned whether loneliness is anything other than depression due to a lack of social contact (e.g., Liederman, 1969; Ortego, 1969), while others have suggested that the definition of depression is so broad that it inevitably overlaps with other unpleasant emotions, including loneliness (Bragg, Note 4).

In an effort to distinguish loneliness and depression, Bragg (Note 4) pointed to a couple of major differences in their manifestations. Loneliness has a cognitive focus, in that the cause is seen as a lack of human contact; depression, on the other hand, is cognitively more diffuse. Loneliness is seen by several (though not all) writers as motivating, while depression is consistently linked to a drop in motivation. This second point is consistent with the author's interpretation of data from the current study, as was mentioned earlier, in terms of expressiveness, which is seen here as the result of increased motivation for human contact, the situational and chronic lonelies were either more expressive or as expressive as the non-lonelies, despite considerably higher depression ratings, and despite the fact of an overall negative correlation between expressiveness and depression.

There is evidence that loneliness and depression may have different precipitating factors. Livet and Lewinsohn (1973) have found that depressed individuals do not have the skills to emit behaviors which elicit reinforcers from others in social interactions. Hockenbury et al. (1978), using a similar design with lonely persons, found no such skills deficit, but rather found that the lonelies tended to interpret interactions more negatively, so that it was a cognitive rather than a behavioral flaw.

In the present study there was a lack of assertiveness associated with loneliness. While this may well serve

as an obstacle to overcoming loneliness, it is unlikely that it actually caused loneliness in the first place. While at this point it is not possible to say how loneliness is caused, one can say fairly certainly that loneliness does not have the same behavioral concomitants as does depression.

Suggestions for Further Research

Discussion of the present study as well as the state of knowledge in general in the field of loneliness suggests two major directions of research worth following. These may be broadly described as theoretical questions and applied problems.

Theoretical Research

From a theoretical point of view, the question of situational versus chronic loneliness needs further exploration. Perhaps the most important issue to address is the question of whether these are two distinct types of loneliness, or if one is simply an earlier form of the other. Ideally this would be explored in a longitudinal study, where groups are selected, rated on a number of variables, then followed over time, looking for significant differences between those who become or remain lonely and those who do not. This would provide some clues as to which variables are the result of loneliness and which are the cause, as well as providing information regarding what happens to the situational

lonelies. If, as psychodynamic theory suggests, chronic loneliness is due to an inadequate self-object representation or some other relatively stable attribute, then we would expect the chronic lonelies to remain so, while the situational lonelies (and non-lonelies) should shift back and forth from lonely to not lonely. If in fact situational loneliness were simply an early form of chronic loneliness, we would expect the situationally lonely people to become chronically lonely and to become like chronically lonely people as time passed.

A second question worth further exploring because of its implication for the motivated-demotivated question about loneliness is the issue of what is happening with facial expressiveness. Earlier, two explanations were offered for the augmented expressiveness of the situational group. A study for evaluating these explanations has already been suggested and would be worth conducting.

The final topic worth addressing is that of social influencing skills. While the evidence for a social skills deficit in this study was rather weak, a relationship between loneliness and using "poor" influence styles none the less emerged. It may be that lonely respondents do, in fact, have social skills deficits, but that these deficits were not detected because ineffective measurement tools were used. It would be worthwhile exploring social skills with more refined

measures, especially behavioral measures. For example, subjects might be asked to respond to certain situations requiring assertiveness for success, their responses videotaped, and then rated for assertiveness. This technique might provide more clues as to areas (if any) where lonelies differ from non-lonelies.

Applied Research

From an applied point of view, the immediate question is how to treat loneliness as a clinical problem. As was noted earlier, this is a problem which has bothered mental health professionals for many years, to the point where they may actually avoid treating patients who complain of loneliness (Burnside, 1971). However, it seems that there are two routes worth exploring in this area. Given the indication that assertiveness is a problem which arises as a result of loneliness and may serve to maintain loneliness, assertiveness training, if successfully carried through, should lead to a reduction in loneliness. Assertiveness training is typically a form of behavior modification which teaches the individual to change his or her behavior patterns in order to gain more desired social rewards.

In addition, there is evidence that the lonely person has negative perceptions of social interactions and people which may cause lonelies to behave in a negative fashion. It has long been argued that individuals react to their phenom-

enal world rather than the actual environment (e.g., Mahoney, 1977). In order to change the lonely person, then, we must also account for his cognitions and attempt to change them.

