PREDICTORS OF COMPLIANCE AND AGGRESSIVE BEHAVIOR
IN THE PRESENCE OF COMMAND HALLUCINATIONS

THESIS

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF ARTS

By

Mary E. Kasper
Denton, Texas
December, 1994
PREDICTORS OF COMPLIANCE AND AGGRESSIVE BEHAVIOR
IN THE PRESENCE OF COMMAND HALLUCINATIONS

THESIS

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF ARTS

By

Mary E. Kasper
Denton, Texas
December, 1994
Kasper, Mary E. *Predictors of Compliance and Aggressive Behavior in the Presence of Command Hallucinations*. Master of Arts (Clinical Psychology), December, 1994, 79 pp., 5 tables, references, 43 titles.

The Schedule for Affective Disorders and Schizophrenia-Change Version (SADS-C), the Social Adjustment Scale-Patient Version II (SAS-PATII) and the Command Hallucination Questionnaire (CAQ) were administered to 86 psychotic inpatients to investigate the relationship between command hallucinations, aggressive behavior, and compliance. Two SADS-C items ("severity of hallucinations" and "depersonalization") were useful as indicators of command hallucinations. Ninety-two percent had complied with their command at least once in the past month. Three SADS-C variables related to compliance with command hallucinations were identified: middle insomnia, the belief that the voice was acting in your best interest, and overt irritability. The patients' level of distortion of reality did not appear to influence compliance rates. Results also indicated that patients who experience command hallucinations were not significantly more or less dangerous than other psychotic inpatients.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF TABLES</td>
<td>iv</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Diagnostic Groups Experiencing Command</td>
<td></td>
</tr>
<tr>
<td>Hallucinations</td>
<td></td>
</tr>
<tr>
<td>Command Hallucinations and Overall Impairment</td>
<td></td>
</tr>
<tr>
<td>Compliance with Command Hallucinations</td>
<td></td>
</tr>
<tr>
<td>Command Hallucinations and Dangerousness</td>
<td></td>
</tr>
<tr>
<td>The Present Study</td>
<td></td>
</tr>
<tr>
<td>Research Questions</td>
<td></td>
</tr>
<tr>
<td>II. METHOD</td>
<td>15</td>
</tr>
<tr>
<td>Subjects</td>
<td></td>
</tr>
<tr>
<td>Procedure</td>
<td></td>
</tr>
<tr>
<td>Data Analysis</td>
<td></td>
</tr>
<tr>
<td>III. RESULTS</td>
<td>23</td>
</tr>
<tr>
<td>Description of Sample</td>
<td></td>
</tr>
<tr>
<td>Reliability of Measures</td>
<td></td>
</tr>
<tr>
<td>Symptom Differences Among Three Patient</td>
<td></td>
</tr>
<tr>
<td>Groups</td>
<td></td>
</tr>
<tr>
<td>Prediction of Compliance to Command</td>
<td></td>
</tr>
<tr>
<td>Hallucinations</td>
<td></td>
</tr>
<tr>
<td>Relationship of Global Impairment to</td>
<td></td>
</tr>
<tr>
<td>Compliance with Command Hallucinations</td>
<td></td>
</tr>
<tr>
<td>Compliance with Violent Commands</td>
<td></td>
</tr>
<tr>
<td>Differences in Dangerousness Among Three</td>
<td></td>
</tr>
<tr>
<td>Patient Groups</td>
<td></td>
</tr>
<tr>
<td>IV. DISCUSSION</td>
<td>30</td>
</tr>
<tr>
<td>Limitations of Study</td>
<td></td>
</tr>
<tr>
<td>Research Directions</td>
<td></td>
</tr>
<tr>
<td>APPENDICES</td>
<td>39</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>74</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Average Inter-Item Correlation Between Three Independent Raters for the SADS-C, SAS-PAT II, and CHQ</td>
<td>69</td>
</tr>
<tr>
<td>2.</td>
<td>Significant SADS-C Variables Found to Differentiate Among Patients with Command Hallucinations, Noncommand Hallucinations, and No Hallucinations</td>
<td>70</td>
</tr>
<tr>
<td>3.</td>
<td>Multiple Regression of SADS-C and CHQ Independent Variables for Command Hallucination Patients who Obeyed at Least One Command</td>
<td>71</td>
</tr>
<tr>
<td>4.</td>
<td>Multiple Regression of SADS-C, CHQ, and Violence Independent Variables for Command Hallucination Patients who Heard Command Hallucinations Instructing Violent Behavior to Self or Violent Behavior to Others</td>
<td>72</td>
</tr>
<tr>
<td>5.</td>
<td>Overall Levels of Dangerousness in Patients with Command Hallucinations, Noncommand Hallucinations, and No Hallucinations</td>
<td>73</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Psychotic patients experiencing command hallucinations have traditionally been considered at high risk for dangerous behavior (Assad & Shapiro, 1986; Bleuler, 1930, Jansson, 1968; Kolb, 1982; Lehman, 1967). Approximately one-third of inpatients with hallucinations experience command hallucinations (Goodwin, Alderson, & Rosenthal, 1971; Hellerstein, Frosch, & Koeningsberg, 1987). In the past, the occurrence of this type of auditory hallucination has been seen as a singularly important symptom indicating dangerousness and a serious level of impairment. Dangerous behavior has been said to be correlated with command hallucinations because patients unpredictably acted on the commands (Yesavage, 1983).

Command hallucinations are an important phenomenon for investigation because they are relatively common, and may be associated with dangerous behavior. The ability to accurately assess a psychiatric patient’s degree of dangerousness to self or others has obvious utility. For instance, high risk individuals could be protected with close observation and hospitalization. Resources would not be wasted on close monitoring of the low risk group.
Allowing low risk individuals more independence is also beneficial, as it is consistent with the judicial standard mandating the patient’s right to be treated in the least restrictive treatment environment.

Command hallucinations can be defined as auditory hallucinations that give instructions or demands to a person. These instructions range from the mundane to the bizarre. One patient was instructed to "free his landlady’s canary and reverse the drive shaft in his Chevy" (Mitchell & Vierkant, 1989, p. 273), while another was instructed to "sacrifice herself to the goat" (Mitchell & Vierkant, 1991, p. 306).

To better understand the implications of a particular hallucinatory command, three aspects of the command are useful to examine: the actual content of the hallucination, the patient’s interpretation of the auditory hallucination, and the perceived authority of the auditory hallucination (Rogers, Nussbaum, & Gillis, 1988). In other words, the hallucination may be vague, but the patient may ascribe a specific meaning to the command. Conversely, the actual command may be highly specific, but the patient may not perceive the hallucination as having any authority and may ignore the command. The need for close analysis of the command can be illustrated with a specific case. One woman reported voices that warned her that strangers she had met earlier were going to torture her daughter. The woman felt
that these voices were compelling, and shot her daughter to protect her from imminent torment (Thompson, Stuart & Holden, 1992). Clearly, it is important to understand the context of the command hallucination in the way the patient understands it.

**Diagnostic Groups Experiencing Command Hallucinations**

Schizophrenics, mood disordered patients, alcoholics, cocaine abusers as well as combat-related chronic post traumatic stress syndrome patients at times experience command hallucinations (Goodwin et al., 1971; Muser & Butler, 1987). Mitchell and Vierkant (1991) found that the command hallucinations of schizophrenic patients are more bizarre than those of cocaine abusers. One common feature across diagnoses is that both dangerous and innocuous commands have been reported for all groups.

To date, the research on command hallucinations has not paid significant attention to identifying which patients are likely to experience command hallucinations. Mitchell and Vierkant (1991) performed a record review to examine the different types of hallucinations experienced by cocaine abusers versus paranoid schizophrenics. Junginger (1990) interviewed 44 patients with command hallucinations in an attempt to identify variables related to compliance with command hallucinations. Hellerstein, Frosch and Koeningsberg (1987) performed a record review to determine whether command hallucination patients were different from
patients without commands on demographic and behavioral variables. Yesavage (1983) studied schizophrenic patients and determined that command hallucinations were associated with dangerous events on inpatient units. Hall, Lawson, and Wilson (1981) presented a case study of a patient who amputated his penis and hand in response to command hallucinations. Goodwin et al. (1971) interviewed 117 hallucinating psychiatric patients to determine the prevalence of psychiatric disorders among these patients and to determine which types of hallucinations were experienced by each type of diagnostic group represented.

