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GROUP COMMUNICATIONS  
AND  
CLIENTS' ATTITUDES TOWARD PSYCHOTROPIC MEDICATION

by

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## CHAPTER I

## INTRODUCTION

A. Overview

Since the middle of the 1950's, there has been a significant decrease in the number of resident patients in mental hospitals. More and more chronic psychiatric patients are being cared for by community-care programs and other outpatient facilities (Joint Information Service of the American Psychiatric Association and the National Association for Mental Health, 1964; Test and Stein, 1978).

There is little doubt that the introduction of new drugs played a role in reversing this trend of long stays in large mental hospitals (Pasamanick, 1967). The migration of patients from hospitals to communities also meant that patients had to become responsible for using medication that had previously been administered by professionals in a highly structured environment. A major challenge for community treatment plans became ensuring that psychiatric outpatients consumed their prescribed medication and that they continued to do so over a long period of time.

Medication compliance is traditionally based on the unquestioned assumption that patients should comply with doctors' instructions. Noncompliance is seen as irrational from the view of the medical profession's rationality. Yet

patients do not take medication in a thoughtless vacuum --- they have their own ideas and attitudes about drug use. The patient discusses his drugs with a wide variety of people (e.g. physician, family, friends) and makes decisions based on the context of these discussions and his own experiences. Thus the medical rationality need not be accepted at face value by the patient. The alternative to the professional rationality is the patient's rationality. Investigations of factors influencing use of prescription medicine and the patient's refusal of treatment need to consider the attitudes that the individual patient holds about his medication regimen.

One innovative method of providing information to patients, with the potential to influence attitudes and compliance, is the medication group. Medication group meetings place emphasis on discussing medication-taking rather than psychotherapy. At meetings, clients can share experiences, discuss both positive and negative aspects of therapy, and give support to each other. Discussions involve the exchange of information between clients that have similar medical problems.

The study discussed here focused on one such medication group which involved chronically mentally ill (CMI) clients in the community. The medication-related communications received by the clients during the meeting and the clients' attitudes toward their psychotropic medications were the main

variables examined. Several bodies of pertinent literature will be reviewed: 1) noncompliance with psychotropic medications, 2) patients' attitudes and their relation to compliance, 3) the role of medication groups, 4) communication, specifically the influence of similar communicators and explicit communications as they relate to attitude change, and 5) other applicable drug-related or respondent-related influences on compliance or attitudes.

#### B. Noncompliance With Psychotropic Medications

The definition of "noncompliance" varies between studies and is generically used here to refer to patients not taking the prescribed amount of medication. Measurement techniques in the studies included staff assessment, patient report, pill count, urinalysis, or blood levels. These differences could partially account for the range of reported compliance rates. However, the studies also used different criteria for patient selection.

Reported noncompliance for general psychiatric outpatients (i.e. patients that were not categorized by diagnosis, but were taking antidepressants or major tranquilizers) ranged from 24% to 52% (Latiolais and Berry, 1969; McClellan and Cowan, 1970; Michaux, 1961; Willcox et al., 1965). Their findings were 43, 24, 52, and 48 percent respectively. Even

hospitalized patients found it possible to avoid taking medication. Noncompliance with general psychiatric inpatients was approximately 30% (Richards, 1964; Hare and Willcox, 1967).

Several studies found similar percentages of noncompliance in outpatients selected with the diagnosis of schizophrenia (Hoffmann et al., 1974; Lin et al., 1979; Parkes et al., 1962; Renton et al., 1963). Their results were 56, 74, 44, and 46 percent respectively. In a study of schizophrenic outpatients receiving their medication by injection, Johnson and Freeman (1973) found that 20% of the patients refused the medication or lost contact with the provider and thus avoided taking the injections. The schizophrenic inpatient noncompliance rates reported were lower (23% noncompliance reported by Wilson and Enoch, 1967).

Compliance in one group of psychiatric outpatients has been seldom studied. Little is known about the numbers of patients that do not follow prescription orders for lithium (used most commonly in manic-depression). Van Putten (1975) mentions that for 9 of 16 patients (56%), interruption or refusal to take lithium therapy was a significant problem. Schou (1970) found that 28% of his 88 patients stopped taking the lithium against advice. Jamison and her colleagues (1979) reported that 47% of the 42 lithium using patients in their sample stopped the treatment at least once. None of these

studies included the numbers of patients who were still taking lithium but not in the prescribed dosage. Therefore, these figures for lithium noncompliance may be misleadingly conservative.

This overview indicates that compliance with psychotropic medication regimens is a problem, even with psychiatric patients who are hospitalized or using injections. For psychiatric patients in the community, the noncompliance rate appears even higher. Approximately one-half of the CMI outpatients may not take the prescribed amount of psychotropic medication. As professionals attempt to increase effective use of medications, careful attention to patient's rationality could prove useful.

### C. Patients' Attitudes and Compliance With Therapy

#### 1. Definition of Attitude

Many meanings of the term "attitude" have come into use. McGuire (1969) presents a thorough review of the problems defining and theoretical issues surrounding attitudes. For the purposes of the discussion here, the term attitude will refer to McGuire's informal definition quoted below.

The term "attitude" seems to play its most useful role in our thinking when it is taken to refer to an intervening variable that mediates between generalized reception and response tendencies. On the reception

side, it involves a tendency to group a whole class of stimulus situations into a single conceptual category; on the response side, it refers to the tendency to respond to this set of stimuli with a characteristic class of responses. (McGuire, 1973 p. 219)

Attitude serves as a mediating concept. In addition, according to McGuire (1973), attitude has meaning in that it can be directly measured by the individual's self-report. This definition does not attempt to distinguish between attitude and other constructs or components such as beliefs, opinions, or values. Universally accepted distinctions are lacking. The reader is referred to McGuire's 1969 review for a discussion of the many distinctions that have been proposed.

## 2. Patients' Attitudes Toward Therapy and Relation to Compliance

Studies have focused on a variety of patients' attitudes and attempted to relate these to compliance with treatment plan. Efforts to identify the attitudes of noncompliant patients toward their illness, physician, or overall care have not been entirely consistent (see Haynes et al., 1979, p. 456-458 for a summary). Studies which measure the patient's attitude specifically toward the therapy and compliance with the same therapy are reviewed here.

Several studies support an attitude-compliance association.

In Kirscht and Rosenstock's 1977 study of hypertension patients, the patient's perception of regimen efficacy and perceived difficulty in following the doctor's advice were associated with medication compliance in the expected directions.

Nelson and his colleagues (1978) had similar results with hypertension patients. In their study, since self-reported medication taking and blood pressure control were closely associated, they used blood pressure control as an indirect measure of compliance. Their results showed that patient's perception of regimen efficacy significantly related to blood pressure control. Davis (1968) measured what he termed "attitudinal compliance". This consisted of patients expressing a willingness to follow the advice of their doctors. Not surprisingly, attitudinal compliance related to the actual behavior compliance. Becker and his colleagues (1974) demonstrated that the mother's evaluation of the usefulness of medicine significantly correlated with her actually giving the medication to her child. The study of Svarstad (in press) indicated that there was a positive association between patient compliance with the treatment plan and the patient's evaluation of the therapy as important, beneficial, helpful, safe and trouble-free. However, when patients were dichotomized into those with high understanding of the treatment plan versus those with low understanding, evaluation of treatment only

had an effect when the patient had a high understanding.

It seems reasonable that a patient must properly comprehend what to do before attitude toward therapy can have an influence.

Conflicting information concerning an attitude-compliance association is provided by other studies. Both Taylor (1979) and Tirrell and Hart (1980) showed no relationship between the patient's perception of treatment benefit and the patient's compliance. However, greater numbers of perceived barriers to treatment (in this case, exercise) related significantly to lower compliance levels in two out of three compliance measures (Taylor, 1979) and the patient's perception of drug safety related significantly with medication compliance (Tirrell and Hart, 1980). Only one study found no attitude-compliance relationship. Cerkoney and Hart (1980) found that neither perceived benefits nor barriers related to compliance on any of their five compliance measures. These authors indicated, however, that the wording of the questions pertaining to treatment was confusing to subjects. More specific measures may have led to different results.

Returning to the compliance literature on psychotropic medications provides additional insight into the relationship between attitudinal measures and compliance with therapy, especially as it pertains to psychiatric patients. Based on anecdotal information, major reasons given by the patient

for noncompliance were that the medication was unnecessary, ineffective, or unbeneficial (Hare and Willcox, 1967; Johnson and Freeman, 1973; Parkes et al., 1962; Renton et al., 1963; Schou, 1970). McClellan and Cowan (1970) reported that they felt the patients were adjusting their dose based on their own assessments of need. Van Putten (1975) felt the patients using lithium discontinued the medication because they did not want to be deprived of the manic high or preferred mania to reality (although, Van Putten stated that the desires may not be consciously expressed by the patient).

Studies of psychiatric patients which systematically assessed the patients' reasons for noncompliance support this anecdotal information. Patients' reports of the medication as unnecessary or ineffective related to failure to comply with the regimen (Nelson et al., 1975). Hoffmann and his colleagues (1974) showed that the most common reason given by patients for adjusting the dose was based on their own self-identified need. Lin and colleagues (1979) found a significant relationship between adherence to regimen and the patients' perception of benefit from the medication. While no relation between assessment of lithium's effectiveness and compliance was shown by Jamison's group (1979), they did find that the most common reasons given for discontinuing the drug were: a) being bothered by the idea that the med-

ication was controlling their moods and b) that they missed their "highs". One study found no attitude-compliance relation. Michaux (1961) found no relation between his pretreatment attitude measure (eagerness to begin drug treatment) and subsequent compliance with psychotropic medication.

The importance of examining drugs from the view of the person who takes them cannot be ignored. The evidence suggests a relationship between the patient's attitude toward his therapy and his failure to comply with it. Consideration of the patient's evaluation of the drug on such aspects as beneficial or necessary, useful or helpful, safe, and bothersome or difficult may assist the professional in assessing potential barriers to compliance. Yet little is known about the antecedents that influence the development of patients' attitudes and how they ultimately can affect drug use.

#### D. Medication Group Meetings

One of the many social forces with the potential to influence the user's perception of the drug is the medication group meeting. As mentioned earlier, the group discussions involve the exchange of information between patients that have similar medical problems and prescribed similar medications.

Caplan and his colleagues (1976) studied patients who had entered treatment for high blood pressure within one year of the study. The sample population was assigned to one of three groups: 1) controls, i.e. patients who were under the care of their physician and received no experimental intervention, 2) persons in a lecture/information group in addition to their usual physician's care, and 3) patients in a group that emphasized social-emotional support as well as information, in addition to the usual physician's care. Social support was assessed by patient questionnaire. The results of the study showed that the social support and lecture groups, when compared to the control group, showed higher motivation to adhere and greater levels of adherence as measured by the patient's self-report. Few significant differences between lecture and social support groups were noted. Both groups scored significantly higher than the control group on measured scores of social support, leading authors to conclude that the lecture group inadvertently received high levels of social support. In effect, it remains unknown whether the appropriate social support measurements correlate with adherence to medication regimens.

Levine and his colleagues (1979) also studied patients with hypertension. They used three experimental conditions in addition to a control group: 1) an exit interview conducted immediately after the clinic visit which involved explanation and reinforcement of the practitioner's instructions, 2) follow-up home visits which reinforced the instructions with the adult (usually the spouse) whom the patient identified as having the most frequent contact, and 3) a series of three one-hour group sessions conducted by a social worker and aimed at increasing the patient's understanding and feeling of self-confidence. The study involved any combination of these interventions and control. Regarding compliance behavior with medication, all interventions (singly or in combination) demonstrated some improvement, but the combination of exit interview and family support interventions had the greatest impact. Of the single interventions, the small-group approach had the greatest impact on increasing blood pressure control, with the family-support intervention having an intermediate effect. However, only when all experimental groups were combined, was a statistically significant change between pre- and post-blood pressure measures demonstrated.

Several authors have described medication groups for psychiatric patients (Ellenberg et al., 1980; Hayes, 1976; Isenberg et al., 1974; Masnik et al., 1980; Payn, 1978;

Powell et al., 1977). The group sessions discussed by these authors involved patients who were chronically mentally ill and stabilized in the community. Frequency of meetings ranged from weekly to monthly. To date, the reports have been impressionistic. No one has attempted to empirically analyze the communications and what effect the group discussions have on the medication-taking behavior or attitudes of the participants. Yet it seemed obvious to many of the authors that a positive influence was occurring.

... patients feel that the group is very beneficial in providing mutual support. They have gained additional information about lithium treatment and a greater understanding of their psychiatric condition. The younger veterans and those recently exposed to lithium have benefited particularly from the group experience. Their anxiety about the physical side-effects of the lithium has been reduced by other patients who related similar experiences and who said that in time the symptoms disappeared. (Hayes, 1976, p. 392)

Similarly, other authors also emphasized the importance of clients sharing experiences: "patients are more interested in the comments of other group members, as more than likely the remarks will relate to a problem or reaction similar to theirs" (Powell et al., 1977, p. 127) and "...patients seemed pleased to discuss their problems with others having similar diagnoses" (Ellenberg et al., 1980, p. 834).

None of the studies or reports of medication groups have

analyzed the communications received during group meetings or the attitudes of the participants. The analyses of these variables was the purpose of this study.

## E. The Influence of Communications

### 1. Social Influence and Communications

The concept of other laymen influencing a patient's utilization of medication services received support in the literature. Based on Dunbar and her colleagues' review of the compliance literature, they concluded that "both family members and peers have been found to be important reinforcers in compliance programs" (1979, p. 186). A similar conclusion was drawn by Blackwell (1976) in his review of adherence studies in psychiatric populations.

Yet little is known about the dynamics of this influence and how it is communicated. Few studies have analyzed communications and also examined a) the communication-attitude relationship or b) the communication-compliance relationship. Those studies analyzing communications have considered only patient-professional interactions (rather than patient-patient or laymen-patient).

Two studies which analyzed communications also focused on attitudes. Conant (1965) used Bales' Interaction Process Analysis (IPA) to study nurse-patient interaction in home visits. Satisfaction with the visit was obtained by interviews. Interactions which were dissatisfying for the patients contained lower inter-

action rates in the positive social-emotional categories (e.g. showing solidarity, giving help, joking, agreeing, et cetera) and higher rates in the question asking and negative social-emotional areas (e.g. disagreeing, formality, showing tension, showing antagonism, et cetera). Svarstad (in press), in her analysis of the physician-patient interaction, demonstrated a positive association between the patients' evaluation of their medication and physician monitoring (i.e. the extent of the effort made by the physician to monitor or check the patients' compliance with previous drug orders).

Other investigations examined the relation between communication and compliance. Two studies used Bales' Interaction Process Analysis to investigate communications made during visits to the physician (Davis, 1968 and 1971; Freeman et al., 1971). Both of these studies have serious drawbacks due to their compliance measures. Compliance was a composite of all types of health related activities such as prescriptions, diets, tests, activity changes, appointments, and so forth. Davis created a compliance index based on a weighted average of all pieces of the physician's advice and comprised of patient's report, physician's report, and the medical records' indication of compliance. Korsch and her colleagues (Francis et al., 1968 and Freeman et al., 1971) used compliance measures which were

based on patient report and interviewer's subjective estimate. Their reported statistics were based on the percentage of patients that were "highly compliant" i.e. those people who carried out all instructions perfectly (Francis et al., 1968).

Based on the significant relationships between compliance and communications, Davis described compliant patients as those who showed tension release, passively accepted what the doctor told them, did not express opinions, took initiative to ask the doctor for his opinion, received suggestions from the doctor, or were given orientation (information, clarification) from the doctor. Noncompliant patients showed tension, gave their opinions, received doctor's disagreement or passive acceptance, or had doctors who asked for information without giving feedback (Davis, 1968; Davis, 1971). Although Korsch and her colleagues found different results than Davis, this was not surprising considering the differences in compliance measures and populations. (Davis used patient-physician interactions while Korsch and colleagues used mother-physician interactions where the child was the patient.) Korsch's group reported that high compliance was significantly associated with doctor's positive affect (i.e. solidarity and friendliness), higher amounts of non-medical conversation, lower proportion of negative affect in relation to total amount of affect expressed between the doctor and mother, or more information-giving from the

doctor rather than question-asking.

One study analyzed communications without use of Bales' Interaction Process Analysis. Hulka (1979) studied physician's success in communicating instructions and information. The communication score was the proportion of information the patient claimed to retain compared with the amount the physician indicated he provided. She found that, among patients with congestive heart failure, the communication score was inversely associated with medication error rates. No association was found among diabetic patients.