Summary

The basic starting point for this dissertation was the view that chronic loneliness reflects a social skills deficit. The author distinguished chronic loneliness from situational loneliness, arguing that situationally lonely people have adequate social skills but are temporarily socially deprived because of external factors. Based on this analysis, one would broadly expect chronically lonely people to a) use less effective influence strategies; b) be less effective in communicating affect; and c) be less sensitive to, but more compliant with, social pressure.

Only meagre support was found for the social skills deficit proposition. Chronically lonely individuals were less likely to use reference influence, and situationally lonely subjects were more effective senders of emotional communications. A number of other predictions were not supported. Arguments a diehard could use in defending the social skills deficit model have already been presented.

However, a revised, more cognitively oriented, formulation appears equally plausible, especially for explaining the social influence data. According to this view, lonely

people have a negative outlook: they expect others to reject them, and they devalue themselves as a source of reference influence. Their lack of assertiveness becomes a link in the cycle of a self-fulfilling prophecy. If this revised formulation is accepted and the social skills model abandoned, one still must explain the greater expressiveness of the situationally lonely subjects. An explanation was offered in terms of situationally lonely people having a generalized tendency to exaggerate reactions to life events.

Obviously, these latter explanations of the main findings of this dissertation are post hoc. They are also less interwoven than the social deficit explanation of the same results and therefore less parsimonious. However, they are attractive since several social skills hypotheses failed to receive support.

Beyond these concerns, the present dissertation had implications for two other important issues: a) debates regarding the forms of loneliness; and b) the comparison between loneliness and depression. It was suggested here that the situational lonelies may either be in an early stage of chronic loneliness and therefore more aroused. Alternatively, increased expressiveness may be a characteristic which keeps the situationally lonely from becoming a chronic lonely; this issue requires further exploration.

The evidence regarding social skills, as well as the expressiveness data, contrast with studies on depression, and

point out some critical differences between the two. Depression seems to result from a social skills deficit while the deficit in loneliness appears more as a consequence of that condition. Depression has a demotivating effect, while loneliness at times is a motivating force. As the body of empirical data related to loneliness increases, the concept emerges as a differentiated entity with consistent characteristics worthy of a classification of their own and a theoretical framework.

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APPENDIX I

UCLA LONELINESS SCALE

(Russell, Peplau, and Helm, 1977)

Indicate how often each of the statements below is descriptive of you.

Circle one letter for each statement:

O indicates "I often feel this way"

S indicates "I sometimes feel this way"

R indicates "I rarely feel this way"

N indicates "I never feel this way"

- | | |
|---|---------|
| 1. I am unhappy doing so many things alone | O S R N |
| 2. I have nobody to talk to | O S R N |
| 3. I cannot tolerate being so alone | O S R N |
| 4. I lack companionship | O S R N |
| 5. I feel as if nobody really understands me | O S R N |
| 6. I find myself waiting for people to call or write | O S R N |
| 7. There is no one I can turn to | O S R N |
| 8. I am no longer close to anyone | O S R N |
| 9. My interests and ideas are not shared by those around me | O S R N |
| 10. I feel left out | O S R N |
| 11. I feel completely alone | O S R N |
| 12. I am unable to reach out and communicate with those around me | O S R N |

- | | | | | | |
|-----|---|---|---|---|---|
| 13. | My social relationships are superficial | O | S | R | N |
| 14. | I feel starved for company | O | S | R | N |
| 15. | No one really knows me well | O | S | R | N |
| 16. | I feel isolated from others | O | S | R | N |
| 17. | I am unhappy being so withdrawn | O | S | R | N |
| 18. | It is difficult for me to make friends | O | S | R | N |
| 19. | I feel shut out and excluded by others | O | S | R | N |
| 20. | People are around me but not with me | O | S | R | N |

APPENDIX II

LONELINESS QUESTIONNAIRE

Name _____

Phone Number _____

On the next two pages you will find the same set of questions given twice (i.e., both pages are nearly the same). Please fill out these pages in the following fashion:

- 1) The first time you answer the questions, indicate how you have felt during the recent past. That is, indicate how you have felt during the past two weeks or so.
- 2) The second time you answer these questions, indicate how you have generally felt during your life. That is, indicate how you have felt over the past several years.

In answering the following questions, please consider your experiences over your life, particularly during the past several years. Indicate how often each of the statements below is descriptive of you. Circle the number which best reflects your answer to each statement.