Only two existing studies have directly addressed the issue of the symptoms related to command hallucinations. Rogers, Gillis, Turner and Frise-Smith (1990) examined clinical differences between hallucinating patients with and without commands. Using the SADS, they found self reproach, psychomotor retardation, depersonalization, and dyspnea to be variables that predicted membership into the command hallucination group versus the noncommand hallucination group. Thompson, Stuart and Holden (1992) reviewed the files of 124 not guilty by reason of insanity acquittees to explore whether there was a link between command hallucinations and violence toward others. They found that not guilty by reason of insanity acquittees experiencing command hallucinations more often experienced other auditory hallucinations, delusions, and hallucination-related
delusions than the acquittees who did not experience command hallucinations. More research that attempts to identify symptoms related to command hallucinations is clearly needed.

Command Hallucinations and Overall Impairment

Clinicians disagree as to the level of impairment that is implied by the presence of command hallucinations. Traditionally, the presence of command hallucinations has been seen as an important indicator of marked impairment (Rogers et al., 1988). Sources as late as the DSM IV list the symptom "behavior is considerably influenced by delusions or hallucinations: a criteria for the 21-30/severely impaired range of the Global Assessment of functioning Scale (American Psychiatric Association, 1994, p. 32). Jansson's study (1968) found that 40% of patients with command hallucinations fell into the worst outcome prognosis. Inconsistently, the American Psychological Association (1986) stated that it found no studies or reports concluding that persons who obeyed command hallucinations were chronically impaired. Rogers et al. (1990) found no significant difference in levels of impairment between patients with command hallucinations and without command hallucinations, as measured on the GAS (Spitzer & Endicott, 1979). In both groups, patients generally were rated severely impaired. As yet, there does not appear to be enough data to determine what level of
impairment is implied by the presence of command hallucinations.

**Compliance with Command Hallucinations**

The American Psychological Association (1986) suggested that less than 1% of those who received command hallucinations obeyed them. After reviewing the relevant literature, the American Psychological Association concluded "most individuals can and do resist auditory hallucinations commanding them to commit acts that would be physically or otherwise injurious to themselves" (p. 3). After analysis of 39 patients that had been identified by hospital staff as experiencing command hallucinations, Goodwin et al. (1971) concluded that patients generally ignored the hallucinatory commands. None of the patients in Goodwin's study committed destructive or antisocial acts because of the voices. Generalizing the results of the Goodwin et al. study is problematic however, because it is likely that hospital staff interventions prevented compliance with the commands in at least some of the cases.

Several more recent studies contradict the American Psychological Association's 1986 conclusion that the rate of compliance with command hallucinations is less than 1%. Rogers et al. (1986) found that 43% of the forensic patients with auditory hallucinations had responded to command hallucinations when committing their criminal offense. In a 1990 study, Junginger found 39.2% of the subjects with
command hallucinations reported compliance with their commands. Junginger concedes that this figure may be high due to the possibility that noncompliance was underreported. (Seven subjects who experienced command hallucinations were dropped from Junginger's 1990 study due to the fact that they could not remember whether or not they had obeyed their command hallucination. These subjects all experienced harmless commands.) Similarly, Thompson et al. (1992) stated that 62% of defendants found not guilty by reason of insanity who experienced command hallucinations, reported compliance with at least some of their commands. Consistent with these high rates of compliance, Rogers et al. (1990) found that 44% of the patients experiencing command hallucinations responded to the commands with "unquestioned obedience" (p. 1304). Although three of the four relevant studies report compliance rates at approximately 40%, there is not yet enough research to make a clear determination of compliance rates. However, it does seem that the American Psychological Association's 1986 report was premature in their estimate of 1% or less rate of compliance.

Command Hallucinations and Dangerousness

Although there is a considerable body of literature on psychiatric inpatients and violence, no consistently predictive psychological test characteristics have been associated with violent patients (Megargee, 1970). Some
behavioral characteristics have been found to be useful in distinguishing between violent and nonviolent patients. For example, patients in the active phase of psychosis displaying positive psychotic symptoms are often violent (Yesavage, Werner, Becker, Holman, & Mills, 1981). Another study found violence to be associated with hostile ideation, a compulsive sense of masculinity, and a sense of powerlessness (Monahan, 1981).

Further research attempted to predict violent behavior based on individual characteristics. Tardiff (1983) found young male patients between ages 17 to 34 to have a rate of violent behavior five times that of the typical psychiatric patient. Other researchers disagree that gender is a significant variable in the predictor of violent behavior (Depp, 1983; Dietz & Rada, 1982). Neither is psychiatric diagnosis (with the exception of seizure disorder or neurological abnormalities) helpful as a predictor of violent behavior (Krakowski, Convit, Jaeger, Lin & Volavka, 1989; Tardiff, 1983).

One of the best predictors of future violent behavior appears to be a history of violent behavior (Dietz & Rada, 1983, Walker, 1991). Even though past violent behavior may be one of the best predictors of future violence, it is not powerful enough to be a reliable predictor of future violence. Walker (1991) found that less than 50% of men who have committed violent crimes will be found guilty of
further violence crimes. In general, violent psychiatric inpatients are similar to violent nonpsychiatric individuals, in that they tend to come from violent, often socially deprived backgrounds, to have limited life skills, and are often the victims of early abuse (Madden, 1985). Obviously, there is no consensus on how to best predict violent behavior in inpatients, aside from the conventional wisdom that 'past behavior is the best predictor of future behavior'.

The issue of how command hallucinations relate to dangerous behavior is also open to debate. Previously, psychiatric texts took the viewpoint that command hallucinations may lead to "direct and dangerous action" (Kolb, 1982, p. 101). Similarly Lehman (1967) stated that patients may kill themselves "simply in response to the relentless commands he is receiving from his hallucinatory voices" (p. 639). No longer is the mere presence of command hallucinations seen as a red flag signifying danger. The old idea that command hallucinations alone are important indicators for dangerous behavior may be more clinical folklore than fact (Hellerstein et al., 1987).

Recent studies tend to minimize the association between dangerous behavior and the whole population of command hallucination patients (American Psychological Association, 1986; Hellerstein et al., 1987; Honig, 1991). Goodwin et al. (1971) found that patients generally ignore commands,
and none of the patients in his study committed dangerous acts in response to the commands. Thompson et al. (1992) studied defendants found not guilty by reason of insanity (NGRI acquittees) with and without command hallucinations. Thompson et al. found that in a sample of NGRI acquittees, the symptom of command hallucinations did not appear correlated with violent acts. The NGRI acquittees with command hallucinations did not have a significantly greater number of adult convictions than the not guilty by reason of insanity acquittees without command hallucinations. In addition, NGRI acquittees with command hallucinations were found to be less likely to have committed crimes against people than the NGRI acquittees without command hallucinations. This was considered to lend support to the conclusion that command hallucination patients are no more dangerous to others than the typical mental patient. While this study may have some relevance to the issue of dangerousness, the generalization of results from a study of not guilty by reason of insanity acquittees with command hallucinations to the entire population of patients with command hallucinations may be too broad to be useful.

While all patients with command hallucinations may not be at high risk for dangerous behavior, there may be subgroups who are at high risk (Hellerstein et al. 1971). The idea that certain groups experiencing command hallucinations may be more prone to dangerous behavior is
supported by Rogers, Gillis, Turner and Frise-Smith (1990) who stated "in the forensic population, obedience to command hallucinations may have a substantial influence on antisocial behavior" (p. 1306).

Instead of debating the issue of whether patients with command hallucinations are at greater risk than other patients, Junginger (1990) suggested that it may be more productive to attempt to identify variables related to compliance with command hallucinations. Although Junginger reasoned that it is logical that patients would be more likely to act on harmless commands than dangerous ones, he found no significant differences in compliance rates. He found that (a) the presence of hallucination-related delusions and (b) the patient perceiving the voice as familiar to be better predictors of whether a particular command would be obeyed. Shore, Anderson and Cutler (1978) speculated that the highest risk patients seem to believe that the voices are acting in their best interests. This hypothesis is consistent with Junginger’s (1990) hypothesis that patients who are experiencing a more systematic distortion of reality may be more likely to ignore the possible danger of complying with hallucinatory commands. Indeed, the level of distortion of reality experienced by the patient may be a better predictor of compliance than the actual content of the command. However, the idea that harmless commands are more likely to be complied with than
dangerous commands should not be dismissed on the basis of a single study. Other variables that could be useful in predicting compliance are: the frequency of hallucinations, the diagnosis of schizophrenia, the chronicity of hallucinations (Rogers et al., 1988), as well as the patient's belief that the voice is acting in his or her best interest (Shore et al., 1979).

The Present Study

Several of the existing command hallucination studies rely on archival data to determine which patients experienced command hallucinations. As it is not routine procedure to question psychiatric patients if they experience command hallucinations and chart the obtained information, it is unclear whether these types of studies are useful. To remediate this deficiency, the present study involves directly questioning the subjects about command hallucinations.