Generalizations based only on these few studies are not possible and it cannot be determined what communications relate to specific compliance behaviors. Svarstad (in press) specifically examined physicians' medication-related communications and patients' subsequent compliance with the medication. She found that patients were more likely to follow the medication regimen when the doctor engaged in a high amount of monitoring than when he engaged in a low amount. Furthermore, she identified four basic motivational strategies used by physicians:

- 1) behaving in a friendly or approachable manner, 2) stating reason or justification for the medication's use, 3) exerting medical authority, and 4) emphasizing the need to refill the medication. Higher rates of patients' compliance were associated with the physicians' use of any of these strategies

but Svarstad concluded that all of the strategies may need to be used at one point or another if a physician is likely to be effective.

In summary, the analyses of social influence and communications, and their relationship to patients' medication attitudes or compliance, provide us with only a beginning sketch of the processes that may be occurring. It is a potentially fruitful area for further reasearch.

## 2. Medication Group Communications

Two bodies of literature pertinent to medication group communications are reviewed next. First, much of the communications made during medication group meetings are of interest because the communicator is another patient rather than a professional. Therefore, literature concerned with communicator similarity and attitude change will be discussed. Second, there are direct communications which occur between the client and someone else, and there are those communications which the client is not a part of i.e. he overhears others in the group talking. Studies pertaining to attitude change as a result of direct versus overheard communications will be reviewed.

### a) Communicator Similarity

Hovland and his colleagues summarized the concept of communicator similarity.

In certain matters persons similar to the recipient of influence may be considered more expert than persons different from him. An individual is likely to feel that persons with status, values, interests, and needs similar to his own see things as he does and judge them from the same point of view. (Hovland et al., 1953, p. 22)

Perhaps the term "expert" should be broadened to include persons who have found adequate solutions to the problem an individual faces, even though in other respects they may be no more experienced than he and may be very much like him. (Hovland et al., 1953, p. 50)

The evidence supports the idea than people tend to be more persuaded by a communicator the more similar they think the communicator is to themselves (Brock, 1965; Burnstein et al., 1961; Mills and Jellison, 1968; Stotland and Patchen, 1961; Stotland et al., 1961; Weiss, 1957). In addition, Weiss (1957) demonstrated this held for both trustworthy and untrustworthy communicators alike.

#### b) Direct Communications

Communications may be made directly to the recipient or overheard by him. The effectiveness of overheard communications centers around the ideas that the accidental recipient is being caught with his defenses down or is not suspicious of the intentions of the speaker because the conversation being overheard is not intended to persuade the accidental listener (Lazarsfeld et al., 1968; Walster and Festinger, 1962). However, it is unlikely that these conditions are true in

medication group meetings since speakers are aware that others are listening and also because accidental recipients come expecting to hear discussions about medications.

Communications made directly to the recipient may be effective because a) they are likely to express an explicit message pertaining to the recipient and b) they allow the recipient face-to-face communication which can be tailored and clarified. Studies have demonstrated that explicitly stated communications were significantly more effective in producing attitude change than communications from which the subject drew his own conclusion (Fine, 1957; Hovland and Mandell, 1952). Controlling for comprehension of message, Thistlethwaite and his colleagues (1955) attempted to prove the opposite hypothesis. Their results did not support their hypothesis and the trend was in the same direction as the results of Fine (1957) and Hovland and Mandell (1952).

#### F. Other Influencing Factors

Many factors, other than the communications occurring during the medication group meeting, can influence a patient's evaluation of and compliance with his medication. It is not the intention here to review all of the studies examining the determinants of compliance. A thorough review of the compliance literature is provided by Haynes and his colleagues

in Compliance in Health Care, 1979. Various chapters of their text are referred to below and supplemented with additional references. The independent drug and respondent variables that were included in the study were in part based on the trends shown in this literature.

The route by which medication is administered has been demonstrated to influence compliance. As Haynes (1979a) summarized, long-acting parenteral forms of medications have been shown to dramatically increase compliance. However he later stated "... the favorable results with injected medications are more likely attributable to supervised administration than to the parenteral formulation itself" (Haynes, 1979b, p. 138). There is no reason to suspect that chronically mentally ill clients from the community are more or less supervised in their arrival at a clinic to receive injections than are clients on oral medication who must periodically pick up refill prescriptions. In Appelbaum and Gutheil's 1980 discussion of psychiatric inpatient refusals of medication, they frequently mentioned patients fearing or disliking the intramuscular medication while only one patient preferred it. As they inadvertently indicated, patients who refuse medication or are "difficult", usually receive a parenteral medication in response. Thus, with psychiatric patients, parenteral medications may not influence compliance at all, and may actually

be associated with a negative image of being forced to take an unwanted medication.

The role of supervision in increasing compliance is repeatedly emphasized by investigators (Haynes, 1979b). Two possible proxy measures of supervision are a) having someone else who administers the medication to the patient or b) having a physician located at the unit that the patient regularly attends for other activities. These two measures can exert very different influences on a psychiatric outpatient's evaluation of medication. Having someone else administer the medication can be viewed as a means of coercive therapy with reluctant patients. Having a physician available, without directly being involved in enforcement of the medication-taking, can mean that the patient had easy access to a supportive, encouraging professional. The resulting effect on patients' attitudes could be quite different.

Review of the literature shows that compliance with therapy dramatically decreased as duration of therapy continued (Haynes, 1979a). This was best demonstrated by studies which measured compliance at intervals after the therapy's initiation (Sackett and Snow, 1979).

Studies which examined sociodemographic factors such as sex, age, and education of respondent have had inconsistent results (see Haynes et al., 1979, p. 460). While some studies

reported an association with compliance, most found no relation at all.

Social support for patients had been found beneficial in promoting compliance in studies reviewed by Hogue (1979) and McKenny (1979). Thus involvement and encouragement of family or friends may influence patients' medication-taking and attitudes.

Comprehension of instructions is necessary in order for safe and effective drug use (Latiolais and Berry, 1969; Parkin et al., 1976). The coherency of psychiatric patients at the time of physician counseling could critically affect the patient's comprehension and subsequent medication use. Similarly, the ability to recall the discussion and instructions is also necessary in order to maximize the efficacy of therapy (Green, 1979).

Lastly, patient satisfaction with the visit to the physician and having their expectations met may have been shown to positively relate to compliance although results were not always significant (Blackwell, 1979; Hulka, 1979).

#### G. Discussion

The goal of this study is to begin to fill the void in investigations which examine the patient's perspective of his therapy and how communications relate to the patient's attitude. The medication group discussions are focused on

as a source of communications which can be verbatim recorded and subsequently analyzed. On the basis of other research, it is believed that the medication-related communications from meetings will be related to patients' attitudes toward their medication. The work is exploratory and descriptive rather than guided by a particular theoretical formulation.

In the next chapter, the questions which were the focus of the study are discussed as well as the formulation of a series of hypotheses. Chapter III includes the methodological procedures and operationalization of the dependent and independent variables. The results of the investigation are presented in Chapter IV. The conclusion contains a discussion of these results and suggestions for future research endeavors.

## CHAPTER II

## PROBLEMS AND HYPOTHESES

A. General Questions

To date, the reports of medication groups for psychiatric patients have been impressionistic. The communications occurring during the group meetings have not been empirically described and analyzed. Thus the first overview question posed was:

- 1) What is the nature and extent of medication-related communications among psychiatry professionals and clients attending a medication group meeting?

It seemed obvious to the authors describing medication groups that interaction during group meetings was having a positive impact on the individual participants and on their attitudes (Hayes, 1976; Ellenberg et al., 1980; Payn, 1978; Powell et al., 1977). This led to two other questions:

- 2) What is the nature of clients' attitudes toward their psychotropic medication?
- 3) What is the relation between the medication-related communications heard during medication group meetings and the clients' attitudes toward their psychotropic medication?

It was the third question that was the focus of this study. It will be returned to in the hypotheses section of this chapter.

It would have been presumptuous to consider medication-related communications from meetings as the only variables affecting a client's attitude. Other factors may have had an impact on attitude toward medication or may have altered the influence of the communications. Although an indepth examination of these other factors was not the purpose of the study here, it was necessary to consider and control for them in subsequent analyses of group communications.

This led to the fourth general question:

- 4) What is the relation between other variables (such as drug-related or respondent-related variables) and the clients' attitudes toward their psychotropic medication?

#### B. Variables Considered

For simplicity in discussion, the variables considered by this study are grouped into four categories: 1) clients' attitudes, 2) communication variables, 3) drug variables, and 4) respondent variables. The client's attitude toward his

psychotropic medication was the dependent variable used in the study. The last three categories of variables were independent variables. Communication variables were variables compiled based on the medication-related communications which a client heard during a medication group meeting. Drug variables consisted of those variables which varied per medication while the respondent variables were those that differed between clients. Since the unit for analyses was each medication, respondent variables were necessarily repeated if the respondent was prescribed more than one psychotropic medication. All other variables were coded per medication. Each variable is discussed in more detail in the following sections. The instruments and procedures for the measurement of variables is discussed in Chapter III.

#### 1. Clients' Attitudes - Dependent Variable

To determine the dependent variable, client attitude toward psychotropic medication subsequent to the medication group meeting, an attitude rating was compiled from interview data. This measure was a composite of the participant's assessment of the medication's helpfulness, harmfulness, necessity, and bothersomeness. A participant's attitude score pertaining to a particular medication could potentially range from 0 to 12 with 12 being a high (or more positive)

evaluation.

## 2. Independent Drug Variables

Five drug variables were examined, including: the route of administration (INJECTABLE), who administered the drug (OTHER ADMIN), the length of time since the person had first used the medication (OLD RX), the therapeutic classification (LITHIUM), and a proxy measure of the client's attitude toward the medication held at time of medication group meeting (NEGATIVE EVAL).

Most psychotherapeutic agents were administered orally. One long-acting major tranquilizer (Prolixin<sup>R</sup>) was often administered by injection every two to three weeks. People receiving injections frequently verbalized dislike for "being stuck by needles". These people also may have been those who had previously demonstrated problems complying with oral medication and hence were prescribed injections. It was expected that people on injectable medication would view this medication more negatively than people using oral medications.

The study population consisted of people who self-administered their medication versus those who had medication administered to them (OTHER ADMIN). Since a large proportion of clients lived in a dormitory-like setting where the staff

administered the medications, many people could not control their medication-taking. However, even in this setting, the prescriber could request that a client be allowed to keep their medications and self-administer. Clients living on their own self-administered their oral medications. No one receiving an injectable medication self-administered it. It was expected that those clients who self-administered would be more likely to voluntarily consume the medication and express more acceptance of it than those clients who had others controlling their medication-taking activity.

Since compliance had been shown to decrease over time, the length of time the person had been on the particular medication was tabulated (OLD RX). It was felt that people consuming newly prescribed medications may feel more positive toward their medication. Possibly people consuming new medications would view their medications as more necessary or helpful than people who had been consuming the medication for longer periods of time.

The therapeutic classification of the medication (LITHIUM) was also considered. Three categories of psychotropic medications were accounted for in this study: 1) antidepressants, 2) major tranquilizers, and 3) other i.e. lithium. A logical assumption was that the class of medication prescribed for a client related to the person's diagnosis. However, since all people on antidepressants (N = 2) and six out of seven

people using lithium were also taking a major tranquilizer, the difference by diagnosis was not clear cut. In the final analysis, the antidepressants were grouped with the major tranquilizers because of the similarity in their side-effects. Major tranquilizers cause frequent and occasionally serious adverse reactions such as: a) extrapyramidal effects (tremors, facial grimacing, Parkinson-like facies), b) skin reactions (urticaria, photosensitivity), c) sedation, d) dry mouth, and e) blurring of vision. Some extrapyramidal side-effects may be irreversible. The antidepressants also cause sedation, dry mouth, and blurring of vision. Other central nervous system depressants act synergistically with both the antidepressants and major tranquilizers. Lithium's initial side-effects may include mild thirst, weight gain, and a fine hand tremor. Since serious side-effects are rare at therapeutic levels, it was conjectured that lithium would be evaluated more positively than the other medications.

As an indicator of how a respondent evaluated the medication at the time of the medication group meeting, the negative evaluative communications that the client made specifically about his psychotropic medication were counted (NEGATIVE EVAL). These communications included expressions that a specified medication was bothersome, harmful, hated, not needed, not useful, et cetera, but were made without factual information

about why the evaluation was held. Statements composing this variable were considered to be those statements most similar to the interview questions used to form the composite attitude score. It was predicted that the more often a client made negative evaluations of his specific medication during the meeting would be related to a more negative attitude score (taken subsequent to the medication group meeting).

Table II-1 summarizes the drug variables names, includes coding criteria and predicted relation to clients' attitudes.

### 3. Independent Respondent Variables

The sociodemographic client characteristics considered were: AGE, SEX, and EDUCATION. It was not suspected that any of these factors would significantly influence attitude toward medication.

Location of the prescribing physician was another factor considered (UNIT MD). Respondents were dichotomized into those whose prescribing psychiatrist was located at the site where the study was conducted versus those whose psychiatrist was located elsewhere. It was expected that having a physician located at the site would relate to a more positive evaluation of the medication. The on site physician seemed more accessible to clients. He could give rapid feedback when concerns were expressed and adjust dosages if necessary. Even if the physician was not immediately available, the client could

TABLE II-1. DRUG VARIABLE NAMES, DEFINITIONS, CODING, AND PREDICTED RELATION TO ATTITUDE

<u>Variable Name and Definition</u>	<u>Coding<sup>a</sup></u>	<u>Predicted Relation to Attitude</u>
INJECTABLE - route of administration	1 = oral 2 = injection	-
OTHER ADMIN - person administering medication	1 = self administers 2 = other person administers	-
OLD RX - length of time since first prescription	1 = ≤ 30 days 2 = > 30 days	-
LITHIUM - whether or not the medication was lithium	0 = not lithium 1 = lithium	+
NEGATIVE EVAL - client's negative evaluation of medication at meeting	Number of negative evaluative communications	-

<sup>a</sup>For further details, see Appendix D.

discuss medication-related problems with other professionals at the site who, in turn, could contact the site physician. It was my impression that the relay of information was more likely to occur with the site physician than with off-site physicians.<sup>1</sup> Another reason the physician's location could be important is the potential for bias in respondents' answers. The people who had the site physician prescribe for them may have felt compelled during the interview to respond in a positive fashion to questions, because they feared information would leak back to their prescriber. To decrease this possibility, confidentiality was discussed with each respondent prior to the interview and attempts were made to not appear affiliated with the prescribing site psychiatrist during visits at the site.

It was expected that the number of people the respondent felt encouraged his medication use would relate to his attitude toward the medication. Rather than consider the total number of people encouraging use, a net score was produced. The total number of people the respondent mentioned talking to about the medication and who discouraged use (number of people discouraging) was subtracted from the total number of people the respondent discussed medication with and who encouraged its use (number of people encouraging). Thus the net "encouragement" score equaled the number of people encouraging use minus the

number of people discouraging use (ENCOURAGEMENT). It was expected that a higher net encouragement score would relate to a more positive evaluation of the medication.

A coherency rating was made for each study participant at the time of the group meeting (GROUP COHERENCY) and at the time of interview (INTERVIEW COHERENCY). This rating was devised by this author and was based on: a) the appropriateness of the participant's responses to previous conversation and b) the congruity of the client's responses (see Appendix C for a copy of the form used). A respondent's coherency could have been affected by medication side-effects or by the respondent's symptomatology. In the latter instance, the medication may be considered to not have been working sufficiently. In any event, it was predicted that respondents with low coherency scores would view their medication less favorably.

At the time of interview, respondents were asked to name the people who attended the previous medication group meeting. Accuracy was checked and the respondent received a score for each person he named that was not actually at the group (POOR RECALL).<sup>2</sup> It was believed that the person's ability to recall could have been blurred by the side-effects of medication, manifestation of symptoms, or simply lack of interest or attention during the meeting. In the first two cases, side-effects or symptoms, the respondent would be expected to eval-

uate the medication more negatively. Regardless of the reason, a respondent with poor recall could not be expected to gain much from the communications.

Another respondent variable considered was whether or not the clients' expectations concerning the medication group meeting had been met (FULFILLMENT). Feeling dissatisfied could result when a participant did not get questions answered, did not receive expected attention, or was not able to convince the psychiatrist to change dosage. Thus, if the communications that occurred did not provide the participant with what he felt he needed, irregardless of the type of communication, he may have felt negatively about the medication.