- 1 = indicates "I never feel this way"
- 2 = indicates "I rarely feel this way"
- 3 = indicates "I sometimes feel this way"
- 4 = indicates "I often feel this way"

	<u>Never</u>	<u>Often</u>
1. I am unhappy doing so many things alone	1 2 3 4	
2. I have nobody to talk to	1 2 3 4	
3. I cannot tolerate being so alone	1 2 3 4	
4. I lack companionship	1 2 3 4	
5. I feel as if nobody really understands me	1 2 3 4	
6. I find myself waiting for people to call or write	1 2 3 4	
7. There is no one I can turn to	1 2 3 4	
8. I am no longer close to anyone	1 2 3 4	
9. My interests and ideas are not shared by those around me	1 2 3 4	
10. I feel left out	1 2 3 4	
11. I feel completely alone	1 2 3 4	
12. I am unable to reach out and communicate with those around me	1 2 3 4	
13. My social relationships are superficial	1 2 3 4	
14. I feel starved for company	1 2 3 4	
15. No one really knows me well	1 2 3 4	
16. I feel isolated from others	1 2 3 4	
17. I am unhappy being so withdrawn	1 2 3 4	
18. It is difficult for me to make friends	1 2 3 4	
19. I feel shut out and excluded by others	1 2 3 4	
20. People are around me but not with me	1 2 3 4	

1. During the past two weeks, how often have you felt lonely?

Never		Sometimes		Often
1	2	3	4	5

2. For how long have recurring feelings of loneliness been a common experience for you?

_____ a) A few weeks

_____ b) A few months

_____ c) A few years

_____ d) Several years

_____ e) For almost as long as I can remember

_____ f) Check here if you have never had recurring feelings of loneliness.

3. During the past several years, how much of the time have you felt lonely? (Circle one)

Never	Very Little	Some of the time	Much of the time	Nearly all the time
1	2	3	4	5

4. In thinking out your experiences during the past few years, how appropriate would it be to say that you are generally a lonely person?

_____ Very appropriate

_____ Somewhat appropriate

_____ Not appropriate

APPENDIX III

TEST OF SUBJECT AWARENESS DURING
VERBAL CONDITIONING TASK

We are interested in your ideas, thoughts, and understanding of the experiment you have just completed. Please answer each of the questions on the next several pages in their numbered order. Please DO NOT go on to the next question until you have given an answer to the previous question and please do not go back to a question once you have started on the next one

1. What did you think the experiment was about?
2. a) How did you go about deciding which of the pronouns to use?
b) Did you think you were using some pronouns more often than others? Which ones? Why?
3. While going through the cards did you think you were supposed to make up your sentences in any particular way, or that you were supposed to change the way in which you made up your sentences? How?
4. Did you notice anything about the experimenter while you were going through the cards?
5. Did you notice that she said anything?
6. Actually, she did occasionally say "good." Thinking back now to when you were going through the cards, what did her saying "good" mean to you?
7. Did her saying "good" change or have any effect on the way in which you made up sentences?
8. Did you make up sentences so as to try to get her to say "good" more often, or did you make up sentences so as to get her to say it less, or did you do nothing? Why?
9. a) Did you ever have the idea that she was saying "good" after sentences beginning with certain pronouns?

10. Which pronoun(s) do you think she said "good" after?

_____you; _____he; _____she; _____we; _____I; _____they

11. The results of experiments of this type are much more interpretable if as experimenter we understand each subject's prior exposure to this kind of study.

- a) Have you read in any textbooks or heard in any lectures about experiments of this type? If so, what?
- b) Did you hear anything about this experiment or an experiment of this type from your friends or other students? If so, what?