More research is also needed to identify symptoms associated with command hallucinations because unless it is clear exactly which patients are experiencing command hallucinations, it is impossible to predict who will comply with command hallucinations, or if patients experiencing command hallucinations are more dangerous than the typical psychiatric patient. Approximately one-half of the subjects with command hallucinations went undetected by clinical staff in a 1990 study (Rogers et al.). Fields's (1985)
belief that most patients will deny they are experiencing hallucinations the first several times they are asked, adds support to the assumption that it is necessary to identify symptoms or nonpsychotic indicators associated with the presence of command hallucinations. After identifying symptoms associated with the presence of command hallucinations, this study investigated the implications of the command hallucinations.

The purpose of this study was to examine command hallucinations, associated symptoms, and their role in influencing behavior. Towards this end, this researcher investigated variables that relate to the presence of command hallucinations, and to compliance with command hallucinations. These variables were used to examine the hypothesis that the salient predictor of compliance is the patient's level of distortion of reality, as opposed to the content of the particular command hallucination (Junginger, 1990). This study also examined the degree of dangerousness that is suggested by the presence of command hallucinations.

Research Questions

In this study the following questions were tested:
1. Which clinical and sociodemographic variables predict compliance with command hallucinations?
2. How well does a subject's overall impairment as measured by the GAS, predict compliance with command hallucinations?
3. Which clinical and sociodemographic variables predict obedience to violent command hallucinations?

4. Do subjects who experience command hallucinations engage in aggressive acts toward self or others more frequently than patients without command hallucinations?
CHAPTER II

METHOD

Subjects

This contrasted groups design had a sample consisting of three groups of approximately 30 patients each. These 86 subjects were selected by consecutive admissions to the Wilson N. Jones Hospital, Sherman, Texas and to the Terrell State Hospital, Terrell, Texas.

Subjects in the study were divided into three groups; (a) subjects with command hallucinations, (b) subjects with noncommand hallucinations, and (c) subjects with no hallucinations. To maintain consistency with existing research in the area the operational definitions developed by Rogers et al. (1990) were used:

1. Command Hallucination Group: This group consisted of psychotic individuals who had experienced command hallucinations in the preceding 30 days.

2. Noncommand Hallucination Group: This group consisted of psychotic individuals who had experienced auditory hallucinations in the last 30 days, but had had no command hallucinations in the previous 12 months.

3. Nonhallucination Group: This group consists of psychotic individuals who have had no hallucinations in the previous 12 months.
All subjects were selected by consecutive admission. Both the Wilson N. Jones and the Terrell State Hospital treat a wide range of patients and do no preselect on the basis of diagnosis or socioeconomic status. In employing a consecutive sampling technique, it was felt that the results of this study likely be generalizable to other psychiatric settings.

**Measures**

The Schedule for Affective Disorders and Schizophrenia (SADS-C) was used to screen patients for major psychopathology, and was selected to maintain consistency with existing research on command hallucinations. Rogers et al. (1990) used the Schedule for Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978) in a study of command hallucinations in a forensic population. The SADS-C, or Change version, consists of selected items from the SADS. The SADS-C is a structured interview that yields information about symptoms associated with mood and schizophrenic disorders in the week prior to the interview. The SADS-C has been found to be a valid independent rating instrument for the presence and severity of symptomatology associated with affective and schizophrenic disorders. In a 1986 study, Johnson, Magaro and Stern found schizophrenic subjects scored higher than depressed or normal subjects on the seven items measuring schizophrenic symptoms. Depressed subjects scored higher than all other groups on the 21 items
measuring depressive symptomology. The SADS-C has also been found to be sufficiently reliable. In a 1984 study McDonald-Scott and Endicott examined the interrater reliability of the SADS-C and obtained high reliabilities for symptoms (median ICC = .88) and scales (median ICC = .93). Therefore, the SADS-C is an appropriate screening instrument for major psychopathology in the target population.

The GAS (Global Assessment scale) yields a numerical score, and is the last section of the SADS-C. This rating is an estimate of an individual's lowest level of functioning for the week prior to the interview. High scores on the GAS indicate high levels of functioning, and low scores indicate low levels of functioning. Johnson, Magaro and Stern (1986) found the GAS to correlate negatively and significantly with other measures of psychopathology (SADS-C observer rating scales, Beck Depression Inventory), indicating that as symptoms of psychopathology increased, level of functioning decreased. The GAS has also been found to have sufficient reliability. Endicott, Spitzer, Fleiss & Cohen (1976) examined the interrater reliability of the GAS in four separate studies, and obtained ICCs ranging from .69 to .91. Therefore, the GAS has been demonstrated to have sufficient validity and reliability.
To obtain specific data on the command hallucinations that some of the subjects experienced, the Command Hallucination Questionnaire (Resnick, 1992) was used. The Command Hallucination Questionnaire is reproduced in Appendix A. This questionnaire is designed to elicit specific information regarding command hallucinations. It is a structured interview consisting of 59 direct questions about the command hallucinations experienced by the subject.

In addition to the questionnaire, subjects were asked to explain precisely what the command meant to him/her. This supplementary question was added to ascertain the subject's interpretation of the command because the subject's interpretation of the command may be different from the interviewer's interpretation (Rogers et al., 1988).

The Social Adjustment Scale--Patient Version II (SAS-PAT II) is a semi-structured interview designed for gathering information on many aspects of a patient's current social functioning. The SAS-PAT II is several modifications descended from the Structured and Scaled Interview to Assess Maladjustment (Gurland, Yorkston, Stone, Frank & Fleiss, 1972; Wallace, 1986). This original instrument was designed to assess depressed women globally and along six types of instrumental social roles. Using the patient as the sole informant, the scale focuses on the patient's social functioning during the 30 days prior to the interview. The first modification of the Structured and Scaled Interview to
Assess Maladjustment yielded the SAS. The SAS has been demonstrated to have sufficient reliability. Interrater reliability of the SAS was reported to have a mean Pearson correlation between two raters of .80 (Paykel, Weissman, Prusoff, & Tonks, 1971). Validity studies showed the SAS to significantly distinguish depressed patients from normal controls in a study of depressed women (Weissman, Paykel, Siegel, & Klerman, 1971).

The SAS-SR is a self-report version of the SAS. Internal consistency reliabilities of the SAS-SR averaged .74 for coefficient alpha, with test-retest reliabilities ranging from .71 to .82 (Edwards et al., 1978). Validity studies have shown the SAS-SR to reflect the effects of medication and/or psychotherapy with depressed women (Prusoff et al., 1980). The SAS-II is another earlier version of the SAS-PAT II. The SAS II was found to correlate from .27 to .81 with ratings of adjustment made by significant others (Glazer, Aaronson, Prusoff, & Williams, 1980). The SAS-PAT II has been used extensively with severely psychotically impaired individuals (Clark Institute of Psychiatry Continuing Care Division, 1990). The SAS-PAT II is a combination of the SAS-SR and the SAS II, therefore, the SAS-PAT II is an appropriate instrument to assess current social functioning in the target population.
Procedure

To recruit subjects, all psychotic patients at Terrell State Hospital and at Wilson N. Jones Hospital were personally offered the opportunity to participate in the study. (Patients in seclusion due to recent violent behavior, and patients in the ward reserved for individuals who were too violent to be among the general population of psychotic patients, were not offered the opportunity to participate in the study.) Staff of both of the hospitals were briefed as to the details of the study. Subjects were pre-selected for the study based on staff opinion that they met the criteria of being "psychotic". After preselection, an interviewer explained to each subject the nature of the research project. At that time, the subject was asked to give written informed consent. The consent form is contained in Appendix B. The testing of each subject was accomplished in a single session. Administration time for the entire session was approximately 60 to 90 minutes.

The order of measures presented was: SADS-C, the Global Assessment of Functioning, The Command Hallucination Questionnaire, and the Social Adjustment Scale Patient Version II. First, the SADS-C was administered, measuring overall general psychopathology. At the conclusion of the SADS-C, the interviewer assigned the subject a score based on the Global Assessment of Scale. After the SADS-C, the subjects were interviewed with the Command Hallucination
Questionnaire, and asked specifically about their command hallucinations. Finally, the Social Adjustment Scale Patient Version II was administered, measuring overall social adjustment. The order of measures presented was not counterbalanced, as this order of presentation follows a logical progression from general psychopathology to overall adjustment.

Data Analysis

The first research question examined the variables that predicted compliance with command hallucinations. A stepwise multiple regression was used to identify the variables with the highest beta weights associated with obedience to command hallucinations.

The second research question examined whether subjects with greater levels of impairment as measured on the GAS showed higher compliance rates with their command hallucinations. A point biserial correlation was used to examine this question.