Respondent variables are summarized in Table II-2. Also included are the coding schemes and predicted relation to clients' attitudes.

#### 4. Independent Communication Variables

Communication variables were based on verbatim transcriptions from medication group meetings. Each communication was given a code based on four different dimensions: target, source, content, and specificity.

The first dimension pertained to the target of the transmission. Was it a communication made directly to the client (direct) or was it a communication the client overheard

TABLE II-2. RESPONDENT VARIABLE NAMES, DEFINITIONS, CODING, AND PREDICTED RELATION TO ATTITUDE

<u>Variable Name and Definition</u>	<u>Coding<sup>a</sup></u>	<u>Predicted Relation to Attitude</u>
AGE	Number of years	none
SEX	1 = female 2 = male	none
EDUCATION - formal education	Number of years	none
UNIT MD - location of prescribing physician	0 = not at unit 1 = at unit	+
ENCOURAGEMENT - net score of number of people who encouraged medication, use	Number of people who encouraged minus number who discouraged	+
GROUP COHERENCY - coherency of client during group meeting	Range: 0 - 4 with 4 being highly coherent	+
INTERVIEW COHERENCY - coherency of client during interview	Range: 0 - 4 with 4 being highly coherent	+
POOR RECALL - number of people the client inaccurately recalled being at the group meeting	Number of people	-
FULFILLMENT - whether or not the client felt the meeting met his expectations	0 = no, unfulfilled 1 = yes, fulfilled	+

<sup>a</sup>For further details, see Appendix D.

as part of the conversation of other people (overheard)?

If a communication was made directly to a participant and could also be overheard by others, it was coded as direct for the person being spoken to and overheard for the others.

Second, the source of the communication was noted. Was the communicator another client or was it a professional (e.g. the psychiatrist or a staff person)?

The third dimension for each communication pertained to its content. Although the original content codes contained twelve categories (discussed in Chapter III), these were collapsed and only two groups were considered in the final analyses: positive and negative communications. Positive communications were communications which supported or justified the use or increased usage of medication. Negative communications were those which negated or derogated medication usage, or suggested a decrease in amount of medication taken.

The fourth communication dimension that was noted was specificity. Was the name of the client's medication specified by the communicator (specific)? If no name was used or if the medication mentioned was not one that the client was prescribed, the communication was coded as nonspecific.

Table II-3 summarizes the sixteen possible communication variables based on the four dimensions. The four dimensions and dichotomous categories are shown in Table II-4. Based on

TABLE II-3. INDEPENDENT COMMUNICATIONS  
VARIABLES

<u>Variables</u>	<u>Description</u>
OPPN	Overheard Professional Positive Nonspecific
OCPN	Overheard Client Positive Nonspecific
OPNN	Overheard Professional Negative Nonspecific
OCNN	Overheard Client Negative Nonspecific
OPPS	Overheard Professional Positive Specific
OCPS	Overheard Client Positive Specific
OPNS	Overheard Professional Negative Specific
OCNS	Overheard Client Negative Specific
DPPN	Direct Professional Positive Nonspecific
DCPN	Direct Client Positive Nonspecific
DPNN	Direct Professional Negative Nonspecific
DCNN	Direct Client Negative Nonspecific
DPPS	Direct Professional Positive Specific
DCPS	Direct Client Positive Specific
DPNS	Direct Professional Negative Specific
DCNS	Direct Client Negative Specific

TABLE II-4. CATEGORIES FOR ANALYSES OF  
INDEPENDENT COMMUNICATION  
VARIABLES

<u>Dimension</u>	<u>Category</u>	<u>Variables</u>
target	direct	DPPN, DCPN, DPNN, DCNN, DPPS, DCPS, DPNS, DCNS
	overheard	OPPN, OCPN, OPNN, OCNN, OPPS, OCPS, OPNS, OCNS
source	professional	OPPN, OPNN, OPPS, OPNS, DPPN, DPNN, DPPS, DPNS
	client	OCPN, OCNN, OCPS, OCNS, DCPN, DCNN, DCPS, DCNS
content	positive	OPPN, OCPN, OPPS, OCPS, DPPN, DCPN, DPPS, DCPS
	negative	OPNN, OCNN, OPNS, OCNS, DPNN, DCNN, DPNS, DCNS
specificity	specific	OPPS, OCPS, OPNS, OCNS, DPPS, DCPS, DPNS, DCNS
	nonspecific	OPPN, OCPN, OPNN, OCNN, DPPN, DCPN, DPNN, DCNN

the dichotomies possible for each dimension, the communication variables were combined into the eight different groups outlined in Table II-4. The hypotheses discussed below were generated from the dichotomous groups of communication variables within each dimension. More details concerning these variables are provided in Chapter III and Appendix E.

### C. Hypotheses

The intention of this study was to elucidate the relation between the medication-related communications that clients heard during medication group meetings (the independent communication variables) and the clients' attitudes toward their psychotropic medications (dependent variable). Based on the literature reviewed in Chapter I, hypotheses were posed for each of the dimensions of the communication variables:

H<sub>1</sub>: Other things being equal, direct medication-related communications made during a medication group meeting will positively relate to respondents' attitudes toward their medication.

H<sub>2</sub>: Other things being equal, medication-related communications from other clients made during a medication group meeting will positively relate to respondents' attitudes toward their medication.

- H<sub>3</sub>: Other things being equal, a net positive communication score (i.e. the number of positive communications minus the number of negative communications) from a medication group meeting will positively relate to respondents' attitudes toward their medication.
- H<sub>4</sub>: Other things being equal, specific medication-related communications made during a medication group meeting will positively relate to respondents' attitudes toward their medication.

## FOOTNOTES

## CHAPTER II

1. This could have been due in part to staff familiarity with the site psychiatrist. Also the prescription records were accessible to staff for their review when the site psychiatrist wrote the prescription. Little or no information was available concerning medication prescribed by off-site psychiatrists.
2. In all cases, these names were of people who sometimes attended group sessions. When interviewing the respondents, it seemed that the respondents were attaching the correct name to the correct person, but simply inaccurately recalled the person's presence at the meeting.

## CHAPTER III

## METHODOLOGY

A. Research Setting

The study was conducted by this author at a site which was a day treatment unit of a county mental health center. The unit provided psychosocial rehabilitation for approximately 150 adults living in the community who had long-term emotional problems. The majority of its clients had been diagnosed as schizophrenic or manic-depressive. The average client at the unit was 36 years old (range was from 18 to 68 years). Sixty-two percent were male and seventy percent were single. The average years of formal education was 12.3 years. In order to maintain confidentiality, the site will remain unidentified.

People who were eligible to be clients at this unit were referred from mental health agencies or professionals previously involved with the client. During orientation, candidates were made aware of the availability of the unit's psychiatrist. This psychiatrist could be seen by individual appointment or during the weekly medication group meeting. Clients choosing to have the unit psychiatrist prescribe for them utilized one or both of the means of access, i.e. appointments and/or

group meetings. Some of the clients continued to see psychiatrists located outside the unit.

The same psychiatrist conducted all medication group meetings. Each lasted approximately one hour and fifteen minutes. Clients could freely come and go during this time. Attendance ranged from eleven to sixteen different people, with an average of thirteen people attending. During group sessions the psychiatrist wrote prescriptions, asked and answered questions, and led group discussions.

Prescriptions were written on forms automatically producing a duplicate copy. The copy became part of the client's written records in addition to being entered into the unit's computerized records.

## B. Data Collection

### 1. Access and Pre-observational Work

Access was obtained after contacting the unit's psychiatrist. The psychiatrist notified the staff of my interest in visiting the unit and possibly doing a research project. Thereafter, I visited the unit one afternoon each week as a student volunteer (for seven months prior to data collection). A typical afternoon at the unit involved attending the staff meeting at lunch time, participating in a group with clients

(doing such things as cooking or making greeting cards), and observing the medication group meeting. When there was unstructured time, I would sit in the lounge and talk, play cards, or go for walks with clients. When possible, I attended special events such as parties or picnics.

Clients were aware that I was a student from the School of Pharmacy at the University of Wisconsin - Madison and that I was interested in sociology as it applied to medication use. Since there were often ten to twenty students and/or volunteers involved with the unit, my presence did not seem unusual. Being identified with the School of Pharmacy sometimes led to questions about medications which I referred to an appropriate staff professional.

This pre-observational period was necessary in order for the system to be reviewed and the project to be organized. An additional result of these visits was the establishment of rapport between myself and the clients (as well as between myself and the staff).

## 2. Data Collection

Data collection included: 1) observing, tape recording, and transcribing the medication group sessions, 2) interviewing each study participant, and 3) reviewing each participant's computerized file. Each of these processes is discussed more

fully below.

Nine medication group sessions were tape recorded and transcribed beginning on May 15, 1980 and ending on July 10, 1980.<sup>1</sup> During the meetings, two tape recorders remained visible to group members. My activities during sessions involved the introduction of myself and the study, gaining informed consent of the people willing to participate (see Appendix A for a description of this process and the forms used), identifying clients in attendance, keeping a running log of who was in the room, who was speaking, and noting to whom comments were directed. These latter activities were necessary in order for proper transcriptions to be completed.

Interviews began no sooner than two days subsequent to the medication group meeting at which the client agreed to participate.<sup>2</sup> Each study participant was contacted by telephone, if possible, for an interview which lasted approximately twenty minutes. (Appendix B contains a copy of the interview questions.) Clients not possessing a telephone were contacted in person at the unit and, if convenient, were interviewed at that time. If a person could not be contacted prior to the next weekly medication group meeting, he was not interviewed unless he attended a meeting again.<sup>3</sup> Thus interviews were only conducted three to seven days, inclusive, after each meeting. Only one interview was conducted with each person that agreed

to participate.

The computerized records of the study's participants were reviewed for: a) background and demographic information and b) current prescription records. (Appendix C contains copies of the forms used for this aspect of data collection.) Only the main psychotropic agents (antidepressants, antipsychotics, or lithium) were used for analyses.<sup>4</sup> Medications which were prescribed for use "as needed" or for the relief of side-effects were not considered. Those clients not having their prescribing psychiatrist located at the unit (and therefore not having copies of their prescriptions on file) were interviewed and asked the same questions concerning their medications. Their verbal report was used to ascertain what medication they were taking.<sup>5</sup>

The entire data collection portion of the study lasted ten weeks (see Figure III-1).

### C. Respondent and Medication Characteristics

#### 1. Respondents

Forty-four different clients of the unit participated in the nine medication group meetings that were tape recorded for this study. Thirty-nine people (88.6%) agreed to participate in the study.<sup>6</sup> Seven of these people could not be contacted for an interview prior to the next medication group meeting.<sup>7</sup> These

	WEEKS									
	1	2	3	4	5	6	7	8	9	10
taping and transcribing medication group meetings	X	X	X	X	X	X	X	X	X	X
interviewing clients	X	X	X	X	X	X	X	X	X	X
reviewing records	X	X	X	X	X	X	X	X	X	X

Figure III-1. RESEARCH SCHEDULE

people appeared quite similar to the remaining thirty-two people who were interviewed (described below) when demographic information and prescribed medications were compared.<sup>8</sup>

Thirty-two (72.7%) out of the possible forty-four people were interviewed. The average age of these respondents was 35.0 years (ranging from 21 to 56 years). Most respondents were male (59%) and 69% were single. The average number of years of formal education was 12.6 years. It is notable that this description of study respondents is remarkably similar to that of the entire population of clients that utilized the unit's services.

Respondents participated in a medication group meeting an average of 41.4 minutes. Of the nine medication groups, respondents attended from one to seven meetings with the mean being three.

On the average, the people interviewed took one psychotropic medication. Nine people were prescribed two or three medications and three people did not take any psychotropic medications at all.

## 2. Medications

A total of forty-one psychotropic medications (the unit for analyses here) were prescribed for the respondent population. Most of these medications were major tranquilizers

(N = 32). Two medications were antidepressants and seven were lithium. Table III-1 gives the specific breakdown by drug name of all the medications. Seventy-eight percent of the medications were orally administered but only fifty-one percent were self-administered.

Even though thirty-two people (prescribed a total of 41 psychotropic medications) were interviewed, not all of these people completed the entire interview. Three of the respondents did not answer any of the questions in the attitude section of the interview schedule<sup>9</sup> and thus had no attitude toward medication computed for their drugs. In the final analyses of attitude, thirty-seven medications were used.

#### D. Measurements

##### 1. Clients' Attitudes - Dependent Variable

When the interview schedule was initially designed, it was intended that six questions (numbers 15a, 15b, 16, 17, 18, and 19 in Appendix B) would be used to compile an attitude rating.<sup>10</sup> Four of these questions required the respondent to rate his medication's helpfulness, harmfulness, necessity, and bothersomeness. These items were scored from 0 to 3 with 3 being a high (or more positive) evaluation. The other two questions asked: a) whether the respondent felt better taking or not

TABLE III-1. BREAKDOWN OF MEDICATIONS BY NAME AND CLASS

<u>Antidepressants</u>	<u>frequency</u>	<u>percent</u>
imipramine (Tofranil <sup>R</sup> )	1	2.4
tranlycypromine (Parnate <sup>R</sup> )	1	2.4
<u>Major tranquilizers</u>		
chlorpromazine (Thorazine <sup>R</sup> )	1	2.4
fluphenazine HCl (Prolixin <sup>R</sup> , oral)	5	12.2
fluphenazine decanoate (Prolixin <sup>R</sup> , injection)	9	22.0
haloperidol (Haldol <sup>R</sup> )	4	9.8
molindone (Moban <sup>R</sup> )	1	2.4
thiothixene (Navane <sup>R</sup> )	5	12.2
thioridazine (Mellaril <sup>R</sup> )	4	9.8
trifluoperazine (Stelazine <sup>R</sup> )	3	7.3
<u>Other</u>		
lithium (Lithobid <sup>R</sup> )	7	17.1
	<hr/>	<hr/>
total	41	100.0

taking the medication and b) whether the respondent felt satisfied or dissatisfied with the medication. Scores on these last two items could range from 0 to 2 with 2 being a high (or more positive) evaluation. (Appendix D contains details of how all these variables were coded.)

The final attitude measure was a composite of the respondent's assessment of the medication's helpfulness, harmfulness, necessity, and bothersomeness. These items individually were considered to assess distinct aspects of a client's attitude toward his medication. The zero-order correlations between these items and with the composite attitude score are summarized in Table III-2. The composite attitude score could range from 0 to 12, with 12 being a high (or more positive) evaluation.

The questions pertaining to satisfaction and betterment were not included in the final composite attitude score. Respondents found these the most difficult of the six questions to answer and frequently answered them with qualifications. Also, these two questions had a different scoring range. For these reasons, they were not included. The zero-order correlations between the independent variables and the attitude measure that were significant ( $p \leq .05$ ) when these two questions were included in the attitude score remained significant when these two questions were dropped. Only one variable, UNIT MD, became significant when previously it was only close to significant.

TABLE III-2. ZERO-ORDER CORRELATIONS OF ATTITUDE COMPONENTS  
WITH EACH OTHER AND WITH COMPOSITE ATTITUDE SCORE  
(N = 37)

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1) HELPFULNESS	1.00			
2) HARMFULNESS	.28*	1.00		
3) NECESSITY	.60***	.29*	1.00	
4) BOTHERSOMENESS	.44**	.09	.33*	1.00
5) Composite attitude	.82***	.51***	.79***	.70***

\*p ≤ .05

\*\*p ≤ .01

\*\*\*p ≤ .001

(Previous  $p$  was .056. After satisfaction and betterment questions were dropped from the composite attitude variable,  $p = .047$ .)

Zero-order correlations between the independent variables and the final composite attitude are discussed in Chapter IV.

## 2. Independent Drug Variables

Information for three of these variables was obtained by interview and validated with computerized prescription records: route of administration (INJECTION), who administered (OTHER ADMIN), and the name of the medication which was used to determine therapeutic classification (LITHIUM). When the respondent first began to be prescribed the medication (used to determine the length of time on the drug i.e. OLD RX) was available only via computerized prescription records. Since clients using off-site physicians had no prescription records filed, information concerning the length of time on the prescription (OLD RX) could not be obtained for ten (out of forty-one) medications which resulted in a bias on this variable. The remaining drug variable, NEGATIVE EVAL, was based on the verbatim transcription of the medication group meeting that the respondent attended prior to interview. Each negative evaluation that the client made specifically about his medication counted one. NEGATIVE EVAL was the total count of these communications per medication.