APPENDIX IV

EXAMPLE SLIDES USED IN THE BECK
SLIDE-VIEWING PARADIGM



Scenic



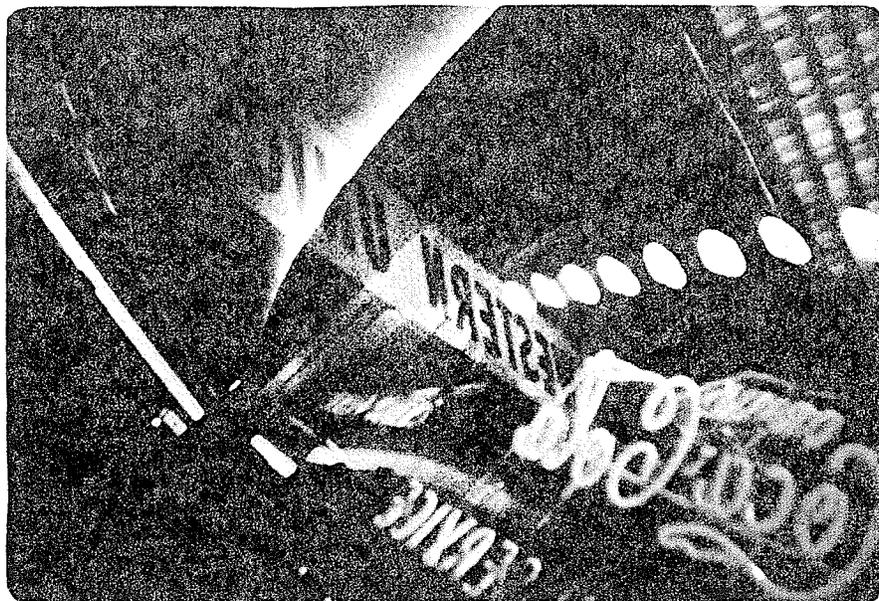
Sexual



Pleasant People



Unpleasant



Unusual

APPENDIX V

FORM FOR SUBJECT'S RATINGS OF SLIDE PLEASANTNESS

Name of Subject _____

PLEASANTNESS RATINGS OF SLIDES

	Unpleasant					Pleasant	
1.	1	2	3	4	5	6	7
2.	1	2	3	4	5	6	7
3.	1	2	3	4	5	6	7
4.	1	2	3	4	5	6	7
5.	1	2	3	4	5	6	7
6.	1	2	3	4	5	6	7
7.	1	2	3	4	5	6	7
8.	1	2	3	4	5	6	7
9.	1	2	3	4	5	6	7
10.	1	2	3	4	5	6	7
11.	1	2	3	4	5	6	7
12.	1	2	3	4	5	6	7
13.	1	2	3	4	5	6	7
14.	1	2	3	4	5	6	7
15.	1	2	3	4	5	6	7
16.	1	2	3	4	5	6	7
17.	1	2	3	4	5	6	7

	Unpleasant					Pleasant	
18.	1	2	3	4	5	6	7
19.	1	2	3	4	5	6	7
20.	1	2	3	4	5	6	7
21.	1	2	3	4	5	6	7
22.	1	2	3	4	5	6	7
23.	1	2	3	4	5	6	7
24.	1	2	3	4	5	6	7
25.	1	2	3	4	5	6	8
26.	1	2	3	4	5	6	7
27.	1	2	3	4	5	6	7
28.	1	2	3	4	5	6	7
29.	1	2	3	4	5	6	7
30.	1	2	3	4	5	6	7

APPENDIX VI

FORM FOR RECEIVER SUBJECT'S GUESSES OF
CATEGORIES AND PLEASANTNESS RATINGS

Sender Subject _____

Receiver Subject _____

<u>Slide</u>	<u>Category</u>					<u>Pleasantness</u>						
	Sexual	Bloody	Novel	Maternal	Scenic	Unpleasant				Pleasant		
1.	SE	B	N	M	SC	1	2	3	4	5	6	7
2.	SE	B	N	M	SC	1	2	3	4	5	6	7
3.	SE	B	N	M	SC	1	2	3	4	5	6	7
4.	SE	B	N	M	SC	1	2	3	4	5	6	7
5.	SE	B	N	M	SC	1	2	3	4	5	6	7
6.	SE	B	N	M	SC	1	2	3	4	5	6	7
7.	SE	B	N	M	SC	1	2	3	4	5	6	7
8.	SE	B	N	M	SC	1	2	3	4	5	6	7
9.	SE	B	N	M	SC	1	2	3	4	5	6	7
10.	SE	B	N	M	SC	1	2	3	4	5	6	7
11.	SE	B	N	M	SC	1	2	3	4	5	6	7
12.	SE	B	N	M	SC	1	2	3	4	5	6	7
13.	SE	B	N	M	SC	1	2	3	4	5	6	7
14.	SE	B	N	M	SC	1	2	3	4	5	6	7
15.	SE	B	N	M	SC	1	2	3	4	5	6	7
16.	SE	B	N	M	S	1	2	3	4	5	6	7