The third research question attempted to predict who would hear violent command hallucinations using the SADS-C. A stepwise multiple regression was used to identify the variables with the highest beta weights associated with hearing violent command hallucinations.

The fourth research question was regarding the comparison between the levels of dangerousness of command hallucination subjects, non command hallucination patients,
and non hallucinating psychotic inpatients. This was examined through a one-way analysis of variance.
CHAPTER III

RESULTS

The following paragraphs give a detailed breakdown of the sample, report reliability of measures used, and answer the aforementioned research questions.

Description of Sample

The study group consisted of 86 psychotic inpatients. The sample was primarily male (69.0%, n = 58). Subjects ranged in age from 18 to 67 years (M = 40.30, SD = 10.52). Fifty-one subjects (60.7%) were White, 26 were African-American (31.0%), and seven (8.1%) were Hispanic. The three groups did not significantly differ on age (M = 38.96, SD = 10.11 vs. M = 38.63, SD = 9.91, and M = 43.32, SD = 11.54 years; F(2,80) = 1.78, p < .05). Although there were more males than females in the overall sample, the three groups did not have significantly different numbers of males (60.0%, n = 15, vs. 66.7%, n = 18, and 71.9%, n = 23; X² = 1.38, df = 2, n.s.). With respect to racial composition, there was no significant group difference among whites and minority subjects (X² = .63, df = 2, n.s.). (African American and Hispanic subjects had to be collapsed into one group because the expected frequency in each group was less than five.)
Eighty-four of the 86 subjects in the study were included for analysis. As discussed in the Method section, the subjects were divided into three groups; (a) subjects with command hallucinations (Command Hallucination Group), (b) subjects with noncommand hallucinations (Noncommand Hallucination Group), and (c) psychotic subjects with no hallucinations (Nonhallucination Group).

Twenty-seven of the subjects interviewed endorsed experiencing command hallucinations. One subject stated that she would have complied with her command hallucinations, but the voice that spoke to her always garbled the last few words of the command, so she could not understand them. Another subject reported that he heard command hallucinations, but would not reveal what they were or whether he complied or not because they were "just too awful." These two subjects were dropped from further analysis, leaving the Command Hallucination group with 25 subjects. Of the remaining subjects, 27 fell in the Noncommand Hallucination Group, and 32 in the Nonhallucination Group.

Command hallucinations experienced by subjects in the Command Hallucination Group were subdivided into (a) commands instructing violence towards the self, (b) commands instructing violence towards another person, or (c) harmless commands. Twelve subjects experienced command hallucinations instructing violence towards the self.
Eleven of these individuals reported complying with the violent command hallucination directed toward the self. Nine subjects experienced commands instructing violence towards another person. Six of these nine subjects reported complying with the violent command hallucination directed towards another person. Twenty subjects experienced harmless command hallucinations, and 18 reported complying with the harmless commands.

Overall, out of the 25 subjects in the Command Hallucination Group, 21 reported that they had complied with at least one of their commands within the 30 day period prior to the interview. Seventeen subjects experienced commands instructing them to perform violent acts towards themselves or towards another person. Twelve out of those seventeen reported complying with these violent commands.

Reliability of Measures

Each of the three measures used showed sufficient interrater reliability between the three raters as shown in Table 1. The SADS-C had an average inter-item correlation of .63. This figure appears low due to the structure of the SADS-C responses. Responses on the SADS-C are on a Likert type scale which goes from zero to six. The majority of the interrater variability (97.2%) on the SADS-C was within one point. Therefore the disagreement among raters on the SADS-C was not likely to be clinically meaningful. The SAS-PAT
II and he Command Hallucination Questionnaire had average inter-item correlations of .92, and .98 respectively.

**Symptom Differences Among Three Patient Groups**

Analysis of Variance (ANOVA) was used to analyze symptom differences among patients with command hallucinations, noncommand hallucinations, and no hallucinations. Two variables were found to statistically differentiate between command hallucination patients and patients who did not experience command hallucinations.

Patients with command hallucinations experienced significantly more severe hallucinations $F(2, 81) = 55.27, p < .001$, and depersonalization $F(2, 81) = 6.59, p < .05$, than the other two patient groups. Patients with command hallucinations were not found to exhibit a significantly different degree of inappropriate affect than patients with noncommand hallucinations or non-hallucinating patients, but patients with noncommand hallucinations were found to exhibit a greater degree of inappropriate affect than non-hallucinating patients, $F(2, 81) = 4.84, p < .05$. Also interesting was the finding that patients with either type of hallucination (command and noncommand) exhibited significantly more bizarre behavior than nonhallucinating patients, $F(2, 81) = 6.54, p < .01$, although there was no significant difference in levels of bizarre behavior among the two groups of hallucinating patients.
Prediction of Compliance to Command Hallucinations

Eighty-four percent of the subjects (n = 21) complied with at least one of their command hallucinations. A stepwise multiple regression was used to identify the variables that predicted membership of two groups: those who complied with at least one of their command hallucinations (n = 21) and those who experienced command hallucinations but never complied (n = 4). The regression retained three variables: middle insomnia (Multiple R = .55; R-Square = .30; Beta = -.43), belief that the voice is acting in your best interest (Multiple R = .67; R-Square = .44; Beta = .69), and overt irritability (Multiple R = .81; R-Square = .44; Beta = .69). Together, these three variables are able to explain 66% of the variance. By far the most influential variable is middle insomnia, alone explaining 30% of the variance. The next two variables to enter are: the belief that the voice is acting in your best interest, and overt irritability, explaining 14% and 12% of the variance respectively.

Relationship of Global Impairment to Compliance with Command Hallucinations

Subjects with greater levels of impairment as measured by the GAS scale were not found to comply with their command hallucinations at a higher rate than subjects with lesser impairment as measured by the GAS scale. A point-biserial correlation showed that there was virtually no linear
relationship between these variables, with a correlation coefficient of -.02.

Compliance With Violent Commands

Out of the 17 who heard violent command hallucinations, 12 complied with the violent command hallucination. Because of the small sample of individuals who did not comply with violent command hallucinations, it was not possible to predict compliance/noncompliance with violent command hallucinations. Instead, the focus of the research question was shifted to attempt to predict which individuals would be likely to experience violent command hallucinations.

A stepwise multiple regression was used to identify the variables that predicted membership of two groups: those patients who heard at least one violent command hallucination (n = 17), and those patients who heard only nonviolent command hallucinations (n = 8). The regression equation retained two variables: heard harmless command (Multiple R = .67; R-Square = .44; Beta = -.70), and violence to self (Multiple R = .75; R-Square = .56; Beta = .34). Together, these two variables are able to explain 56% of the variance between the two groups. By far the most influential variable was hearing a harmless command, alone explaining 44% of the variance.

Differences in Dangerousness Among Three Patient Groups

Of the total of 84 subjects in the analysis, 48 were found to have exhibited some sort of dangerous or violent
behavior in the preceding twelve months. A one-way analysis of variance found that the three subject groups (command hallucination subjects, non command hallucination subjects, and non hallucinating psychotic subjects) were not significantly different on levels of dangerousness. See Table 5 for comparison of groups with respect to levels of dangerousness.
The present results indicate support for the hypothesis that symptom indicators of command hallucinations can be identified (Rogers et al. 1990). Two SADS-C variables were found to significantly differentiate between patients experiencing command hallucinations and patients without command hallucinations. Patients with command hallucinations were found to score higher on 'severity of hallucinations' and on 'depersonalization' than the other patient groups. Visual inspection of the data from the present study would suggest that the presence of severe hallucinations and depersonalization in a psychotic inpatient should alert the clinician to the possibility of command hallucinations.

These data provide additional evidence for Rogers et al.'s 1990 finding of depersonalization as a nonpsychotic indicator of command hallucinations. The fact that depersonalization has emerged as a significant nonpsychotic indicator of command hallucinations in both of the relevant studies suggests that this finding is fairly robust. The SADS-C (Spitzer & Endicott, 1978) section relating to depersonalization may be useful clinically as a screening
device to alert clinicians to the possibility of command hallucinations. These questions have the potential to be practical in a clinical setting, as they have been shown to differentiate between psychotic patients who hear command hallucinations, and other psychotic patients, and take less than a minute to administer. The SADS-C depersonalization section reads as follows:

Have you felt as if you were outside of your own body, or as if a part does not belong to you, or that you are physically cut off from people, or floating, or like you were in a dream? Have things seemed unreal? (p. 12)

This study did not find support for Rogers et al.'s (1990) other nonpsychotic indicators (self-reproach, psychomotor retardation, and dyspnea). However, these findings may yet be replicated in future studies.

While there were symptom differences among groups of patients with command hallucinations and groups without command hallucinations, there was no difference among groups on overall levels of dangerousness. Patients with command hallucinations were not significantly different on levels of dangerousness to self or others than patients with noncommand hallucinations, or nonhallucinating psychotic patients.