Appendix D contains detailed information concerning which interview questions or forms were used for each variable and coding schemes.

### 3. Independent Respondent Variables

Variables such as SEX, AGE, and EDUCATION were also obtained via the respondent's computerized records. Age was calculated at the time of the person's attendance at the medication group. Location of prescribing psychiatrist (UNIT MD) was obtained from prescription records and corroborated with the interview data. Coherency during the group (GROUP COHERENCY) was scored immediately after the meeting and INTERVIEW COHERENCY was scored immediately after the interview. The ENCOURAGEMENT, POOR RECALL, and FULFILLMENT variables were based on the interview questions. Details on which interview questions or forms were used and on the coding schemes are provided in Appendix D.

### 4. Independent Communication Variables

At first, a very simple scheme was developed for coding all the communications from the medication group meetings. In an attempt to make the replication of the coding possible, the complexity of the scheme increased. Appendix E contains the final version of the conventions used. An overview will be given here. Appendix E should be referred to for more detail, exceptions, and examples.

For the duration of the time a client was at the meeting, all communications which he heard that pertained to any psychotropic medication received a code. A communication was considered to be a sentence, phrase, or group of sentences that communicated a complete thought. For example, a statement such as "I stopped taking my lithium because it makes me throw-up" was considered to be two communications: 1) that the person was no longer taking lithium and 2) that the person felt he experienced a side-effect of the lithium. Questions made to a client received separate codes and were not included in this analysis.

All transcriptions were coded by this author. If a coding decision seemed ambiguous according to the coding conventions (Appendix E), a notecard was created containing all pertinent information. When another difficult decision arose, the notecards were reviewed and, if necessary, a new card made. In this manner, coding was completed as consistently as possible.

Each communication was given a code based on the four dimensions discussed in Chapter II: target, source, content, and specificity. Initially, a communication could fall into one of 96 possible cells: 1) two divisions based on target (direct or overheard), 2) two divisions based on source (client or professional), 3) twelve divisions based on content (discussed more fully below), and 4) two divisions based on specificity (specific or nonspecific). The number of communications

falling in each cell was counted and scored for each drug in the study.

Target, source, and specificity have already been elucidated in Chapter II. Only the twelve content divisions need further clarification here. Based on content, each communication was categorized one of the twelve ways outlined in Table III-3.

Each medication received computerized counts for each of the possible 96 detailed communication codes. Thus, if necessary, detailed descriptions of communications could be done, but it was impractical to deal routinely with this many independent communication variables. The twelve divisions based on content were collapsed into two categories: 1) positive communications and 2) negative communications (summarized in Table III-4). Positive communications were communications which supported or justified the use or increased usage of medication. Positive communications were the sums of the (T) taking, (D) dosage - current, (I) increase - future, (L) lower - than past, (B) information on benefits, and (P) positive opinion communications. Negative communications were those which negated or derogated medication usage, or suggested a decrease in amount of medication taken. Negative communications included the communications of (N) not taking, (X) negating dosage - current, (C) cutback - future, (H) higher - than past, (Y) information on deleterious effects, and (E) negative opinions. This less detailed break-

TABLE III-3. DESCRIPTION OF THE COMMUNICATION CONTENT DIMENSION'S ORIGINAL TWELVE DIVISIONS<sup>a</sup>

- T = statements which convey that the person is taking, was taking, should be taking, will be taking, wants to be taking a drug
- N = statements which convey that the person is not taking, was not taking, will not take, should not take, cannot take a drug
- D = reaffirming a current dose, dosage regimen, dosage time, duration of use
- X = negation of a current dose, dosage regimen, dosage times, or duration of use
- I = mention of future dosage increase i.e. that the client should be or will be on more medication
- C = mention of a future dosage cutback, i.e. that the client should be or will be on less medication
- L = indication that the client is currently on a lower dose than he once was or is lower than someone else
- H = indication that the client is currently on a higher dose than he once was or is higher than someone else
- B = statements which provide information about the drug such as: a) benefits of taking or increasing dose, b) justifications for taking or increasing dose, c) negation of a deleterious effect
- Y = statements which provide information about the drug such as: a) benefits of not taking or decreasing the dose, b) justifications for not taking or for taking less, c) deleterious effects or side-effects, d) negation of a beneficial effect
- P = opinions or evaluations of the drug or high(er) dose of drug which are positive in their nature but do not provide information about why the evaluation is expressed
- E = opinions or evaluations of the drug or high(er) dose of drug which are negative in their nature but do not provide information about why the evaluation is expressed

<sup>a</sup>For more details, see Appendix E.

TABLE III-4. COLLAPSED CATEGORIES OF THE COMMUNICATION  
CONTENT DIMENSION

Summary of divisions:

T = taking	N = not taking
D = dosage (current)	X = negation of dosage (current)
I = increase (future)	C = cutback (future)
L = lower (than past)	H = higher (than past)
B = info on benefits	Y = info on deleterious effects
P = positive opinion	E = negative opinion

Collapsed categories:

positive communications = T + D + I + L + B + P

negative communications = N + X + C + H + Y + E

down left the 16 communications groups as independent variables (previously presented in Table II-3).

#### E. Data Processing and Analyses

Interview responses, prescription information, demographic information, and communication scores were coded and punched on computer cards. All cards were verified for accuracy. When new variables were created from stored ones, a minimum of three cases were individually checked to assure that the computations were done accurately.

The unit for statistical analyses was considered to be the respondent's medication. The composite attitude scores and independent drug variables pertained to each medication. The communication variables were compiled based on the specificity for each medication. Independent respondent variables were duplicated if the respondent was prescribed more than one psychotropic medication. To average the respondent's attitude toward several medications seemed inappropriate because respondents often received very different communications about particular medications and they usually evaluated medication differently when asked the attitude questions.

The first step in analyses was to examine descriptive information on communication and attitude data in order to answer the basic questions initially posed concerning: 1) the nature and extent of medication-related communications among psychiatry professionals and clients attending a medication group meeting and 2) the nature of clients' attitudes toward their psychotropic medication.

Next, zero-order correlations were obtained between the dependent variable (composite attitude) and the variables which were independent drug or respondent related. The independent drug and respondent variables found to correlate significantly with attitude were analyzed by stepwise regression to determine which significantly added to the explanation of attitude. Of this group of variables, those shown to be not significant were removed from the equation.

Finally, the zero-order correlations between the composite attitude scores and the independent communication variables were considered. The initial correlations examined were based on the eight categories of communications from Table II-4. From the results of these correlations, the appropriate communication variables were added to the regression equation with the significant independent drug and respondent variables, to determine what, if any, explanatory value communications had.

#### F. Methodological Limitations

Sixty-seven percent of the respondents agreeing to participate in the study completed the questions pertaining to attitude. The decrease in respondents represents a natural selection occurring. As with any study of a nature similar to this one, it is not practical to interview people who are too stressed (mentally or physically) to communicate. The result is that the respondents may be those people who are less disabled. This unavoidable bias may be reflected in any results where people have been asked to evaluate their treatment. The people who are most displeased or for whom the medication has not been effective may not be included as respondents.

As mentioned earlier, because the unit of analyses is each medication, the variables that pertain to the respondent are repeated if he is prescribed more than one psychotropic medication. This unfortunately overweights these people's characteristics. Since the intention of the study was to examine communications' relationships to attitudes toward specific medications, it was impractical to use any unit of analyses other than the individual medications. In an effort to clarify the bias that might result from repeating respondent variables, zero-order correlations were calculated between the number of medications a person was prescribed and

each variable that would be repeated for people taking more than one medication (see Table III-5). These correlations are based on no repeated variable scores. As shown in the table, only one of the correlations was significant. As the number of drugs a client was prescribed increased, he was more likely to feel his expectations of the meeting had been fulfilled. The repetition of the other variables was unlikely to have had a major influence, but this possible bias should be kept in mind, especially for FULFILLMENT.

The communication codes were of my own creation. They are of unknown validity and limitations of these codes cannot be disregarded. First, they do not include any non-medication communications. It is likely that other types of communications (e.g. pertaining to acceptance of diagnosis) can influence a client's acceptance of medication-taking. Second, only verbal communications were coded. Nonverbal communications and aspects of the verbal communications such as tone of voice were not considered. The messages these transfer to listeners may have been an important influence. Thirdly, there was a basic assumption made by the coding scheme. The coding was done on communications as they were recorded to have been stated. It was assumed that these communications were heard in the same way as they were stated and that all those that could hear them, interpreted them in the same fashion. It is possible

TABLE III-5. ZERO-ORDER CORRELATIONS BETWEEN NUMBER OF DRUGS PRESCRIBED AND INDEPENDENT RESPONDENT VARIABLES

- reported per drug-taking respondent  
(maximum N = 29)

	number of drugs prescribed	(N)
AGE	.12	29
SEX	-.17	29
EDUCATION	-.10	26
UNIT MD	-.18	29
ENCOURAGEMENT	.26	26
GROUP COHERENCY	-.10	26
INTERVIEW COHERENCY	-.14	29
POOR RECALL	-.10	27
FULFILLMENT	.37*	27

\*p ≤ .05

that participants were not paying attention to all conversation. It is also possible that a "positive" communication for one participant was a "negative" or "neutral" communication to another participant. This relates back to the question of validity.

The focus of the study was only those communications which occurred in the one medication group prior to interview. While some of the interview questions tapped information pertaining to outside influences (e.g. the net encouragement score), the details of potential influences other than medication group communications were not elucidated. Participants came to medication group meetings with a history of being influenced concerning medications and it was possible that influences were received between the time they attended the meeting and the time they were interviewed. Without a more global study than the one designed here, these factors cannot be examined.

These limitations do not negate the usefulness of conducting investigational studies such as this, but merely serve as reminders of the need for continued studies and improved techniques. The final chapter will deal with suggestions for the future. The limitations mentioned here should be kept in mind when evaluating the conclusions and implications drawn in this study.

## FOOTNOTES

## CHAPTER III

1. One week was skipped because the psychiatrist was ill and could not conduct the group.
2. In addition to attitudes, the study was initially designed with the intention of being able to provide information on patient compliance with prescribed medication regimens. The delay between the medication group meetings and the interview was meant to allow time for any change in medication-taking to occur. Compliance and any relation between communications and patient medication consumption remains unanalyzed at this time and will not be discussed here.
3. Allowing more than seven days to intervene between the meeting and the interview greatly increased: a) the likelihood that the client would forget what had occurred during the group session and b) the possibility that outside (non-group) influence affected the respondent's attitude concerning medication.
4. Classification was based on the American Society of Hospital Pharmacists' Formulary Service, 1980, section 28:16 (Psychotherapeutic Agents).
5. After interacting with these people for this extended period of time, I became familiar with the medications that they had been prescribed. I feel confident that these verbal reports were accurate. In those cases where prescription records were available, verbal reports always matched records (with one exception of a person who admitted using a medication which was no longer prescribed for him).
6. Five people were not able or refused to participate. Of these, only one person simply refused for no explanation. Another person refused and later confided to me that he felt too paranoid to talk when people approached him. Two people

came to a medication group meeting heavily sedated and could not respond. (They slept through most of the meeting.) The fifth person seldom responded to anyone's attempts at conversation and would not communicate with me concerning the study.

7. The breakdown of the problems that arose when trying to interview these seven people is as follows:
  - 1 - had drinking problems and frequently lost track of appointments,
  - 2 - were hospitalized (one for psychiatric reasons; one for medical reasons),
  - 1 - went camping for a week,
  - 1 - did not return to the unit at all after the day he came to the group meeting,
  - 1 - was experiencing an increase in psychopathology and felt unable to talk,
  - 1 - could not be contacted in any fashion. He had no permanent address and did not return to the unit for several months.
  
8. Of these seven people, four (57%) were male, four were single (57%) and the remaining were divorced or separated. The average number of years of education was 12.2 and their average age was 31.3 years. Two people's prescription records were not available. The remaining five people took a total of six drugs (one antidepressant, three major tranquilizers, two lithium).
  
9. One person was extremely agitated while talking to me. He said that he felt too "hot and queasy" to talk although he did try. Another person's conversation was too tangential to record any specific answer. A question most often resulted in an unrelated response. The third person began the interview but was interrupted. Before the interview could be completed, the client visited with a psychiatrist who counseled him about the medication. The rest of the interview was disregarded because of this bias. Not including these people in the regression analyses decreased the number of drugs studied by four (two flu-phenazine decanoate, one thiothixene, one lithium).

10. Questions used for the attitude rating were adapted from Svarstad (in press).

## CHAPTER IV

### RESULTS AND ANALYSES

The findings from this study are presented in the following order: 1) the description of the major variables focused on by the study i.e. clients' attitudes toward psychotropic medication and the medication-related communications that occurred during the group meetings, 2) the results from the zero-order correlations with the drug and respondent variables, and the resulting regression equations, and 3) the zero-order correlations with the communication variables and the effects of their inclusion in the regression equation. Where statistical tests are presented, a p of 0.05 or better was employed. The descriptions of the independent drug and respondent variables are provided in Appendix F.

#### A. Descriptions of Attitudes and Communications

##### 1. Composite Attitudes Toward Medication

The breakdown (by medication) of responses to the four components of attitudes, as well as the composite attitude scores are presented in Tables IV-1 and IV-2. For each component question, the greatest percentage of medications

TABLE IV-1. BREAKDOWN OF ATTITUDE COMPONENTS  
(N = 37)

<u>Component</u>	<u>Coding</u>	<u>frequency</u>	<u>percent</u>
HELFULNESS	0) not helpful	6	16.2
	1) don't know	3	8.1
	2) somewhat	12	32.4
	3) very helpful	16	43.2
HARMFULNESS	0) very harmful	3	8.1
	1) somewhat	10	27.0
	2) don't know	3	8.1
	3) not harmful	21	56.8
NECESSITY	0) not necessary	7	18.9
	1) don't know	1	2.7
	2) somewhat	6	16.2
	3) very necessary	23	62.2
BOTHERSOMENESS	0) very bothersome	8	21.6
	1) somewhat, very little	1	2.7
	2) don't know	8	21.6
	3) not bothersome	20	54.1

TABLE IV-2. FREQUENCIES OF COMPOSITE ATTITUDE SCORES

ATTITUDE = HELPFULNESS + HARMFULNESS + NECESSITY + BOTHERSOME-  
NESS

ATTITUDE	<u>score</u>	<u>frequency</u>	<u>percent</u>
	2	1	2.7
	3	2	5.4
	4	4	20.8
	5	1	2.7
	6	2	5.4
	7	2	5.4
	8	5	13.5
	9	3	8.1
	10	0	0.0
	11	10	27.0
	12	7	18.9
		<hr/> 37 <sup>a</sup>	

mean = 8.541

median = 9.000

standard deviation = 3.176

<sup>a</sup>The four cases that had no response to any component questions were not included.

were rated positively (i.e. a response that received the maximum of three points). However, looking at the composite attitude scores in Table IV-2, it can be seen that few medications received the maximum points on all components. In only seven instances (18.9%) was the maximum composite attitude score of twelve received. Thus, responses to the components of the composite attitude score varied. The composite attitude scores are irregularly distributed but skewed toward higher evaluations.

## 2. Medication-related Communications

It is important to remember that communications were coded per medication. Therefore each medication received a count for each communication that the respondent heard while at the group meeting. If a respondent was taking two psychotropic medications, one communication would be counted twice for that respondent --- once for each medication. Since analyses were completed using medication as the unit, only the results per medication are provided here.

The total number of communications coded for medications was 4,228. This represents the communication scores each medication received summed over all forty-one medications.

Table IV-3 summarizes the breakdown of communications based on the four different dimensions each communication code

TABLE IV-3. PRELIMINARY BREAKDOWN OF COMMUNICATION CATEGORIES WITH MEANS PER MEDICATION

<u>Dimension</u>	<u>Categories</u>	communications total = 4228 <u>frequency</u>	per medication N = 41		
			<u>mean</u>	<u>std. dev.</u>	<u>range</u>
target	overheard	3918	95.6	64.4	0-85
	direct	310	7.6	9.8	0-23
source	professional	1854	45.2	25.5	0-61
	client	2374	57.9	42.3	0-85
content	positive	2669	65.1	39.3	0-85
	negative	1559	38.0	25.3	0-75
	(net positive) <sup>a</sup>	-----	27.1	17.9	-13-57
specificity	specific	490	12.0	20.1	0-45
	nonspecific	3738	91.2	57.9	0-85

<sup>a</sup>Net positive = positive - negative

contained. The average number of communications aimed at the respondent taking the medication (direct) is remarkably low when compared to overheard communications. Per medication, the mean number of professional source communications approximately equals the mean number of client source communications. Keeping in mind that there was an average of thirteen clients with one psychiatrist at a meeting, the comparison of the two means (professional:client) indicated that very few client-to-client communications probably occurred. (This was substantiated by the means for direct client communications in Table IV-4.) The average content categories indicated that, per medication, communications were most often positive in nature. Thus the general tone of the medication-related communications probably favored medication use or increased use. Specificity of communications was low. The average number of communications specifically mentioning the medications was only 12.0 per medication compared to 91.2 communications per medication which were about some other drug. This indicated that most communications that a respondent heard were most likely about a medication other than one he had been prescribed. Looking back at Table III-1, this was not surprising. The participants in a medication group were on a variety of medications, and it was unlikely that many people were taking the same medication. Conversation covered too many different

medications to expect a high number of communications specifically concerning each.