17.	SE	B	N	M	SC	1	2	3	4	5	6	7
18.	SE	B	N	M	SC	1	2	3	4	5	6	7
19.	SE	B	N	M	SC	1	2	3	4	5	6	7
20.	SE	B	N	M	SC	1	2	3	4	5	6	7
21.	SE	B	N	M	SC	1	2	3	4	5	6	7
22.	SE	B	N	M	SC	1	2	3	4	5	6	7
23.	SE	B	N	M	SC	1	2	3	4	5	6	7
24.	SE	B	N	M	SC	1	2	3	4	5	6	7
25.	SE	B	N	M	SC	1	2	3	4	5	6	7
26.	SE	B	N	M	SC	1	2	3	4	5	6	7
27.	SE	B	N	M	SC	1	2	3	4	5	6	7
28.	SE	B	N	M	SC	1	2	3	4	5	6	7
29.	SE	B	N	M	SC	1	2	3	4	5	6	7
30.	SE	B	N	M	SC	1	2	3	4	5	6	7

APPENDIX VII

SNYDER'S (1974) SELF-MONITORING SCALE

Personal Reaction Inventory

The statements on the following pages concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. If a statement is TRUE or MOSTLY TRUE as applied to you, blacken the space marked T on the answer sheet. If a statement is FALSE or NOT USUALLY TRUE as applied to you, blacken the space marked F. Do not put your answers on this test booklet itself.

It is important that you answer as frankly and as honestly as you can. Your answers will be kept in the strictest confidence.

1. I find it hard to imitate the behavior of other people.
2. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.
3. At parties and social gatherings, I do not attempt to do or say things that others will like.
4. I can only argue for ideas which I already believe.
5. I can make impromptu speeches even on topics about which I have almost no information.
6. I guess I put on a show to impress or entertain people.
7. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.
8. I would probably make a good actor.
9. I rarely need the advice of my friends to choose movies, books or music.
10. I sometimes appear to others to be experiencing deeper emotions than I actually am.

11. I laugh more when I watch a comedy with others than when alone.
12. In a group of people I am rarely the centre of attention.
13. In different situations and with different people, I often act like very different persons.
14. I am not particularly good at making other people like me.
15. Even if I am not enjoying myself, I often pretend to be having a good time.
16. I'm not always the person I appear to be.
17. I would not change my opinions (or the way I do things) in order to please someone else or win their favour.
18. I have considered being an entertainer.
19. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
20. I have never been good at games like charades or improvisational acting.
21. I have trouble changing my behavior to suit different people and different situations.
22. At a party I let others keep the jokes and stories going.
23. I feel a bit awkward in company and do not show up quite so well as I should.
24. I can look anyone in the eye and tell a lie with a straight face (if for a right end).
25. I may deceive people by being friendly when I really dislike them.

APPENDIX VIII

INFLUENCE STRATEGIES QUESTIONNAIRE

Each of the following items describes a situation in which you are required to influence another person. Read each item and the possible solutions following, and pick the one you would be most likely to use and the one you would be second most likely to use (not necessarily the way you think would be best). In doing so, try to think of how you have behaved in similar situations in the recent past.

In addition, rate your expected success at influencing the other person, using that method for your first and second choices. Circle the number that best describes your expected success.

e.g.,

First choice: d

I would probably not be successful		I might be successful		I probably would be successful
1	2	3	4	5

Second choice: c

I would probably not be successful		I might be successful		I probably would be successful
1	2	3	4	5

1. Both you and person X are students of U of M. You have one opinion about the hiring of American faculty members and X has another, opposite opinion. You want to get X to change his/her opinion and circulate a petition advocating your own opinion.
- A. I would tell X that I would do him/her a favour for changing his/her opinion and circulating the petition.
- B. I would tell X that I will not loan him/her some money if he/she does not change his/her opinion and circulate the petition.
- C. I would tell X that I will be angry with him/her for not changing his/her opinion and circulating the petition.
- D. I would indicate to X that I will like and admire him/her if he/she changes his/her opinion and circulates the petition.
- E. I would ask X to change his/her opinion and circulate the petition and indicate it is because we are both students and friends and share common interests.
- F. I would not say anything about it.

First choice: _____

I would probably not be successful	I might be successful	I would probably be successful
1	2	3
		4
		5

Second choice: _____

I would probably not be successful	I might be successful	I would probably be successful
1	2	3
		4
		5

2. Both you and person X are students in a Psychology 120 class and are required to do a paper together. You want to take a particular approach.
- A. I would ask X, and indicate to X that I will like and admire X if X does it my way.
 - B. I would ask X to do it my way, indicating that if not I would be quite unhappy with X.
 - C. I would threaten to do less work on the project if X would not do it my way.
 - D. I would offer to do extra work on the project in return for X doing it my way.
 - E. I would suggest that X co-operate with me since we are both students and friends who see eye to eye on such things.
 - F. I would not say anything about how we should do it.