The current data show that 84% of the patients with command hallucinations obeyed at least once during the month
prior to the study. The present results indicate marked
disagreement with previous studies that concluded that less
than 1% of those who receive command hallucinations obeyed
them (American Psychological Association, 1986; Goodwin et
al.). Twelve patients in this sample heard command
hallucinations instructing violence to the self, and 92% (n
= 11) complied at least once with the self injurious
command. These findings indicate marked disagreement with
the belief that most individuals who hear command
hallucinations instructing them to injure themselves can and
do resist the commands (American Psychological Association,
1986; Goodwin et al., 1971). In summary, within the brief
period of one month, 11 out of 25 subjects had responded to
command hallucinations with violence to themselves or
others.

Since a substantial proportion of the sample (84%)
complied with at least one of their commands, it was
possible to identify variables related to compliance with
command hallucinations. About 66% of the explained variance
in compliance with command hallucinations was accounted for
by three variables: first and most important, the absence of
middle insomnia, then the belief that the voice was acting
in your best interest, and finally overt irritability. It
is logical that an individual would be more likely to comply
with a command hallucination if he/she believed that the
voice were acting in his/her best interest. Neither is it
surprising that patients who are overtly irritable would be more likely to comply with command hallucinations. Possibly these subjects are unable to ignore the commands, and therefore feel more compelled to comply. There is no good explanation why patients who score low on middle insomnia are more likely to comply with their command hallucination. These findings do not support for Junginger’s 1990 hypothesis that the patient’s level of distortion of reality could be a useful predictor of compliance to command hallucinations. These results indicate that psychotic patients with greater global impairment (as measured on the GAS) are not more likely to comply with their command hallucinations than psychotic patients with lesser impairment. While these findings do not support Junginger’s hypothesis, they do not necessarily provide evidence to the contrary. The vast majority of the patients in this sample were severely impaired. Therefore, the effects of restricted range on a correlation could be masking a relationship between global impairment and compliance. A study that incorporates psychotic patients from a variety of settings might provide support for the hypothesis that more impaired subjects may be more likely to comply with command hallucinations.

Sixty-eight percent (n = 17) of the patients who experienced command hallucinations heard commands instructing violence to self or others, and 71% complied
with these types of commands \((n = 12)\). Due to the small sample of patients who complied with violent commands, variables related to experiencing violent command hallucinations were analyzed for. About 56% of the explained variance in experiencing violent command hallucinations was accounted for by two variables: first and most important; the absence of harmless commands, then violence to self. These findings are somewhat confusing because they run contrary to the popular belief that if a patient is hearing violent command hallucinations, he/she is also probably hearing other types of commands. Field (1985) believes that the type of voices the patient hears may be a reflection of the stage of the patient’s illness. In a 1985 study, Field found that patients in the early stages of illness had positive feelings about the hallucinations. In the later stage, Field believes that the patient begins to have a more negative self image and begins to hear a great deal of derogatory statements. While this study did not examine the length of illness, Field’s theory may help to explain the present findings. Possibly the patients in this study with violent command hallucinations were experiencing a derogatory statements, and were no longer hearing the helpful voices that told them what to do to get through the day. In any case, these findings are somewhat puzzling. The data suggest that clinicians should be alert to the possibility that a psychotic inpatient may be experiencing
violent command hallucinations when the patient is engaging
in self injurious behavior.

The assessment instruments used in this study did not
specifically address why violent command hallucinations
would not be associated with not hearing harmless commands
and violence to the self. However, remarks by some of the
subjects may help to explain the link. Several subjects
stated to the examiner that when they could no longer ignore
their command hallucinations they would "bargain with" the
voices, or "try to trick" their voices. For example, one
individual who heard a command hallucination instructing him
to hit and kick nurses, would hit his head against the wall
when the urge to comply became overwhelming. Another
individual explained how he "tricked" his command
hallucination instructing him to kill his wife by shooting
himself and his wife in the leg. It may be that an
individual who hears harmless commands and exhibits self
injurious behavior is also experiencing violent command
hallucinations, and has been unable to ignore his command
hallucinations. This individual may be attempting to
bargain with the voices, shut the voices off, or trick them,
by responding with self injurious behavior.

In summary, it appears that a significant number of
psychotic inpatients who experience command hallucinations
obey the commands at least some of the time. These data
suggest that patients who exhibit overt irritability,
believe that the voice is acting in their best interest, and do not experience middle insomnia, are more likely to comply with their commands than patients who do not exhibit these characteristics. Patients who experience command hallucinations are not significantly different from patients with noncommand hallucinations and nonhallucinating psychotic patients on levels of dangerousness. Among this group of inpatients, the individual’s overall level of impairment does not appear to be related to compliance with command hallucinations. Additionally, clinicians should be alert to the possibility that a psychotic inpatient may be hearing command hallucinations instructing violent behavior if the patient is engaging in self injurious behavior, and does not endorse harmless commands.

Limitations of Study

The main limitation of this study is the small sample size of patients with command hallucinations. This is a difficult limitation to overcome because, according to these findings, only about one-third of psychotic inpatients experience command hallucinations. Suspicion and paranoia experienced by possible subjects led to a fairly high rate of refusal to participate in the study. It is likely that a large percentage of those subjects who were too suspicious to participate in the study may have been the subjects that would be most desired.
Another weakness in this study was the relative homogeneity of the subject pool in terms of level of impairment. The majority of subjects in this study were severely impaired and many were chronic patients who had been in and out of state hospitals for years. A more diverse sample may have been obtained by drawing from a pool of sites that included community mental health centers.

While most of the subjects in this sample were severely impaired, they were diagnosed with a variety of disorders. Drawing on Mitchell and Vierkant's (1991) study, which showed differences in the type of command hallucinations experienced by different diagnostic groups, it is possible that identifiable patterns might emerge if the sample was limited to a specific diagnostic category. By using only patients diagnosed as schizophrenic, some of the unexplained variance in the study may have been eliminated.

Research Directions

Future researchers may find it productive to continue to explore nonpsychotic indicators of command hallucinations. The SADS-C seemed especially well suited to this type of research as it is quick to administer and score, and inexpensive, as Spizer and Endicott allow researchers to make xerox copies (1978). In contrast, some other type of Social Adjustment Scale might prove more helpful than the SAS-PAT II. Subjects in this sample appeared to have a difficult time following the questions on
this instrument, many of which are quite complex. A more indepth study of patients with command hallucinations using the SADS-C and a different Social Adjustment Scale might unearth more symptoms associated with command hallucinations. Content of hallucinations and onset of illness are two aspects of command hallucinations that were not investigated in this study. Future projects may want to incorporate measures of these two variables to determine their impact on command hallucinations and behavior.

A more comprehensive research project that includes a larger number of patients with command hallucination from a wider range of settings and a narrower range of diagnoses may yield more information on how to best predict compliance and aggressive behavior.
APPENDIX A

COMMAND HALLUCINATION QUESTIONNAIRE
Command Hallucination Questionnaire

Instructions to Interviewer

Section I of the questionnaire will screen patients to see if they have had command auditory hallucinations. If patients indicate that they have not had command hallucinations within the last month, the interview will be terminated.

Section II asks general questions about the command hallucinations. At the conclusion of Section II, the interview will know if the patient has had commands to harem others, self-destructive commands, and/or harmless commands.

Section II covers command hallucinations to do harmful acts to others. Section IV covers command hallucinations to do self-destructive acts. Section V covers command hallucinations to do harmless acts. Sections III, IV, and V are each divided into A and B questions. The A questions address command hallucinations that were acted upon. The B questions address command hallucinations that were not acted upon.

"Command hallucinations with acts" are defined as acts that were committed within 18 hours due to command hallucinations. "Command hallucinations without acts" are defined as command hallucinations that were not carried out. There must be an 18 hour gap (free of command hallucinations) between the command hallucination that was not carried out for the latter to be called a "command
hallucination without act." "Command hallucinations without acts" do not include situations in which there was a lack of opportunity to carry out the act. "Harmless command hallucinations" are defined as voices instructing a patient to carry out activities that are not harmful to other persons or himself.

If the patient never carried out any acts at the behest of auditory hallucinations as defined in Section III, IV, or V, the A questions of that Section will be omitted. The B questions for that section will then be based on reports or "command hallucinations without acts."

All questions are limited to command hallucinations heard within the last month. In Sections III, IV, and V, the interviewer will use the most recent acts due to command hallucinations as the reference point for the questions. The only exceptions to the rule of using the most recent acts are: (1) When deciding among commands to harm others or do illegal acts, select as the order of preference: (a) commands to kill a person: (b) commands to harm a person; (c) commands to do a non-assaultive illegal act. (2) With respect to self-destructive commands, select the command hallucination that instructed suicide in preference to non-suicidal self destructive acts. In other words, increased danger takes place over recency.