Table IV-4 shows the means of the communications codes in further detail. Each cell represents one of the sixteen communication variables originally presented in Table II-3. Looking at the fourth row representing direct communications from other clients accentuates the paucity of direct client-source communications. The per medication average for the number of communications coming from another client and directed at the respondent taking the medication was only 0.9 and the average number of these communications which also pertained to the specific medications that the respondent was prescribed (specific) was only 0.3. Comparing the means of communications specific to the client's drug showed that, on the average, direct communications from a professional were ten times more likely than direct communications from another client. Comparing nonspecific communication means to specific communication means demonstrated that the bulk of all communications must have been overheard, i.e. communications between people other than the respondent for whom the medication was prescribed. Furthermore, considering the similarity in the overall client-source and professional-source means (and the differences in the number of people of each type that attended a meeting), it is reasonable to assume that the majority of communications were between a

TABLE IV-4. MEANS OF COMMUNICATIONS BY DIMENSION CATEGORIES  
GIVEN PER MEDICATION  
(N = 41)

	nonspecific to client's drug		specific to client's drug		total row means
	positive	negative	positive	negative	
overheard communications:					
from professional	24.4 (OPPN)	10.1 (OPNN)	2.8 (OPPS)	1.2 (OPNS)	38.6
from client	29.7 (OCPN)	22.5 (OCNN)	2.6 (OCPS)	2.1 (OCNS)	57.0
direct communications:					
from professional	2.6 (DPPN)	1.1 (DPNN)	2.2 (DPPS)	0.7 (DPNS)	6.7
from client	0.5 (DCPN)	0.1 (DCNN)	0.2 (DCPS)	0.1 (DCNS)	0.9
total column means:	57.3	33.9	7.8	4.1	

professional and a client. In summary, the majority of communications were overheard, between a professional and another client, probably positive in nature, and about medication other than one which the respondent was prescribed.

An interesting difference existed between professional-source and client-source communications concerning content. The average per medication of professional-source positive communications was almost equal to the client-source positive communication mean (32.0 and 33.0 respectively). However, the mean for professional-source negative communications was only 13.2 compared to 24.9 for client-source. Thus, on the average, client-source communications were more likely to be negative in content than were professional-source communications.

## B. Analyses of Independent Drug and Respondent Variables

### 1. Zero-order Correlations

Zero-order correlations were used to eliminate those independent drug and respondent variables which did not appear to relate to the dependent variable (composite attitude score). Those independent variables which did not correlate significantly were not included in further analyses.

The independent drug variables were INJECTABLE, OTHER ADMIN, OLD RX, LITHIUM, and NEGATIVE EVAL. Table IV-5 shows the

TABLE IV-5. ZERO-ORDER CORRELATIONS BETWEEN COMPOSITE ATTITUDE SCORE AND INDEPENDENT DRUG VARIABLES

Independent Variable	Composite Attitude Score	(N)
INJECTABLE	.03	37
OTHER ADMIN	.16	37
OLD RX	.29	29
LITHIUM	-.40**	37
NEGATIVE EVAL	-.28*	37

\*p ≤ .05

\*\*p ≤ .01

zero-order correlations between composite attitude score and each of these variables. Only two of these independent variables yielded a significant correlation with the dependent variable. Since LITHIUM was divided into lithium (1) versus not lithium (0), this negative correlation meant that lithium was related to a lower (less positive) attitude score than the non-lithium medications. The more statements a client made during the group negatively evaluating his specific medication (NEGATIVE EVAL) related to a lower composite attitude score. LITHIUM related in the direction opposite to what was predicted while NEGATIVE EVAL related in the expected direction (see Table II-1). Route of administration (INJECTABLE), who administered (OTHER ADMIN), and newness of the medication (OLD RX) were not significantly related to the respondents' attitudes about their medication.

The independent respondent variables included: AGE, SEX, EDUCATION, UNIT MD, ENCOURAGEMENT, GROUP COHERENCY, INTERVIEW COHERENCY, POOR RECALL, and FULFILLMENT. Table IV-6 shows the zero-order correlations between composite attitude score and each of these variables. Three of these variables related significantly to the clients' attitudes toward their medication: UNIT MD, GROUP COHERENCY, and POOR RECALL. The correlations were all in the expected direction. Having the prescribing psychiatrist located at the unit related to a higher attitude score. The more people a respondent misnamed

TABLE IV-6. ZERO-ORDER CORRELATIONS BETWEEN COMPOSITE ATTITUDE SCORE AND INDEPENDENT RESPONDENT VARIABLES

Independent Variable	Composite Attitude Score	(N)
AGE	.08	37
SEX	.04	37
EDUCATION	-.14	34
UNIT MD	.28*	37
ENCOURAGEMENT	-.14	37
GROUP COHERENCY	.32*	34
INTERVIEW COHERENCY	.08	37
POOR RECALL	-.41**	37
FULFILLMENT	.15	36

\*p  $\leq$  .05

\*\*p  $\leq$  .01

as having attended group (POOR RECALL) related to a lower attitude score. The GROUP COHERENCY and POOR RECALL seem to indicate that experiencing confusion, blurred memory, or similar problems were related to a more negative evaluation of medication. AGE, SEX, EDUCATION, ENCOURAGEMENT, INTERVIEW COHERENCY, and FULFILLMENT failed to yield significant correlations with attitude score.

## 2. Regression Analyses

### a) Model and Assumptions

Multiple linear regression analysis was used to analyze the relationship between the dependent variable (composite attitude score) and the set of independent variables which were determined significant with zero-order correlations. The multiple regression model can be written as shown in Figure IV-1. According to Pindyck and Rubinfeld, 1976, the assumptions of this model are:

- 1) The model is specified by Figure IV-1, (i.e. the underlying relation is linear).
- 2) The X's are nonstochastic. Furthermore no exact linear relationship exists among two or more of the independent variables.
- 3a) The error term has an expected value of zero and constant variance.

FIGURE IV-1. MULTIPLE REGRESSION MODEL

$$Y_i = b_1 + b_2 X_{2i} + b_3 X_{3i} + \dots + b_k X_{ki} + e_i$$

$i = 1, 2, 3, \dots n$ ; the number of cases analyzed

$k =$  the number of independent variables

$e_i =$  the random variable representing error

$b_1 =$  the constant term or intercept

$b_2, b_3, \dots b_k$  are coefficients of variables  
determined by analysis

- b) Different observations have uncorrelated corresponding errors.
- c) The error variable is normally distributed.

#### b) Analytic Procedure

The preliminary regression analyses determined which of the independent drug and respondent variables contributed significantly to the explanation of attitude. Those variables shown to be insignificant were removed sequentially from the regression equation until only the significant variables remained.

For each of the final regression equations, standardized residuals were plotted against the estimated Y values. These were examined to determine if the assumptions about the errors were met. The overall pattern of the plots indicated that the errors had constant variance. From this information and the  $R^2$  values for each regression equation, it was assumed that a linear model was appropriate for analyses.

#### c) Regression Models

Tables IV-7 and IV-8 show the regression equations and statistics used to eliminate UNIT MD and GROUP COHERENCY from the model. Table IV-9 shows the regression model with the remaining variables. POOR RECALL, NEGATIVE EVAL, and LITHIUM remained significant variables in this preliminary regression

TABLE IV-7. REGRESSION RELATING UNIT MD, POOR RECALL, GROUP COHERENCY, NEGATIVE EVAL, AND LITHIUM TO COMPOSITE ATTITUDE SCORE (N = 34)

Attitude Score	Coefficients <sup>a</sup> of							R <sup>2</sup>	df	F
	UNIT MD	POOR RECALL	GROUP COHERENCY	NEGATIVE EVAL	LITHIUM	inter-cept	R <sup>2</sup>			
b	2.01	-1.92	.85	-1.55	-2.29	5.73	.60	.53	28	8.38**
B	.30	-.40	.20	-.39	-.27					
F	5.06*	10.10**	2.43	8.30**	4.27*					

<sup>a</sup>Row b gives unstandardized regression coefficients.

Row B gives standardized regression coefficients.

Row F gives partial F statistics.

\*p ≤ .05

\*\*p ≤ .01

TABLE IV-8. REGRESSION RELATING UNIT MD, POOR RECALL, NEGATIVE EVAL,  
AND LITHIUM TO COMPOSITE ATTITUDE SCORE  
(N = 37)

	Coefficients <sup>a</sup> of									
	UNIT MD	POOR RECALL	NEGATIVE EVAL	LITHIUM	inter- cept	$R^2$	$\bar{R}^2$	df	F	
Attitude Score	b	1.47	-2.27	-1.55	-2.16	8.87	.44	.37	32	6.26**
	B	.21	-.44	-.35	-.25					
	F	1.90	10.71**	6.17*	2.90					

<sup>a</sup>Row b gives unstandardized regression coefficients.  
Row B gives standardized regression coefficients.  
Row F gives partial F statistics.

\*p  $\leq$  .05

\*\*p  $\leq$  .01

TABLE IV-9. REGRESSION RELATING POOR RECALL, NEGATIVE EVAL,  
AND LITHIUM TO COMPOSITE ATTITUDE  
(N = 37)

Attitude Score	Coefficients <sup>a</sup> of				inter- cept	R <sup>2</sup>	df	F
	POOR RECALL	NEGATIVE EVAL	LITHIUM	R <sup>2</sup>				
b	-2.32	-1.30	-2.93	10.02	.41	.35	33	7.52**
B	.45	.30	.34					
F	10.92**	4.63*	6.42*					

<sup>a</sup>Row b gives unstandardized regression coefficients.  
Row B gives standardized regression coefficients.  
Row F gives partial F statistics.

\*p ≤ .05

\*\*p ≤ .01

equation.

### C. Analyses of Independent Communication Variables

#### 1. Zero-order Correlations

The next step in analyses was to consider the zero-order correlations of the eight different communication categories with the composite attitude score. The first dimension that was examined was content to determine what, if any, relations existed between attitude and net positive (i.e. positive minus negative) communications and whether the two categories of communications should be combined. Table IV-10 shows these correlations. Contrary to what was predicted, the net positive communication did not relate significantly to composite attitude score. Hypothesis three was rejected. Both the separate positive and negative content communications had correlations near zero with the composite attitude score. Therefore, during the remainder of all analyses, positive and negative communications were not treated as having different signs and were simply added together.

Table IV-10 also contains the zero-order correlations for the other communication categories (from the target, source, and specificity dimensions). None of the categories correlated significantly with composite attitude score except specific

TABLE IV-10. ZERO-ORDER CORRELATIONS BETWEEN COMPOSITE ATTITUDE SCORE AND INDEPENDENT COMMUNICATION CATEGORIES (N = 37)

Independent Communication Category	Composite Attitude Score
target:	
direct	-.06
overheard	-.05
source:	
professional	-.03
client	-.07
content:	
positive	-.09
negative	-.02
(net positive) <sup>a</sup>	-.18
specificity:	
specific	-.39**
nonspecific	.08

<sup>a</sup>Net positive = positive - negative

\*\*p ≤ .01

communications. Communications during the meeting which specifically pertained to the medication were negatively related to the respondent's attitude toward that medication. Based on the lack of significance from the target and source dimensions, hypotheses one and two could not be tested. Hypothesis four, pertaining to the specificity of communications remains.

In order to elucidate the relation between specific communications and attitude, the specific communications were broken down into the initial communication variables which composed them (see Table II-4). The direct communications were not considered because of the extremely low frequencies of the variables that were both direct and specific. The zero-order correlations of the overheard communications are shown in Table IV-11. All of the overheard communication variables which were specific in focus (OPPS, OCPS, OPNS, OCNS) significantly correlated with composite attitude score. All these variables had negative correlations. This relationship held regardless of the source of the communication (professional versus client) and content (positive versus negative).

## 2. Correlation Matrix

A case by case review was done. It appeared that, in those cases where the medication was lithium, there was a high amount

TABLE IV-11. ZERO-ORDER CORRELATIONS BETWEEN COMPOSITE ATTITUDE SCORE AND OVERHEARD SPECIFIC COMMUNICATION VARIABLES (N = 37)

Independent Variable	Composite Attitude Score
OPPS - Overheard Professional Positive Specific	-.33*
OCPS - Overheard Client Positive Specific	-.28*
OPNS - Overheard Professional Negative Specific	-.43**
OCNS - Overheard Client Negative Specific	-.47**

\*p ≤ .05

\*\*p ≤ .01

of communication and a low attitude score. Table IV-12 shows the correlation matrix with these independent drug and respondent variables from the preliminary regression equation. Specific communications were also included. This correlation matrix was used to: a) further examine the relationship between LITHIUM and the communications and b) to search for multicollinearity. The correlation matrix was done using the thirty-seven cases reported in Tables IV-5, IV-6, and IV-11 and which were used in subsequent regression analyses.<sup>1</sup>

The correlation matrix (Table IV-12) reveals that being on lithium highly correlated with specific communications. A closer examination of specific communications substantiates this. Table IV-13 shows the percentage of overheard specific communication variables which pertained to lithium. Even though fluphenazine decanoate (N = 9) was the most frequently prescribed medication in the study, Table IV-13 reveals that lithium was by far the medication most often mentioned during group meetings. This held true for each overheard specific communication.

Basic problems for subsequent statistical analyses are apparent. First, if the lithium cases are not included in analyses, the scores on the specific communication category falls so dramatically that it is no longer a statistically useful category. Second, there is not a sufficient number of lithium cases to do analyses on separately. Third, Table IV-12

TABLE IV-12. CORRELATION MATRIX WITH INDEPENDENT DRUG OR  
RESPONDENT VARIABLES FROM PRELIMINARY REGRESSION  
EQUATION AND SPECIFIC COMMUNICATIONS  
(N = 37)

	1	2	3	4
1) LITHIUM	1.00			
2) POOR RECALL	.03	1.00		
3) NEGATIVE EVAL	.16	-.17	1.00	
4) Specific communications	.64***	.05	.10	1.00
means	.16	.30	.24	12.68
standard deviation	.38	.62	.72	21.06

\*p ≤ .05

\*\*p ≤ .01

\*\*\*p ≤ .001

TABLE IV-13. PERCENTAGE OF OVERHEARD SPECIFIC COMMUNICATIONS PERTAINING TO LITHIUM

Independent Communication Variable	Total Number	percentage of communications that were about lithium <sup>a</sup> (N = 7)
OPPS - Overheard Professional Positive Specific	115	83.5
OCPS - Overheard Client Positive Specific	108	53.7
OPNS - Overheard Professional Negative Specific	48	64.6
OCNS - Overheard Client Negative Specific	86	67.4
-----		
total overheard specific communications	357	68.1

<sup>a</sup>Seven (17%) of the forty-one prescribed medications were lithium.

shows that extreme multicollinearity exists such that there is no acceptable way to perform regression analysis using the LITHIUM variable and specific communications concurrently.

The problem of multicollinearity requires further discussion in terms of the implications it had for testing hypothesis four. Prior to testing  $H_4$ , significant independent drug and respondent variables (see Table IV-9) were to be controlled for in the regression equation. To test  $H_4$ , specific communications were to be added to the regression equation to determine if they added significantly to the explanation of attitude. Since LITHIUM was one of the variables that remained significant in the regression equation, the multicollinearity precluded the addition of specific communications to test  $H_4$ .

### 3. Regression Model

The regression equation was still computed for specific communications but LITHIUM was not included. A spurious relationship between attitude and specific communications is suggested.