First choice: _____

I would probably
not be successful

1 2

I might be
successful

3

I would probably
be successful

4 5

Second choice: _____

I would probably
not be successful

1 2

I might be
successful

3

I would probably
be successful

4 5

3. You want to go to a party but are afraid to go alone.
You call up X on the phone and ask X to go with you. X is uncertain about going.
- A. I would let X know that if X does not come with me, I will be very unhappy with X.
 - B. I would let X know that if X did come with me, I would be happy with X and think X was a fun person.
 - C. I would emphasize that as X and I are friends and about the same age, we both like to do the same things.
 - D. I would say that if X does not come with me to the party, then I wouldn't want to go skiing tomorrow as we had planned.
 - E. I would offer to do something X wants to do, some other time, if X would come to this party with me.
 - F. I would not try to persuade X to go with me.

First choice: _____

I would probably
not be successful

1

2

I might be
successful

3

I would probably
be successful

4

5

Second choice: _____

I would probably
not be successful

1

2

I might be
successful

3

I would probably
be successful

4

5

4. You and person X disagree on who is the best candidate in your riding for provincial parliament. You want person X to vote for your candidate.

- A. I would ask X to change his/her opinion and vote for my candidate, and indicate that it is because we are both students and friends and share common interests.
- B. I would ask X to change his/her opinion and vote for my candidate because if not, I will find it hard to continue to be friends.
- C. I would let X know that I would like and respect him/her for changing his/her opinion and voting for my candidate.
- D. I would offer to do X a favour for voting for my candidate.
- E. I would ask X to vote for my candidate and let him/her know that if he/she did not, I would not help with his/her project.
- F. I would not discuss it with them.

First choice: _____

I would probably
not be successful

1 2

I might be
successful

3 4

I would probably
be successful

5

Second choice: _____

I would probably
not be successful

1 2

I might be
successful

3 4

I would probably
be successful

5

5. You want to borrow a book from someone who is reluctant to lend out books.

- A. I would ask them for it and tell them that if they don't lend it to me, I won't be co-operative in other things with them.
- B. I would ask them for it and offer to lend them a book of mine in return.
- C. I would ask them for it and let them know that as fellow students we are all willing to lend out books.
- D. I would ask them for it and let them know that I will like them if they lend it to me.
- E. I would ask for the book and let them know that I would like them if they would lend it to me.
- F. I would not push it.

First choice: _____

I would probably
not be successful

1

2

I might be
successful

3

I would probably
be successful

4

5

Second choice: _____

I would probably
not be successful

1

2

I might be
successful

3

I would probably
be successful

4

5

6. You live in an apartment block, with neighbours who play their stereo very loudly at 3:00 a.m. You have an exam the next day and cannot get to sleep because of the noise. You want them to turn it off.
- A. I would ask them, and threaten to have them evicted if they don't.
 - B. I would ask them, and tell them it is because we are both living in the same block, and should live our lives in a similar fashion.
 - C. I would ask them, and tell them I would be extra quiet in the morning if they would co-operate now.
 - D. I would ask them, and let them know that I would like and respect them if they would.
 - E. I would let them know that if they didn't co-operate, I would be very angry and think them inconsiderate.
 - F. I would not say anything to them about it.

First choice: _____

I would probably
not be successful

1

I might be
successful

2

I would probably
be successful

3

4

5

Second choice: _____

I would probably
not be successful

1

I might be
successful

2

I would probably
be successful

3

4

5

APPENDIX IX

POST-EXPERIMENTAL QUESTIONNAIRE

Each question of the Post-Experimental Questionnaire will be typed on a separate page. Subjects will be requested to answer them in order from 1 to 10.

1. What do you believe the experimenter was trying to prove in the first part of this session?
2. What results do you think she expected in the first task?
3. What was it that gave you your idea of what the experimenter was trying to prove? (Please rank each of those that contributed to your idea. Put a 1 beside the one that influenced you the most, a 2 for the next, etc. You do not have to put a number by every one.)

_____ the beginning instructions

_____ from other students who told me about the experiment

_____ the nature of the task

_____ the way the lines were set up.
4. Was there any part of the entire session that made you think the experimenter was using deception? If so, what part? What did you think was happening?