When there are multiple choice answers, the interviewer should show the choices to the patient. However, when the
answers include "I don't know," the other choices should be read out loud and not shown to the patient. Moreover, when patients are asked how many times or a percent, try to get the patient to give you a number before sharing the categories.

Command Hallucination Questionnaire

Section I (Screening)

Interviewer: Ask questions 1-5 before the demographic questions because negative replies will terminate the interview.

Name__________________________________________Age_____

Sex ____M _____F

Race: White, Black, Hispanic, Native Indian, Asian, Other

Hospital__________________________________________

Hospital Number_____________________________________

Diagnosis according to Hospital Chart_________________

1. Sometimes people hear voices. Have you heard voices that other people couldn't hear within the last month?
   1. Yes
   2. No

2. Have the voices told you to do anything within the last month
   1. Yes
   2. No
Interviewer: If the answer to question 1 or 2 is no, the screening interview will be terminated.

3. Each time in the last month you heard the voices tell you to do something, had you been drinking alcohol?
   1. Yes
   2. No

4. When you heard the voices tell you to do something, had you stopped drinking heavily within the past few days?
   1. Yes
   2. No

5. Had you taken any street drugs or marijuana within eight hours of each time the voices told you to do something?
   1. Yes
   2. No

Interviewer: After completing questions 6 through 13, circle the specific commands and acts that you will be referring to in Sections III, IV, and V.

Read the following to the patient: "Voices sometimes tell people to harm others, or themselves, or to do illegal acts. Voices may also tell people to carry out harmless acts, such as to go somewhere or eat something."

6. Have any voices told you to hurt or kill another person within the last month?
   1. Yes: Exactly what did the voices say.
   2. No
7. Have you hurt anyone within the last month because voices told you to do so? (Interviewer: The act must have been within 18 hours of the voice.)
   1. Yes: Exactly what did you do?
   2. No

8. Have the voices told you to do something illegal within the last month?
   1. Yes: Specify exactly what the voices said
   2. No

9. Have you done anything illegal within the last month because of the voices?
   1. Yes: Exactly what did you do?
   2. No

10. Have the voices told you to hurt or kill yourself within the last month?
    1. Yes: Specify exactly what the voice(s) said.
    2. No

11. Have you tried to hurt yourself within the last month because the voices told you to?
    1. Yes: Exactly what did you do?
    2. No

12. Have voices told you to do any harmless acts within the last month?
    1. Yes: Specify exactly what the voices told you to do.
    2. No
13. Have you carried out any harmless acts within the last month because the voices told you to?
   1. Yes: Exactly what did you do?
   2. No

**Interviewer:** Read to patient: "You told me that the voices told you to (specify all commands)."

14. Have the voices told you to do anything else?

**Interviewer:** Add this answer to the above answers (6-13).

15. You told me that the voices told you to do (specify all commands). Of all the voices you have heard, approximately what percent told you to do things?
   1. None
   2. 1-20
   3. 21-40
   4. 41-60
   5. 61-80
   6. 81-99
   7. all

**Note to Interviewer:** Questions 19A and 20A are to be asked only to patients who have carried out some command.
19A. Did you hear voices give you the same instructions earlier in the month, that you carried out later:

(Interviewer: Answer yes only if there was an 18 hour gap between the commands without acts and the commands with acts. If the answer is yes, you will ask both the A & B questions regarding that command in sections III, IV, and or V.)

1. Yes
2. No

20A. In general, what causes you to obey the voices on some occasions and not on others? What else?

Interviewer: Do not offer possible reasons. Obtain as many reasons as possible. Refer to each category of commands (harmful to others, harmful to self, and harmless.)

Section III (Commands to Harm Others)

Interviewer: Section III will only be administered to patients who have heard commands to hurt others or to do illegal acts. If this patient has not had such commands within the last month, omit all of Section III.

The interviewer will administer the A questions only if the patient reports having acted on command hallucinations
to hurt others within the last month. The B questions will be administered only if the patient has had command hallucinations (without acts) to hurt others in the last month. If the patients had prior command hallucinations to carry out the harmful act, but they were not obeyed on the prior occasion, those commands will be the focus for both the A & B questions. There must be an 18 hour gap (free of command hallucinations) between the command hallucination that was carried out and the command hallucination that was not carried out for the latter to be called a "command hallucination without acts."

Be quite specific in referring to the command to do harmful or illegal acts so that the patient understands exactly what command hallucination you are referring to. In deciding which harmful actions to select, use the following order or preference: (1) kill a person; (2) hurt a person; (3) do an illegal act.

21. To be completed by interviewer. Specify if the questions refer to commands to:

1. Kill a person
2. Hurt a person
3. Do a non-assaultive illegal act

22. Approximately what percent of the time did you follow the instructions to do harmful acts in the last month?

1. None
2. 1-20
23. Before one month ago, did you carry out illegal acts or harmful acts to others due to voices?
   1. Yes
   2. No

23A. When you heard the voice that told you to (specify act) and you did (specify act), could you identify or name the source of the voice?
   1. Yes (If yes, whose voice was it?)
   2. No

*Interviewer:* Circle yes if the response is a name or proper noun (i.e.: specific relative, God, the Devil, etc.). Circle no if the subject cannot specifically name the person who is speaking to them (even if the voice is "familiar" to the subject in the sense that the same voice has spoken to them for years.)

23B. When you heard the voice that told you to (specify act) and you did not (specify act), could you identify or name the source of the voice?
   1. Yes (If yes, whose voice was it?)
   2. No
Interviewer: See instructions in 23A.

Interviewer: Please read the following to the patient, "You told me that you heard voices telling you to specify harmful or illegal act). This next set of questions will refer to the voices that told you to (specify harmful or illegal act)."

24A. When you heard the voices that told you to (specify act) and you did (specify act), had you tried to put the voices out of your mind?
   1. Yes
   2. No

24B. When you heard the voices that told you to (specify act) and you did not (specify act), had you tried to put the voices out of your mind?
   1. Yes
   2. No

25A. If yes, to what extent could you put the voices out of your mind?
   1. Not at all
   2. Partially
   3. Completely

25B. If yes, to what extent could you put the voices out of your mind?
   1. Not at all
   2. Partially
   3. Completely
26A. Sometimes people have ideas that others might not understand. When you heard the voices tell you to (specify act) and you did (specify act), did you have any ideas that other people might not understand?

**Interviewer**: This refers to delusions.

1. Yes: Specify
2. No

26B. Sometimes people have ideas that others might not understand. When you heard the voices tell you to (specify act) and you did not (specify act), did you have any ideas that other people might not understand?

**Interviewer**: This refers to delusions.

1. Yes: Specify
2. No

27A. When you heard the voices tell you to (specify act) and you did (specify act), was anyone making your life hard, or deliberately causing you trouble, or trying to hurt you? (Paranoid delusions)

1. Yes; Specify
2. No

27B. When you heard the voices tell you to (specify act) and you did not (specify act), was anyone making your life hard, or deliberately causing you trouble, or trying to hurt you? (Paranoid delusions)

1. Yes; Specify
2. No
28A. When you heard the voices tell you to (specify act) and you did (specify act), did you feel that you were a particularly important person or that you had special powers or abilities? (Grandiose delusions)
   1. Yes; Specify
   2. No

28B. When you heard the voices tell you to (specify act) and you did not (specify act), did you feel that you were a particularly important person or that you had special powers or abilities? (Grandiose delusions)
   1. Yes; Specify
   2. No

29A. When you heard the voices tell you to (specify act) and you did (specify act), did you have any ideas that made it easier to (specify act)? Interviewer: Answer this yes if any of the delusions in the above three questions were related to the command hallucination.
   1. Yes: Specify how
   2. No

29B. When you heard the voices tell you to (specify act) and you did not (specify act), did you have any ideas that made it easier to (specify act)? Interviewer: Answer this yes if any of the delusions in the above three questions were related to the command hallucination.
   1. Yes: Specify how
   2. No
30A. When you heard the voices tell you to (specify act) and you did (specify act), did you struggle against obeying the voices?
   1. Yes
   2. No

30B. When you heard the voices tell you to (specify act) and you did not (specify act), did you struggle against obeying the voices?
   1. Yes
   2. No

31A. When you heard the voices tell you to (specify act) and you did (specify act), did you believe it was against the law to carry out (specify act)?
   1. Yes
   2. No

31B. When you heard the voices tell you to (specify act) and you did not (specify act), did you believe it was against the law to carry out (specify act)?
   1. Yes
   2. No

32A. When you heard the voices tell you to (specify act) and you did (specify act), did you personally believe at the time it was wrong to carry out (specify act)? Interviewer: This gets at moral wrongfulness.
   1. Yes, specify why
   2. No
32B. When you heard the voices tell you to (specify act) and you did not (specify act), did you personally believe at the time it was wrong to carry out (specify act)?