Table IV-14 shows the addition of specific communications to the regression equation with the composite attitude score controlling for POOR RECALL and NEGATIVE EVAL. All show a

TABLE IV-14. REGRESSION RELATING POOR RECALL, NEGATIVE EVAL,  
AND SPECIFIC COMMUNICATIONS TO COMPOSITE ATTITUDE  
SCORE  
(N = 37)

	Coefficients <sup>a</sup> of							
	POOR RECALL	NEGATIVE EVAL	specific comm.	inter- cept	R <sup>2</sup>	$\bar{R}^2$	df	F
Attitude Score	b -2.29	-1.39	-.05	10.19	.40	.34	33	7.30**
B	-.44	-.32	-.33					
F	10.49**	5.26*	5.96*					

<sup>a</sup> Row b gives unstandardized regression coefficients.  
Row B gives standardized regression coefficients.  
Row F gives partial F statistics.

\*p  $\leq$  .05

\*\*p  $\leq$  .01

negative relationship. Figure IV-2 summarizes these results.

#### E. Summary

The preliminary regression analysis obtained a regression equation with three significant independent variables which were drug or respondent related: POOR RECALL, NEGATIVE EVAL, and LITHIUM. Two variables were eliminated that had significant zero-order correlations with composite attitude: UNIT MD and GROUP COHERENCY.

Only specific communications related significantly to composite attitude score. Hypotheses one and two could not be tested. Hypothesis three was rejected. Because of the high correlation between LITHIUM and the specific communications, hypothesis four could not be tested. A spurious relationship between attitude and specific communications is proposed. When LITHIUM was not included in the regression and specific communications were added, they were significant.

The final regression models are shown in Figure IV-3. All coefficients of the independent variables were negative. The  $R^2$  values were: 1) .41 and 2) .40. These values suggest that a significant portion of the variation in composite attitude score was explained by the independent variables of each model. It was not possible based on the data here to choose between the two models.

FIGURE IV-2. SUMMARY OF SIGNIFICANT VARIABLES

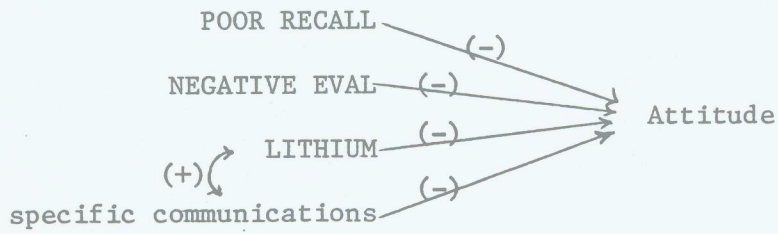


FIGURE IV-3. FINAL REGRESSION MODELS

$$(1) Y_i = b_1 + b_2(\text{NEGATIVE EVAL}) + b_3(\text{POOR RECALL}) + b_4(\text{LITHIUM}) + e_i$$

$$(2) Y_i = b_1 + b_2(\text{NEGATIVE EVAL}) + b_3(\text{POOR RECALL}) + b_4(\text{specific communications}) + e_i$$

$Y_i$  = attitude score

$i$  = 1, 2, 3, ... n; the number of cases analyzed

$e_i$  = the random variable representing error

$b_1$  = the constant term or intercept

$b_2, b_3, b_4$  are coefficients of variables determined by analysis

## FOOTNOTES

## CHAPTER IV

1. Forty-one medications were initially used in analyses but 4 cases were not included in correlations because the attitude portion of the interview was never completed.

## CHAPTER V

## DISCUSSION AND CONCLUSIONS

The main purpose of this paper was to provide greater insight into medication group discussions, and to examine the relationship between these communications and patients' attitudes toward their psychotropic medications. In the introduction, the importance of the patient's perspective was emphasized and the task was defined to be elucidating the patient's attitude and one potential influence of that attitude --- medication-related communications.

The results involving the independent communication categories were inconclusive. Contrary to the impressions of other authors concerning medication groups' meetings, when the communications from this particular medication group's sessions were analyzed, it appeared that low amounts of direct communications and client-to-client communications occurred. The extremely low frequencies of the direct or client-source communications precluded evaluation of their impact on attitudes. The relationship between lithium and communications prohibited further analyses of communications.

The high amounts of lithium-specific communications may be partially accounted for by the condition of several people who were urged during the meetings to take lithium or to continue to take it. These people often assertively dominated the group discussions, especially if manic or hypomanic at the time.

Experiences described by Ellenberg and his colleagues (1980) with their group discussions were similar. According to them, schizophrenics usually had little to say during groups while manic-depressives did a great deal of talking. More productive medication groups may result from having participants be more homogeneous.

Overall, the independent drug and respondent variables which significantly related to patients' attitudes were all in the expected direction, with one critical exception. As expected, inaccurate recall and negative evaluation of the medication at the time of group meeting related to low attitude score, while coherency at time of group and having the prescribing physician at the site related to a more positive attitude. Unexpectedly, lithium was related to a more negative evaluation than the other medications.

As suggested by Svarstad (in press), the patient must properly comprehend what to do before attitude toward therapy can have an influence. It appears, from the study done here, that ability to recall the event and coherency at the time are associated with the patient's attitude. Patients who feel confused about the physician's instructions or simply cannot remember what is expected of them, may transfer these feelings to their assessment of the medication and consider the medication unimportant or unnecessary. Their questions may remain unanswered and they

may be uncertain of how to deal with problems or side-effects. Research attempting to assess patients' attitudes will need to pay attention to comprehension and recall of instructions.

It can only be speculated why having the on-site psychiatrist as a prescriber was associated with more positive attitudes toward the medication. It is possible that this related to:

a) the supervision a client received, b) easy access to a physician and having problems or complaints dealt with quickly, c) the amount of encouragement or social support for medication-taking from the unit's environment, or d) the unique qualities of the particular psychiatrist located at the unit.

Based on side-effects alone, it was not predicted that lithium users would evaluate their lithium more negatively than people would evaluate other psychotropic medications (such as phenothiazines). Other factors may contribute to the unanticipatedly low appraisal of lithium such as:

1) the experience of mania by lithium users, 2) exposure to another client with severe lithium side-effects, or 3) the chronicity of medication therapy.

People often described their manic phases as productive, exhilarating, or something they enjoyed. Steve (who was somewhat manic at the time) claimed that he liked to "race". In his words: "I like being crazy. I have more fun being crazy. I don't... I don't get crazy all the time. But when

I want to have fun, I just act crazy... sure." Clients experiencing mania may deny being manic and needing lithium. Steve said: "I'm in too good a shape to be taking that [lithium] right now... 'Cause I haven't had any trouble with my moods... I'm always in a good mood..." Jamison and her colleagues (1980) actually asked their sample of patients a series of questions concerning their hypomanic or manic episodes. Their results indicated that patients perceived these experiences positively. In a related study, the same researcher found the second most common reason patients reported discontinuing lithium treatment was because they missed their "highs" (Jamison et al., 1979).

A second possible reason for the low evaluation of lithium may be specific to the site at which the study was conducted. A lithium user at the site had experienced a rare reaction which was subsequently attributed to the lithium. This woman, over the course of about two years, lost all the hair over her entire body. She presented a poignant physical example for other lithium users.

A third factor which may contribute to lithium reluctance was the duration of the intended therapy. Lowering dosages or discontinuing medication was frequently mentioned by the psychiatrist, but never in reference to lithium. A patient prescribed lithium and hearing that others could take decreasing

amounts of medication, may have resulted in the lithium user desiring the same for his medication.

Obviously further studies are needed to substantiate these proposed reasons for low evaluations by lithium users and explanations of the other independent drug/respondent variables. On a general level, more information is needed concerning how patients arrive at assessments of their medications and what social factors influence their attitudes. More information is needed about: a) patients' attitudes toward psychotropic medications of varying classes, b) social influences affecting the chronically mentally ill patient as he attempts to maintain himself in the community, and c) the dynamics of communications in such settings as medication group meetings.

The influence of communications from other clients on individual attitudes may be better determined by comparison of two randomly assigned groups of clients: a) clients attending medication group meetings only and b) clients seeing the psychiatrist during one-to-one appointments only. Medication group meetings which involve a small number of people, consistently attending, and homogeneously defined based on the medication the person is prescribed, may result in greater client similarity and client-to-client communications.

On a more specific level, it would clearly be desirable to replicate the study reported here. Several possible directions

should be also considered. To gain a more generalizable assessment of patients' attitudes, a larger sample of people at multiple sites should be used. It would be desirable to examine attitude development or change rather than simply measure attitude at one point in time as was done here. A longitudinal assessment, or assessing attitudes both prior to and after attendance at group meetings, could be done.

Tape recording, verbatim transcribing, communication coding, and transferring the codes to variables for computer analyses were arduous and time consuming tasks. Personally conducting all interviews, while educational and rewarding, also added further time constraints. Better techniques need to be determined and utilized so that research time is spent as productively as possible and the burden of conducting studies such as this is reduced.

The findings presented from this study have both theoretical and practical implications. Models designed to predict or explain patients' attitudes toward their medications will need to consider the patients' ability to recall and comprehend the information pertaining to the medications and the dynamics of the situation where the information was transferred. Multiple factors will need to be included in the models since diverse variables influence attitudes. It is important to determine what prior attitudes patients held and what various types

of communications are required to influence these different attitudes.

Lithium should not continue to be an ignored medication. Professionals need to take a new look at lithium and how their clients are evaluating it. The feedback gained from consumers concerning their drugs may provide invaluable indicators of their attitudes toward, and possibly compliance with, their medications.

Professionals cannot assume that, because the information was presented to the client, it was automatically integrated into the client's understanding and acceptance. Realistically, there are occasions when clients are less sensitive to communications and if the communications are to be effective, professionals must keep this in mind.

Finally, the structure and usefulness of medication group meetings need to be reassessed. It is true that dealing with clients in groups is, administratively, a more efficient and economical use of a physician's time than one-to-one appointments. However, the benefits to the clients attending the group sessions needs to be clarified. Possibly more homogeneous groups of clients than that studied here should be considered.

The present study emphasizes the extent of our deficiencies in understanding the "patient's rationality". It merely represents a first step to better understanding communications and patients' attitudes toward their medication.

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APPENDIX A

DESCRIPTION OF CONFIDENTIALITY, INFORMED  
CONSENT AND CONSENT OF STAFF; INFORMATION  
SHEET; CONSENT FORM FOR MEDICATION GROUP  
SURVEY; CERTIFICATION OF COMPREHENSION

BY MEMBERS

### CONFIDENTIALITY

Prior to the start of data collection, the research committee of the institution was informed in writing of the details of the study. It was agreed upon that all data would be kept confidential. The institution, professionals, or clients would not be identifiable in subsequent reports or discussions. All data collection, including the auditing of the clients' records, was to be done by the graduate student researcher. The research committee approved the proposal and the project began.

### INFORMED CONSENT

At the beginning of each group session, the graduate student researcher introduced herself and explained the nature of the study. In addition to a verbal explanation, the participants received a letter ("Information Sheet") which described the study and solicited their participation. After participants had the opportunity to ask questions and receive clarification, a sign-up sheet ("Consent Form For Medication Group Survey") was circulated to obtain participants' written consent. Those wishing to participate were asked to sign their names.

Only those people consenting to participate were included in the study. Clients not wishing to participate had their conversations erased from the tape after the conclusion of the meeting. Respondents were assigned random case numbers

to assure their anonymity once data collection was completed.

The psychiatrist conducting the medication group meeting was asked to act on behalf of the clients and supervised the explanation described above. He subsequently was requested to attest to the comprehension of respondents and the voluntary nature of their participation (see "Certification of Comprehension").

#### CONSENT OF STAFF

Before conducting the project, the case managers at the unit were informed of the nature of the study and were given the opportunity to discuss it with the graduate student researcher. Other key personnel who were involved in the care of study respondents were also informed. The participation of the psychiatrist and other professionals who attended the medication group meetings was voluntary.

CENTER FOR HEALTH SCIENCES

School of Pharmacy

425 North Charter Street

Madison, Wisconsin 53706

Telephone: 608/ 263-3959

INFORMATION SHEET

May 15, 1980

Dear (unit name) member:

I am a student at the School of Pharmacy at the University of Wisconsin - Madison. During the next few months, I will be conducting a survey involving people who attend the medication group which meets on Thursday afternoon. The general purpose of the study is to gain a better understanding of 1) what type of communication occurs during the medication group, and 2) how the medication group affects members' feelings about their medication. It is hoped that the kinds of information gained by this survey will help us learn more about what kinds of services are useful or how more effective help can be provided.

Participation is voluntary and all information collected will be kept confidential. Participation would involve the following:

- a) permission to tape record the medication group's meetings. Anyone not wishing to be part of the study will have their conversations erased from the tape to assure their right to privacy.
- b) one telephone interview lasting about 20 minutes. People who agree to participate will be contacted by telephone in the next few weeks. Those people who do not have a telephone will be asked permission to be interviewed at the (name of unit) at a time convenient for them. Since only one interview is asked of each participant, you will not be contacted again if you have already been interviewed.
- c) permission to allow review of the member's records to determine what kinds of medications are being used and to obtain necessary background information pertaining to group members.

Any member is free to withdraw his or her consent and to stop participating at any time without influencing subsequent care. Members have the right to be provided with answers to their questions about the study and what measures will be taken to protect their privacy and welfare. You can contact me when I am at the (name of unit) on Thursday afternoons or by calling me at 263-3959.

During the medication group, I will pass around a sign-up sheet. I ask that you read the summary and sign the form if you are willing to participate in the survey. I look forward to talking to you and appreciate your cooperation.

Sincerely,

  
Pamela A. Robers

I have read the "Information Sheet" regarding the survey being conducted by Pamela Robers, and hereby consent to participate.

Signatures of members willing to participate:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Signatures of witnesses:

Date: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

CERTIFICATION OF COMPREHENSION BY MEMBERS

119

Members attending the medication group meeting have received a copy of the Information Sheet describing the study to be conducted by Pamela A. Robers. All aspects of this letter (i.e. the Information Sheet) have been explained verbally to the members at the beginning of the group session and members have had their questions clarified.

I hereby certify that those members consenting to participate in the study have comprehended the information given, understood the nature of the study, and have autonomously consented to participate.

Signature of psychiatrist conducting medication group session:

---

Signature of graduate student researcher:

---

Date of medication group session:

---

APPENDIX B  
INTERVIEW SCHEDULE

Member code no.: \_\_\_\_\_

INTERVIEW FORMAT

3a. Date of interview: \_\_\_\_\_

b. Date of attendance at medication group: \_\_\_\_\_

----- (cutting line)

1. Member's name: \_\_\_\_\_

Member code no: \_\_\_\_\_

2. Telephone number: \_\_\_\_\_

If no telephone, place of interview: \_\_\_\_\_

Member code no.: \_\_\_\_\_

Medications - Oral Compliance

4. Since the last time you were at the medication group at the (name of unit), have you used any prescription medications that are taken by mouth?

\_\_\_\_\_ yes \_\_\_\_\_ no

(If "no" to Q.4, proceed to Q.10)

(If "yes" to Q.4, proceed with Q.5 through Q.9)

5. What medications did you take by mouth?

---



---



---

- 6a. Do you take x yourself or does someone give it to you?  
(If someone administers...  
Q: Who is that person?)

Drug<sub>1</sub>Drug<sub>2</sub>

\_\_\_\_\_ self

\_\_\_\_\_ self

\_\_\_\_\_ nurse

\_\_\_\_\_ nurse

\_\_\_\_\_ parent or  
guardian\_\_\_\_\_ parent or  
guardian

\_\_\_\_\_ spouse

\_\_\_\_\_ spouse

\_\_\_\_\_ other: \_\_\_\_\_

\_\_\_\_\_ other: \_\_\_\_\_

- b. (If member responds "self" to 6a...) For the medications that you give yourself, is there someone who reminds you to take the medication(s)?

\_\_\_\_\_ yes

\_\_\_\_\_ yes

\_\_\_\_\_ no

\_\_\_\_\_ no

7. The last time x was prescribed for you, was it prescribed for you by a doctor at the (name of the unit)?

\_\_\_\_\_ yes

\_\_\_\_\_ yes

\_\_\_\_\_ no

\_\_\_\_\_ no

x = focus on the major psychotropic agent(s)  
i.e. the antipsychotic or antidepressant  
agent(s) or lithium

Member code no.: \_\_\_\_\_

I am going to ask you some questions about the medications you took yesterday, that is on (day of week)...