**Interviewer:** This gets at moral wrongfulness.

1. Yes, specify why
2. No

33A. When you heard the voices tell you to (specify act) and you did (specify act), did you feel you had any choice about whether to carry out (specify act)? Why?

1. Yes
2. No

Specify reason

33B. When you heard the voices tell you to (specify act) and you did not (specify act), did you feel you had any choice about whether to carry out (specify act)? Why?

1. Yes
2. No

Specify reason

34A. When you heard the voices tell you to (specify act) and you did (specify act), did you have any other reason to (specify act)?

1. Yes (specify reason)
2. No
34B. When you heard the voices tell you to (specify act) and you did not (specify act), did you have any other reason to (specify act)?
   1. Yes (specify reason)
   2. No

35A. When you heard the voices tell you to (specify act and you did (specify act), had you ever thought about doing (specify act) before the voices told you to?
   1. Yes
   2. No

35B. When you heard the voices tell you to (specify act and you did not (specify act), had you ever thought about doing (specify act) before the voices told you to?
   1. Yes
   2. No

36A. When you heard the voices tell you to (specify act) and you did (specify act), had you ever (specify act) without a voice telling you to do it?
   1. Yes
   2. No
   3. If yes, specify how many times
36B. When you heard the voices tell you top (specify act) and you did not (specify act), had you ever (specify act) without a voice telling you to do it?

1. Yes
2. No
3. If yes, specify how many times

37A. When you heard the voices tell you to (specify act) and you did (specify act), would you have done the act if a policeman had been present?

1. Yes
2. No

37B. When you heard the voices tell you to (specify act) and you did not (specify act), would you have done the act if a policeman had been present?

1. Yes
2. No

38A. Within the last month, did you hear the voices tell you to (specify act) more than once before you did (specify act)?

If yes specify how many times in the last month

1. No
2. 2-5 times
3. 6-20 times
4. Over 20 times
38B. Within the last month, did you hear the voices tell you to (specify act) more than once before you did not (specify act)?

   If yes specify how many times in the last month

   1. No
   2. 2-5 times
   3. 6-20 times
   4. Over 20 times

39. If yes, explain the reasons you carried out this act when you did, rather than in response to the earlier voices.

Section IV (Self-destructive commands)

   Interviewer: Section IV will only be administered to patients who have heard commands to harm themselves. If this patient had not heard such commands within the last month, omit all of Section IV.

   The interviewer will administer the A questions only if the patient reports having acted on command hallucinations to harm themselves within the last month. The B questions will be administered only if the patient had had command hallucinations (without acts) to harm himself in the last month. If the patient had prior command hallucinations to carry out the self-destructive act, but they were not obeyed on the prior occasion, those commands will be the focus for both the A & B questions. There must be an 18 hour gap (free of command hallucinations) between the command
hallucination that was not carried out for the latter to be called a "command hallucination without acts."

Be quite specific in referring to the command to harm himself so that the patient understands exactly what command hallucination you are referring to. In deciding which self-destructive command hallucination to select, use the following order of preference: (1) kill self; (2) harm self.

40. **Interviewer:** Were the instructions to commit suicide or to harm yourself?

1. Kill self

2. Harm self

40A. When you heard the voice that told you to (specify act) and you did (specify act), could you identify or name the source of the voice?

1. Yes (If yes, whose voice was it?)

2. No

**Interviewer:** Circle yes if the response is a name or proper noun (i.e.: specific relative, God, the Devil etc.). Circle no if the subject cannot specifically name the person who is speaking to them (even if the voice is familiar to the subject in the sense that the same voice has spoken to them for years.)
40B. When you heard the voice that told you to (specify act) and you did not (specify act), could you identify or name the source of the voice?

1. Yes (If yes, whose voice was it?)

2. No

Interviewer: See instructions in 40A.

Please read the following to the patient, "You told me or harm self). This next set of questions will refer to the voices that told you to (specify kill or harm self) when you did carry out the act."

41A. When you heard the voices that told you to (specify act) and you did (specify act), had you tried to put the voices out of your mind?

1. Yes

2. No

42A. If yes, to what extent could you put the voices out of your mind?

1. Not at all

2. Partially

3. Completely

41B. When you heard the voices that told you to (specify act) and you did (specify act), had you tried to put the voices out of your mind?

1. Yes

2. No
42B. If yes, to what extent could you put the voices out of your mind?
   1. Not at all
   2. Partially
   3. Completely

43A. Sometimes people have ideas that others might not understand. When you heard the voices tell you to (specify act) and you did (specify act), did you have any ideas that other people might not understand?
   Interviewer: This refers to delusions.
   1. Yes: Specify
   2. No

43B. Sometimes people have ideas that others might not understand. When you heard the voices tell you to (specify act) and you did not (specify act), did you have any ideas that other people might not understand?
   Interviewer: This refers to delusions.
   1. Yes: Specify
   2. No

44A. When you heard the voices tell you to (specify act) and you did (specify act), was anyone making your life hard, or deliberately causing you trouble, or trying to hurt you? (Paranoid delusions)
   1. Yes: Specify
   2. No
44B. When you heard the voices tell you to (specify act) and you did not (specify act), was anyone making your life hard, or deliberately causing you trouble, or trying to hurt you? (Paranoid delusions)
   1. Yes: Specify
   2. No

45A. When you heard the voices tell you to (specify act) and you did (specify act), did you feel that you were a particularly important person or that you had special powers or abilities?
   1. Yes: Specify
   2. No

45B. When you heard the voices tell you to (specify act) and you did not (specify act), did you feel that you were a particularly important person or that you had special powers or abilities?
   1. Yes: Specify
   2. No

46A. When you heard the voices tell you to (specify act) and you did (specify act), did you have any ideas that made it easier to (specify act)? **Interviewer:** Answer this yes if any of the delusions in the above three questions were related to the command hallucination.
   1. Yes: Specify how
   2. No
46B. When you heard the voices tell you to (specify act) and you did not (specify act), did you have any ideas that made it easier to (specify act)? Interviewer: Answer this yes if any of the delusions in the above three questions were related to the command hallucination.

1. Yes: Specify how
2. No

47A. When you heard the voices tell you to (specify act) and you did (specify act), did you struggle against obeying the voices?

1. Yes
2. No

47B. When you heard the voices tell you to (specify act) and you did not (specify act), did you struggle against obeying the voices?

1. Yes
2. No

48. Approximately what percent of the time did you follow the instructions to harm yourself?

1. None
2. 1-20
3. 21-40
4. 41-60
5. 61-80
6. 81-99
7. all
49. On how many occasions throughout your life did you harm yourself because voices told you to? Specify the number

   1. Once or twice
   2. 3 or 4 times
   3. 5 or more times

50A. When you heard the instructions to harm yourself and you did harm yourself, were you depressed?

   1. Yes
   2. No

50A. When you heard the instructions to harm yourself and you did harm yourself, were you depressed?

   1. Yes
   2. No

51A. If yes, how depressed were you? Interviewer: Only give choice of a little or very. If the patient says in between, only then should you circle moderately.

   1. A little depressed
   2. Moderately depressed
   3. Very depressed

52A. Before the voice told you to harm yourself, did you want to die?

   1. Yes
   2. No
   3. Partially
52B. Before the voice told you to harm yourself, when you did not harm yourself, did you want to die?

1. Yes

2. No

53A. Within the last month, did you hear the voices tell you to (specify self-destructive act) more than once before you did try to hurt yourself?

If yes, specify how many times

1. No

2. 2-5

3. 6-20

4. Over 20

54A. If yes, explain the reasons you carried out this act when you did, rather than in response to earlier voices.

53B. Within the last month, did you hear the voices tell you to (specify self-destructive act) more than once before you did not try to hurt yourself?

If yes, specify how many times

1. No

2. 2-5

3. 6-20

4. Over 20
Section V (Commands to do Harmless Acts)

**Interviewer:** Section V will only be administered to patients who have heard commands to do harmless acts. If this patient has not had such commands within the last month, omit Section V.

The interviewer will administer the A questions only if the patient reports having acted on command hallucinations to do harmless acts within the last month. The B questions will be administered only if the patient has had command hallucinations (without acts) to do harmless acts in the last month. If the patient had prior command hallucinations to carry out the harmless act, but they were not obeyed on the prior occasion, those commands will be the focus for both the A & B questions. There must be an 18 hour gap (free of command hallucinations) between the command hallucination that was carried out for the latter to be called a "command hallucination without acts."

Be quite specific in referring to the command to do harmless acts so that the patient understands exactly what command hallucination you are referring to.

**Interviewer:** Please read the following to the patient, "You told me that you heard voices telling you to (specify harmless act). This next set of questions will refer to the voices that told you to (specify harmless act) when you did carry out the act."
55. Approximately what percent of the time did you follow the instructions to do harmless acts?
   1. None
   2. 1-20
   3. 21-40
   4. 41-60
   5. 61-80
   6. 81-99
   7. All

55A. When you heard the voice that told you to (specify act) and you did (specify act), could you identify or name the source of the voice?
   1. Yes (If yes, whose voice was it?)
   2. No

   **Interviewer:** Circle yes if the response is a name or proper noun (i.e.: specific relative, God, the Devil, etc.). Circle no if the subject cannot specifically name the person who is speaking to them (even if the voice is familiar to the subject in the sense that the same voice has spoken to them for years.)

55B. When you heard the voice that told you to (specify act) and you did not (specify act), could you identify or name the source of the voice?
   1. Yes (If yes, whose voice was it?)
   2. No
Interviewer: See instructions in 55A.

56A. When you heard the voices that told you to (specify act) and you did (specify act), had you tried to put the voices out of your mind?
   1. Yes
   2. No

57A. If yes, to what extent could you put the voices out of your mind?
   1. Not at all
   2. Partially
   3. Completely

56B. When you heard the voices that told you to (specify act) and you did not (specify act), had you tried to put the voices out of your mind?
   1. Yes
   2. No

57B. If yes, to what extent could you put the voices out of your mind?
   1. Not at all
   2. Partially
   3. Completely

58A. When you heard the voices tell you to (specify act) and you did (specify act), did you struggle against obeying the voices?
   1. Yes
   2. No
58B. When you heard the voices tell you to (specify act) and you did not (specify act), did you struggle against obeying the voices?

1. Yes
2. No

Section VI (Misrepresentation)

59. Have you ever told a doctor that you had not heard voices tell you to do things, when you actually had heard voices?

1. Yes (Why?)
2. No
APPENDIX B

TABLES
Table 1

Average Inter-Item Correlation Between Three Independent Raters for the SADS-C, SAS-PAT II, and CHQ

<table>
<thead>
<tr>
<th>Subject</th>
<th>SADS-C</th>
<th>SAS-PAT-II</th>
<th>CHQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.86</td>
<td>.86</td>
<td>.97</td>
</tr>
<tr>
<td>2</td>
<td>.71</td>
<td>.93</td>
<td>.98</td>
</tr>
<tr>
<td>3</td>
<td>.51</td>
<td>.96</td>
<td>1.00</td>
</tr>
<tr>
<td>4</td>
<td>.65</td>
<td>.89</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>.55</td>
<td>.95</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>.42</td>
<td>.95</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>.70</td>
<td>.86</td>
<td>-</td>
</tr>
<tr>
<td>Mean</td>
<td>.63</td>
<td>.92</td>
<td>.98</td>
</tr>
</tbody>
</table>

**Note.** SADS-C = Schedule for Affective Disorders and Schizophrenia - Change Version, SAS-PAT II = Social Adjustment Scale - Patient Version II, CHQ = Command Hallucination Questionnaire. Subjects 4, 5, 6, and 7 did not report command hallucinations, and therefore did not complete the CHQ.
Table 2

**Significant SADS-C Variables Found To Differentiate Among Patients with Command Hallucinations, Noncommand Hallucinations, and No Hallucinations**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Command hallucination</th>
<th>Noncommand hallucination</th>
<th>Non-hallucination</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity of Hallucinations</td>
<td>5.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.96&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.75&lt;sup&gt;c&lt;/sup&gt;</td>
<td>55.27*</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>2.48&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.37&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.56&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.59*</td>
</tr>
<tr>
<td>Inappropriate Affect</td>
<td>1.64&lt;sup&gt;ab&lt;/sup&gt;</td>
<td>1.81&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.16&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.84*</td>
</tr>
<tr>
<td>Bizarre Behavior</td>
<td>2.68&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.89&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.63&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.54*</td>
</tr>
</tbody>
</table>

**Note.** Means having the same subscript are not significantly different at p < .05. To protect against familywise error, only symptoms significant at the p < .01 level are reported. SADS-C= Schedule for Affective Disorders and Schizophrenia - Change Version.
Table 3

Multiple Regression of SADS-C and CHQ Independent Variables for Command Hallucination Patients who Obeyed At Least One Command

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>r</th>
<th>Beta</th>
<th>Multiple R</th>
<th>$R^2$</th>
<th>$R^2$ change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle Insomnia</td>
<td>.55</td>
<td>-.43</td>
<td>.55</td>
<td>.30</td>
<td>.30</td>
</tr>
<tr>
<td>Voice is Acting in Your Best Interest</td>
<td>.66</td>
<td>.69</td>
<td>.67</td>
<td>.44</td>
<td>.14</td>
</tr>
<tr>
<td>Overt Irritability</td>
<td>.81</td>
<td>.55</td>
<td>.81</td>
<td>.66</td>
<td>.12</td>
</tr>
</tbody>
</table>

Note. 47 independent variables in all were entered in the regression equation presented here. None of the next 44 variables were significant at the .05 level. SADS-C = Schedule for Affective Disorders and Schizophrenia - Change Version, CHQ = Command Hallucination Questionnaire.
Table 4

**Multiple Regression of SADS-C, CHQ, and Violence Independent Variables for Command Hallucination Patients who Heard Command Hallucinations Instructing Violent Behavior to Self or Violent Behavior to Others**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>r</th>
<th>Beta</th>
<th>Multiple R</th>
<th>$R^2$</th>
<th>$R^2$ change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heard Harmless Command</td>
<td>.66</td>
<td>-.70</td>
<td>.67</td>
<td>.44</td>
<td>.44</td>
</tr>
<tr>
<td>Violence to Self</td>
<td>.75</td>
<td>.34</td>
<td>.75</td>
<td>.56</td>
<td>.12</td>
</tr>
</tbody>
</table>

*Note.* 47 independent variables in all were entered in the regression equation presented here. None of the next 45 variables were significant at the .05 level. SADS-C = Schedule for Affective Disorders and Schizophrenia - Change Version, CHQ = Command Hallucination Questionnaire
Table 5

**Overall Levels Of Dangerousness in Patients with Command Hallucinations, Noncommand Hallucinations, and No Hallucinations**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Command hallucination</th>
<th>Noncommand hallucination</th>
<th>Non-hallucination</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerous to self</td>
<td>.44</td>
<td>.15</td>
<td>.19</td>
<td>1.74</td>
</tr>
<tr>
<td>Dangerous to others</td>
<td>.68</td>
<td>.70</td>
<td>.47</td>
<td>1.03</td>
</tr>
<tr>
<td>Dangerous overall</td>
<td>.50</td>
<td>.41</td>
<td>.32</td>
<td>1.39</td>
</tr>
</tbody>
</table>

*Note.* Mean ratings based on a three point scale with: 0 = no violent behavior reported or recorded in patients chart for the past 12 months, 1 = one or more instance of sub-lethal violent behavior directed at self or others in the past twelve months, 2 = one or more instance of lethal or potentially lethal behavior directed towards self or others in the past 12 months. All F values are nonsignificant.
REFERENCES


Clark Institute of Psychiatry Continuing Care Division. (1990). Social Adjustment Scale Patient Version II.


action techniques within a surrogate family setting.  
Journal of Group Psychotherapy Psychodrama & Sociometry,  
44(1), 3-18.

Jansson, B. (1968). The prognostic significance of various  
types of hallucinations in young people.  Acta  
Psychiatrica Scandinavica, 44, 401-409.

the SADS-C as a diagnostic and symptom severity measure.  
Journal of Consulting and Clinical Psychology, 54(4),  
546-551.

hallucinations. American Journal of Psychiatry, 147, 245-  
247.

psychiatry (10th ed.). Philadelphia: W. B. Saunders.

Krakowski, M. I., Convit, A., Jaeger, J., Lin, S., &  
Journal of Psychiatric Research, 23(1), 57-64.

Lehman, H. (1967). Clinical features of schizophrenia. In  
A. M. Freedman, H. I. Kaplan (Eds.), Comprehensive  
Textbook of Psychiatry (pp. 538-639). Baltimore:  
Williams & Wilkins.

Madden, D. J. (1985). Psychotherapeutic approaches in the  
treatment of violent persons. In L. H. Roth (Ed.)  
Clinical treatment of the violent person (DHHS


Biometrics Research.