	<u>Drug<sub>1</sub></u>	<u>Drug<sub>2</sub></u>
8a. Yesterday, did you take <u>x</u> ?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
b. Yesterday, did you take <u>x</u> just when you felt you needed it or did you take it at specific scheduled times?	<input type="checkbox"/> prn <input type="checkbox"/> scheduled	<input type="checkbox"/> prn <input type="checkbox"/> scheduled
c. Yesterday, how many times did you take <u>x</u> ?	_____	_____
d. How much did you take each times?	_____	_____
e. At what time of the day did you take <u>x</u> yesterday?	_____	_____

People often forget or miss taking a dose of their medication.

9a. Yesterday, did you miss taking a dose of <u>x</u> ?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
b. Thinking back to the last medication group meeting... During the meeting, did <u>MD name</u> indicate to you how he/she wanted you to take the <u>x</u> ?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
(If yes...)		
- Did he/she want you to take more of the <u>x</u> ?	<input type="checkbox"/> more	<input type="checkbox"/> more
- Did he/she want you to take less of the <u>x</u> ?	<input type="checkbox"/> less	<input type="checkbox"/> less
- Did he/she want you to take it like you took it yesterday, that is... (Repeat 8b - e)?	<input type="checkbox"/> same	<input type="checkbox"/> same

\*\*repeat Q. 6 through 9 for each of the major psychotropic agents

Member code no.: \_\_\_\_\_

Medications - Injection Compliance

10. During the past month, have you used any prescription medications that are given by injection?  yes  no

(If "no" to Q.10, proceed to Q.15)  
(If "yes" to Q.10, proceed with Q.11)

11. What medications do you take by injection?

\_\_\_\_\_  
\_\_\_\_\_

12. Did you receive your last injection at the (name of unit)?  
 at unit  not at unit

13. Was the x prescribed for you by a doctor at the (name of the unit)?  
 yes  no

Since the last time you were at a medication group...

14a. ... did you get an injection of x?  yes  no

b. (If "yes" to 14a)  
Did you get the injection before or after you attended the medication group?  
 before  after

Member code no.: \_\_\_\_\_

Attitudes Toward Medications

	Drug 1	Drug 2
15a. How helpful would you say taking <u>x</u> is for you?	<input type="checkbox"/> very helpful <input type="checkbox"/> somewhat <input type="checkbox"/> not at all <input type="checkbox"/> other: _____	<input type="checkbox"/> very helpful <input type="checkbox"/> somewhat <input type="checkbox"/> not at all <input type="checkbox"/> other: _____
b. How harmful would you say taking <u>x</u> is for you?	<input type="checkbox"/> very harmful <input type="checkbox"/> somewhat <input type="checkbox"/> not at all <input type="checkbox"/> other: _____	<input type="checkbox"/> very harmful <input type="checkbox"/> somewhat <input type="checkbox"/> not at all <input type="checkbox"/> other: _____
16. How necessary do you think taking <u>x</u> is for you?	<input type="checkbox"/> very necessary <input type="checkbox"/> somewhat <input type="checkbox"/> not at all (unnecessary) <input type="checkbox"/> other: _____	<input type="checkbox"/> very necessary <input type="checkbox"/> somewhat <input type="checkbox"/> not at all (unnecessary) <input type="checkbox"/> other: _____
17a. Does taking the <u>x</u> bother you in any way?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
b. (If "yes"...) In what way does it bother you?	_____ _____	_____ _____
c. How much does it bother you?	<input type="checkbox"/> a lot <input type="checkbox"/> somewhat <input type="checkbox"/> very little <input type="checkbox"/> other: _____	<input type="checkbox"/> a lot <input type="checkbox"/> somewhat <input type="checkbox"/> very little <input type="checkbox"/> other: _____
18. Would you say you feel better when taking your <u>x</u> or when not taking it?	<input type="checkbox"/> taking <input type="checkbox"/> not taking	<input type="checkbox"/> taking <input type="checkbox"/> not taking
19. Overall, concerning the <u>x</u> , would you say you are satisfied or dissatisfied with the medication?	<input type="checkbox"/> satisfied <input type="checkbox"/> dissatisfied	<input type="checkbox"/> satisfied <input type="checkbox"/> dissatisfied

Member code no.: \_\_\_\_\_

Influences

20a. Whom do you talk to about taking your medication(s)?

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_
- e) \_\_\_\_\_

b. Of these people, who influences you the most? \_\_\_\_\_

21. Does (a - e) encourage you or discourage you to take medication(s)?

- a) \_\_\_ encourage \_\_\_ discourage
- b) \_\_\_ encourage \_\_\_ discourage
- c) \_\_\_ encourage \_\_\_ discourage
- d) \_\_\_ encourage \_\_\_ discourage
- e) \_\_\_ encourage \_\_\_ discourage

22. Do you ever discuss taking medications outside of the medication group meetings?

\_\_\_ yes \_\_\_ no

23. At the last medication group that you attended, did you know the names of any of the people there? \_\_\_ yes \_\_\_ no

Whom did you know?

\_\_\_\_\_

\_\_\_\_\_

24. In determining how you use your medications, who would you say is the most competent person to decide this: you/yourself, your prescribing physician, or someone else? (If someone else... who is this person?)

\_\_\_ self \_\_\_ other: \_\_\_\_\_

\_\_\_ Rxing MD

25a. During the last medication group meeting, did other people, that is the group, discuss the particular medication(s) you take?

\_\_\_ yes \_\_\_ no

Which medication(s) were discussed? \_\_\_\_\_

b. During the last medication group meeting, did you discuss your medication(s) with (MD name)?

\_\_\_ yes \_\_\_ no

Which medication(s) were discussed? \_\_\_\_\_

Member code no.: \_\_\_\_\_

26a. What did you hope to get out of attending the last medication group? That is, why did you attend?

---

---

---

b. Did you get what you wanted from the medication group? Or was there something you had needed that was left unfulfilled?

---

---

---

27. Has being a part of the medication group had any influence on how you take your medication(s)?

\_\_\_ yes \_\_\_ no

How has the group influenced you?

---

---

28. Do you have any questions or comments about this study that you would like to ask me?

---

---

---

APPENDIX C  
FORMS USED IN DATA COLLECTION

Member code no: \_\_\_\_\_

## COHERENCY SCORES

DURING MEETING      Score: \_\_\_\_\_

## A. Appropriateness of responses

2 pts: Responses follow conversation and responds appropriately without explanation or prompting

1 pt : Responses sometimes do not logically follow questions or previous conversation, without some further explanation or prompting

0 pts: Responses seldom logically follow questions or previous conversations, without alot of explanation or prompting

## B. Congruity of conversation

2 pts: Conversation appears clear and logical. Thoughts follow each other.

1 pt : Conversation seems somewhat tangential. Thoughts sometimes do not follow each other.

0 pts: Conversation is extremely tangential. Thoughts seldom seem to flow from previous thoughts.

DURING INTERVIEW      Score: \_\_\_\_\_

## A. Appropriateness of responses

2 pts: Responses follow conversation and responds appropriately without explanation or prompting

1 pt : Responses sometimes do not logically follow questions or previous conversation, without some further explanation or prompting

0 pts: Responses seldom logically follow qestions or previous conversations, without alot of explanation or prompting

## B. Congruity of conversation

2 pts: Conversation appears clear and logical. Thoughts follow each other.

1 pt : Conversation seems somewhat tangential. Thoughts sometimes do not follow each other.

0 pts: Conversation is extremely tangential. Thoughts seldom seem to flow from previous thoughts.



MEMBER CHART REVIEW - PRESCRIPTION RECORDS

Member code no: \_\_\_\_\_ Interview date: \_\_\_\_\_

In the space provided below, fill in the requested information pertaining to major psychotropic agents (antipsychotics, anti-depressants, or lithium). Record only the most current information and only for those medication prescribed for consumption at the time of the interview with the member.

date of Rx	medication	sig	prescribing MD	comments

Review the prescription records from the past several months for each drug listed above and complete the information below. Relative to the interview date, NEW pertains to how recently the medication was first prescribed for the client. Relative to the interview date, CHANGE pertains to how recently the dose or dosage regimen of the drug was changed.

	<u>NEW</u>	<u>CHANGE</u>
Drug 1)	___ x ≤ 7 days	___ x ≤ 7 days
	___ 8 ≤ x ≤ 30 days	___ 8 ≤ x ≤ 30 days
	___ x > 30 days	___ x > 30 days
Drug 2)	___ x ≤ 7 days	___ x ≤ 7 days
	___ 8 ≤ x ≤ 30 days	___ 8 ≤ x ≤ 30 days
	___ x > 30 days	___ x > 30 days
Drug 3)	___ x ≤ 7 days	___ x ≤ 7 days
	___ 8 ≤ x ≤ 30 days	___ 8 ≤ x ≤ 30 days
	___ x > 30 days	___ x > 30 days

APPENDIX D

CODING SCHEMES FOR VARIABLES

(other than communication variables)

Dependent Variable and Components

<u>Variable:</u>	<u>Coding:</u>
HELPFULNESS (interview question 15a)	0 = not at all helpful 1 = don't know 2 = somewhat helpful 3 = very helpful
HARMFULNESS (interview question 15b)	0 = very harmful 1 = somewhat harmful 2 = don't know 3 = not at all harmful
NECESSITY (interview question 16)	0 = not at all necessary 1 = don't know 2 = somewhat necessary 3 = very necessary
BOTHERSOMENESS (interview questions 17a and c)	0 = yes, a lot 1 = yes, somewhat or very little 2 = don't know 3 = no
BETTER (interview question 18)	0 = better not taking 1 = don't know 2 = better taking
SATISFIED (interview question 19)	0 = dissatisfied 1 = don't know 2 = satisfied
<p>Composite ATTITUDE score = HELPFULNESS + HARMFULNESS + NECESSITY + BOTHERSOMENESS</p>	

Independent Drug Variables

Variables:

Coding:

INJECTION  
(interview questions  
5 and 11)

1 = oral  
2 = injection

OTHER ADMIN  
(interview questions  
6a and 11)

1 = self administered  
2 = nurse, parent, guardian,  
spouse, other (note: all  
injections were coded 2)

OLD RX  
(Member Chart Review -  
Prescription Records)

1 = first prescribed less than  
or equal to 30 days of interview  
2 = first prescribed greater than  
30 days prior to interview

LITHIUM  
(as classified by ASHP  
Formulary Service based  
on Member Chart Review -  
Prescription Records)

0 = antidepressants or major  
tranquilizers  
1 = lithium

NEGATIVE EVAL  
(coded from transcriptions  
and "Study Participant as  
Source" tally sheets)

Total number of negative  
evaluative communications  
made during meeting by client  
about his specific medication.

Independent Respondent VariablesVariables:Coding:

AGE  
(Member Chart Review -  
Background Information  
No.2)

Record age of respondent at  
time of attendance at med-  
ication group. Record actual  
years.

SEX  
(Member Chart Review -  
Background Information  
No. 1)

1 = female  
2 = male

EDUCATION  
(Member Chart Review -  
Background Information  
No. 7)

Record number of years of  
school.

UNIT MD  
(interview questions  
7 and 13)

0 = not located at unit  
1 = located at unit

ENCOURAGEMENT  
(interview question 21)

Score +1 for each person listed  
as encouraging medication use.  
Score -1 for each person said  
to discourage medication use.  
Add scores together to get  
net encouragement.

GROUP COHERENCY  
(Coherency Score, During  
Meeting)

Score of coherency that the  
respondent received during the  
medication group session.  
(range: 0 - 4)

INTERVIEW COHERENCY  
(Coherency Scores, During  
Interview)

Score of coherency the respon-  
dent received during interview.  
(reange: 0 - 4)

POOR RECALL  
(interview question 23)

The number of clients the  
respondent listed by name as  
being at the medication group  
meeting but who were not  
actually there.

Independent Respondent Variables (cont.d)Variables:

FULFILLMENT  
(interview question 26b)

Coding:

0 = no, something was left  
unfulfilled  
1 = yes, got what was needed or  
wanted

APPENDIX E  
CODING CONVENTIONS  
FOR TRANSCRIPTIONS;  
TRANSFERRING TRANSCRIPTION  
CODES TO VARIABLES

CODING CONVENTIONS FOR TRANSCRIPTIONS

GENERAL INFORMATION

- 1) Prior to coding the transcriptions, each is reviewed and the initials of the people listed as participating in the study that week are circled.
- 2) Code only communications related to psychotropic medications (eg. antidepressants, antipsychotics, lithium). See the guide below.

Antidepressants:

- imipramine (Tofranil)
- tranylcypromine (Parnate)

Tranquilizers:

- chlorpromazine (Thorazine)
- fluphenazine HCl (Prolixin - oral)
- fluphenazine decanoate (Prolixin - injection)
- haloperidol (Haldol)
- thiothixine (Navane)
- trifluoperazine (Stelazine)
- thioridazine (Mellaril)
- molindone (Moban)

Other:

- lithium (Lithobid)

eg.

(A) : B [Are you taking Prolixin?] -----> (C) C U Prolixin  
 B : (A) [Yes.] [Three tablets a day,] [and shots.] { (B) C T Prolixin  
 (A) : B [Don't you get side-effects?] -----> (C) C D Prolixin  
 (A) : B [Don't you get side-effects?] -----> (C) C T Prolixin (shots)  
 B : (A) [Yes. Some.] But I take Cogentin. -----> (C) C K Prolixin  
 B : (A) [Yes. Some.] But I take Cogentin. -----> (D) C Y Prolixin

- 3) Each sentence, phrase, or group of sentences that communicates a completed thought is given a four symbol code. The first symbol represents the target of the transmission; the second symbol the source of the transmission; the third symbol the content of the message; and the fourth symbol represents the specificity. Each of these symbols are discussed in greater detail below with examples.

eg. (A) : B [I've been taking medication a couple of months.] [And I was off for about a month.] [I got real depressed back when I first started taking it.] [I went off it...] (C) C D G  
 [I was crying all the time.] [Without my medication I feel great.] (C) C X G  
 (C) C Y G  
 (C) C N G  
 (C) C Y G  
 (C) C Y G

eg. B :  $\textcircled{A}$  [I'm taking Prolixin.] [I am taking it two times a day.]  $\textcircled{D}$  C T Prolixin  
 $\textcircled{D}$  C D Prolixin

eg.  $\textcircled{C}$  : D [I want to control my mind. I don't want the medication to control me.]  $\textcircled{D}$  C Y G

The discussion of the content symbol should be thoroughly reviewed to assist in determining the means of grouping. If a phrase communicates one message (as described in that section) then it receives one code. If a phrase delivers two messages (both described in the content coding section) the message is given two codes... each component being coded separately.

eg.  $\textcircled{A}$  : B [I stopped taking my lithium] because  $\textcircled{D}$  C N Lithium  
[it makes me throw-up.]  $\textcircled{D}$  C Y Lithium

CODE FOR TARGET OF COMMUNICATION

Scoring:  $\textcircled{D}$  = direct This code indicates that the person being spoken to is participating in the study and that the message has no value when overheard by others or cannot be overheard by others. The initials will have been circled as described in the General Information section. This code is rarely used since most communications are also of indirect value. The use of this is described more fully below.

$\textcircled{O}$  = overheard This code indicates that the person being spoken to is not a study participant. (The initials are not circled.)

$\textcircled{D}$  = direct/overheard Most communications made directly to a study participant are overheard by others. the code  $\textcircled{D}$  applies to these communications.

eg. Assume client A is in the study, but client B is not...

B :  $\textcircled{A}$  [You should take your lithium.]  $\textcircled{D}$  C T Lithium

$\textcircled{A}$  : B [But it makes me sick to my stomach.]  $\textcircled{O}$  C Y Lithium

1) Comments that pertain only to that client are not coded as being overheard by others.

eg. B :  $\textcircled{A}$  [If you're throwing up again, Joe, take more Haldol.]  $\textcircled{D}$  C I Haldol  
... scored only for client A

eg. B : C      Take an extra Mellaril if you can't  
deal with the children.

No code...  
client C is  
not in study

2) When two or more conversations are going, code the main conversation (left column) for the direct and overheard communications. Code the secondary conversations only for the direct effects on the people involved (i.e. code no overheard communications). Exception: if a person picks up on a secondary conversation and becomes involved in it, assume he was directly involved during the preceding two speakers' lines and code overheard communications that specifically apply to this person.

3) If a person makes a comment to the group (indicated by "G." on the transcript) it is scored only as overheard (O).

eg. B : G.      [I want to be off drugs.] [I don't like taking anything.]

Ⓟ CNG  
Ⓟ CEG

CODE FOR SOURCE OF COMMUNICATION

Scoring: P = professional (eg. staff person)  
C = client

1) Refer to the list of initials for professionals/nonclients that were at each group meeting. For all initials on this list, code P (professional) when they are the source of a message. Any initials not on this list are considered C (clients).

eg. Assume X is a professional...

X : Ⓝ [How much lithium are you taking?] Ⓟ PU Lithium

Ⓝ : X [Three a day.] Ⓟ CD Lithium

Y : Ⓝ [At what time?] Ⓟ CU Lithium

Ⓝ : Y [Breakfast, lunch and supper.] Ⓟ CD Lithium

CODE FOR CONTENT OF COMMUNICATION

Scoring:

Statements:

T = statements which convey that the person is taking, was taking, should be taking, will be taking, wants to be taking a drug.

- Distinguish these from statements where the dosage regimens are mentioned as part of the "taking" phrase.

- eg. (A) : B [I take Prolixin.] (C) CT Prolixin
- B : (A) [I take lithium three times a (D) CD Lithium day.]
- (A) : B [I take lithium] and then (C) CT Lithium
- [Prolixin once each day.] (D) CD Prolixin

N = statements which convey that the person is not taking, was not taking, will not take, should not take, cannot take a drug.

- Distinguish these from statements where dosage regimens are mentioned as part of the "not taking" phrase.

- eg. (A) : B [I won't take lithium.] (C) CN Lithium
- B : (A) [But it will help your highs.] (D) CB Lithium
- (A) : B Well, [I won't take lithium (C) CX Lithium three times a day.]

D = reaffirming a current dose, dosage regimen, dosage times, duration of use.

X = negation of a current dose, dosage regimen, dosage times, or duration of not using. Include descriptions of erratic medication taking when the drug has not been prescribed that way.

C = mention of a future dosage cutback i.e. expressing that the client should be taking less medication, wants to take less, or that the dose will decrease in the future (compared to what is currently being prescribed).

I = mention of future dosage increase i.e. expressing that the client should be on more of the medication, wants to be increased, or that the dosage will be increased (compared to what is currently being prescribed).

H = indication that the client is currently on a higher dose than he once was or is higher than someone else, on a high level, big amount, large dose.

L = indication that the client is currently on a lower dose than he once was or is lower than someone else, on a low dose, small amount, low level.

Note: In considering the coding for C, I,H,L think of what the current usage is and then consider what tense is spoken.

L : If a person was taking more of the drug (past use more than current use)

H : If the person is currently taking more of the drug (current use more than past)

I : If the person will be taking more of the drug (future use more than present)

OR

H : If a person was taking less of the drug (past use less than present)

L : If a person is currently taking less of the drug (present use less than past)

C : If the person will be taking less of the drug (future use less than present)

If the dosages are just stated and no mention of changes or comparison made ... use D or X.

eg. (A) : B [I take Navane three times a day] but [that's not enough.] (C) CD Navane (I) CI Navane

B : (A) [Three times a day].. [That's more than before.] (D) CD Navane (D) CH Navane

(A) : B [Three times a day is more than the two times a day.] (I) CH Navane

B : (A) [When do you take yours?] (D) CU Navane

(A) : B [First thing in the morning.] (C) CD Navane [I only take 2 milligrams.] (C) CD Navane

eg. (C) : D [I'm not taking lithium four times a day.] (C) CX lithium

D : (C) [Why not?] (D) CK lithium

(C) : D [It makes me sick.] [I'll take it 3 times a day instead.] (C) CY lithium (C) CC lithium

eg. (E) : F [Aren't you taking Navane at night?] (C) CU Navane

F : (E) [No.] [I take it twice a day.] (D) CX Navane (D) CD Navane

B = statements which provide information about the drug such as:

- a. benefits of taking or increasing dose
- b. justifications for taking or increasing dose
- c. negation of a deleterious effect

eg. (A) : B [Taking lithium make my mood more stable.] (C) B lithium

eg. B : (A) [I think lithium makes my feet numb.] (D) C Y lithium

(A) : B [That's not from lithium.] (C) B lithium

Y = statements which provide information about the drug such as:

- a. benefits of not taking or decreasing the dose
- b. justifications for not taking or taking less
- c. deleterious effects or side effects
- d. negation of a beneficial effect

eg. (A) : B [I feel more energetic when I don't take drugs.] (C) Y G

B : (A) [Don't they make you feel more stable?] (D) C K G

(A) : B [No way.] (C) Y G

P = opinions or evaluations of the drug or high(er) dose of drug which are positive in their nature (but do not provide information about why the evaluation is expressed).

eg. expressions of liking, needing, or helpfulness, is better, works, satisfaction...

Or a negative expression about a low amount of drug.

eg. B : (A) [I need Parnate.] (D) C P Parnate

(A) : B [Yah, I'm satisfied with it.] (C) C P Parnate

E = opinions or evaluations of the drug or high(er) dose of the drug which are negative in their nature (but do not provide information about why the evaluation is expressed).

eg. expression of being bothersome, harmful, hating it, not needed, doesn't work, don't know what it does, reluctance to use.

Or a positive evaluation about a low amount of drug.

eg. (A) : B [I think the lower dose is useful.] (C) C E G

- eg. B : (A) [I was bothered by the lithium.] (D) C E Lithium
- eg. (A) : B [Why take Navane?] [It doesn't (O) C K Navane  
work anyway.] (D) C E Navane

Questions:

K = seeking information about side-effects, drug effects, benefits of the drug, purposes for use.

- eg. (A) : B [Why should I take lithium?] (O) C K Lithium
- eg. (A) : B [Is sleepiness a side-effect (O) C K Navane  
of Navane?]

U = questions which monitor usage, question dosage or regimens (frequency, times to take, duration of taking/not taking) i.e. pertain to how the drug is taken or if taking.

- eg. B : (A) [Are you taking Lithium?] (D) C U Lithium
- eg. C : (D) [How many times a day do you (D) C U Navane  
take Navane?]
- eg. (E) : F [How long have you been off (O) C U G  
the drugs?]

In summary:

- T = taking
- N = not taking
- D = dosage (current)
- X = negation of dosage (current)
- C = cutback (future)
- I = increase (future)
- H = higher (than past)
- L = lower (than past)

- B = information on benefits
- Y = information on deleterious effects
- P = positive opinion
- E = negative opinion

Questions:

- K = information of effects, side-effects
- U = doses, regimens, how to take

- 1) Conditional statements (eg. beginning with "if...") are to be coded with AMB (ambiguous) unless it conveys a clear message that fits into one of the categories above.
- 2) Responses (yes, no, OK, uh-huh. uh-uh, etc.) are coded if linked with a specific statement or question which gives the response meaning.

- eg. F : (C) Are you taking lithium? (D) P U Lithium
- (C) : P Yes.. (O) C T Lithium

Do not code responses that convey understanding or merely indicate that the person was listening.

eg. (A) : B What I think you should do...

B : (A) Yah.

(A) : B ... [is start taking the Prolixin every day...] (C) C D Prolixin

B : (A) Yah.

(A) : B ... [until you don't feel threatened any more.] (C) C D Prolixin

B : (A) [OK.] (D) C D Prolixin

3) Responses such as "ok", "so-so", "fine" are coded only as AMB unless they convey a clear message.

4) Statements such as "It's up to you to choose..." are also coded AMB.

CODING FOR SPECIFICITY OF COMMUNICATION

Scoring: G = general topic (eg. medications, drugs)  
Specifically list the name of the drug.

1) When the drug's name has been mentioned, write in the name for all of the subsequent conversation pertaining to that drug. If no name has been mentioned or if it's not clear what medication is being referred to, score (G) for general.

eg. (A) : B [I'm taking lithium.] (C) C T Lithium

B : (A) [How much?] (D) C U Lithium

(A) : B [Five a day.] (C) C D Lithium

eg. (C) : D [I hate my medication.] (C) C E G

D : (C) [Why?] (D) C K G

(C) : D [It makes my mind fuzzy.] (C) C Y G

2) When injections of shots are mentioned, score "G (shots)" if no name of drug is mentioned. If the name of the drug is known, use the name of the drug and indicate (shots).

eg. C : P [I'm not going to take shots.] (C) C N G (shots)

eg. C : P [I'm not going to take Prolixin injection.] (C) C N Prolixin (shots)

## TRANSFERRING TRANSCRIPTION CODES TO COMMUNICATION VARIABLES (per drug)

The transcription of the group meeting that the client attended is reviewed for each drug each client was prescribed. Every coded communication is counted (for the time the person was in the room) by simply marking in one of the cells on the drug's tally sheet. Examples of the three types of tally sheets follow. When the review of the transcriptions has been completed, each cell on the tally sheets is totalled.

The following conventions apply.

- 1) If two conversations are occurring, only the conversation the person is involved in is counted for him. If he is not involved in the conversation, the main conversation (left column) is counted.
- 2) No codes are counted during the time a person was obviously sleeping.
- 3) Each communication is a) one made directly (D) to the client taking the drug being coded for and thus the communication is scored on the Direct Communications sheet, or b) one made indirectly (O) but overheard by the client and thus the communication is scored on the OVERHEARD Communications sheet, or c) a communication made by the client taking the drug being coded for. If the communication is one made by the client, it is scored on the Study Participant as Source sheet. The first two types of communications (a and b) will become independent communication variables. The last type (c) will be independent respondent-related variables.
- 4) If the communication is about the drug at the top of the tally sheet, it is scored as specific (S) for the fourth code of the variable. If the communication is NOT about the drug at the top of the tally sheet, it is scored as nonspecific (N).
- 5) If the person is involved in direct communication, and the communication has been given a "G" (general) code for topic of communication, for that person mark it as specific (S) IF it cannot be ambiguous what the topic of conversation was for that person involved.

eg. Client A only takes Haldol.

P : Client (A) [How often are you taking it now?] (D) P U G  
 Client (A) : P [I take my medication every day.] (O) C D G

For client A, these communications are counted as: 1) DPUS, and 2) CDS - scored on the Study Participant as Source sheets.

6) Counts for Prolixin have specific considerations.

a) People taking Prolixin by injection...

- Score all injection comments specifically as Prolixin injection
- For Prolixin or Prolixin (oral) communications, count these as Prolixin injection communications if the content code is B, Y, P, E, K, T, or N. (i.e. count as specific, S).
- For Prolixin or Prolixin (oral) communications, count these as nonspecific (N) communications if the content code is D, X, C, I, H, L, U.

b) People taking Prolixin orally...

- Score all oral comments specifically as Prolixin oral.
- For Prolixin or Prolixin injection communications, count these as Prolixin oral i.e. count as specific (S), if the content code is B, Y, P, E, K, T, or N.
- For Prolixin or Prolixin injection communications, count these as nonspecific (N) communications if the content code is D, X, C, I, H, L, or U.

Code # \_\_\_\_\_

Drug: \_\_\_\_\_

**DIRECT COMMUNICATIONS**

**Client (C)**

**Nonspecific (N)**

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	U	

**Professional (P)**

**Nonspecific (N)**

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	U	

**Specific (S)**

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	L	

**Specific (S)**

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	L	

Code # \_\_\_\_\_

Drug: \_\_\_\_\_

OVERHEARD COMMUNICATIONS

Client (C)

Nonspecific (N)

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	U	

Professional (P)

Nonspecific (N)

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	U	

Specific (S)

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	U	

Specific (S)

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	U	

Code # \_\_\_\_\_

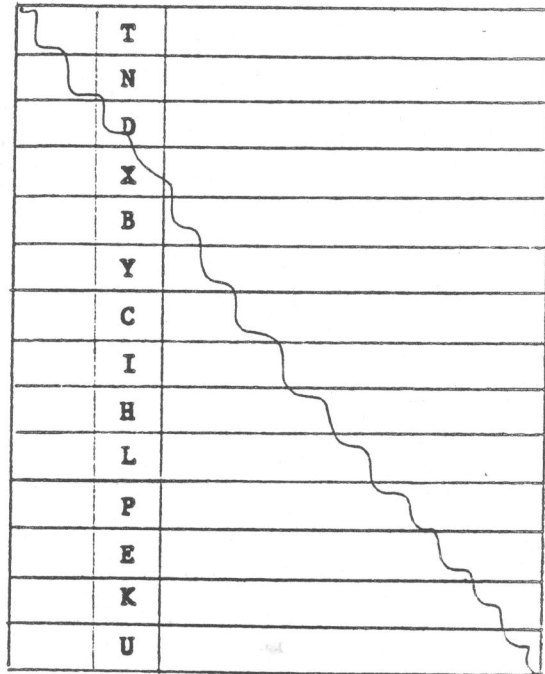
Drug: \_\_\_\_\_

STUDY PARTICIPANT AS SOURCE

Client (C)

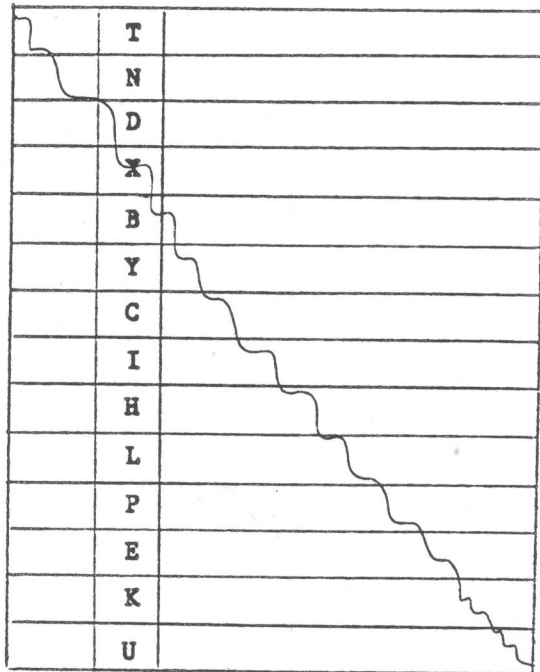
Nonspecific (N)

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	U	



Specific (S)

	T	
	N	
	D	
	X	
	B	
	Y	
	C	
	I	
	H	
	L	
	P	
	E	
	K	
	U	



APPENDIX F

DESCRIPTION OF INDEPENDENT VARIABLES

(other than communication variables)

Independent Drug VariablesVariables:

INJECTION		<u>frequency</u>	<u>percent</u>
(N = 41)	(1) oral	32	78.0
	(2) injection	9	22.0
	mean	1.22	
	std. dev.	.42	
OTHER ADMIN		<u>frequency</u>	<u>percent</u>
(N = 41)	(1) self admin.	21	51.2
	(2) other admin.	20	48.8
	mean	1.49	
	std. dev.	.51	
OLD RX		<u>frequency</u>	<u>percent</u>
(N = 31)	(1) $x \leq 30$ days	4	35.7
	(2) $x > 30$ days	27	64.3
	mean	1.77	
	std. dev.	.62	
LITHIUM		<u>frequency</u>	<u>percent</u>
(N = 41)	(0) not lithium	34	82.9
	(1) lithium	7	17.1
	mean	.17	
	std. dev.	.37	
NEGATIVE EVAL			
(N = 41)	mean	.22	
	std. dev.	.69	
	range	0 - 3	

Independent Respondent Variables<sup>a</sup>Variables:

AGE	mean	34.56		
(N = 41)	std. dev.	9.66		
	range	21 - 56 years		
SEX			<u>frequency</u>	<u>percent</u>
(N = 41)	(1) female		19	46.3
	(2) male		22	53.7
	mean	1.54		
	std. dev.	.50		
EDUCATION	mean	12.56		
(N = 36)	std. dev.	1.86		
	range	10 - 18 years		
UNIT MD			<u>frequency</u>	<u>percent</u>
(N = 41)	(0) not at unit		12	29.3
	(1) at unit		29	70.7
	mean	.71		
	std. dev.	.46		
ENCOURAGEMENT	mean	1.11		
(N = 37)	std. dev.	1.20		
	range	-1 to 3		
GROUP COHERENCY	mean	3.44		
( N = 38)	std. dev.	.89		
	range	1 to 4		

<sup>a</sup>Statistics are reported per drug.

Independent Respondent Variables<sup>a</sup> (cont.d)

Variables:

INTERVIEW COHERENCY (N = 41)	mean	3.44		
	std. dev.	1.00		
	range	0 to 4		
POOR RECALL (N = 39)	mean	.33		
	std. dev.	.62		
	range	0 to 2		
FULFILLMENT (N = 39)			<u>frequency</u>	<u>percent</u>
	(0) no		18	46.2
	(1) yes		21	53.8
	mean	.54		
	std. dev.	.50		

<sup>a</sup>Statistics are reported per drug.