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By

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ABSTRACT

THE INNER VOICE:
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By

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Some people experience mental life as an explicit dia-
logue between parts of their personality; typically as a
dialogue between the self and an "inner voice." This
research started out as an attempt to extend earlier
research on the voicer versus nonvoicer distinction by
Salzman and Hunter (1983) in two ways: by constructing
personality items to assess the difference and by
correlating the voicer dimension with many more personality
traits. The personality items yielded three voicer scales
which formed a Guttman simplex. This suggested a typology
of voicers: guard voicers whose inner voice is preoccupied
with what other people might say or think, conscience
voicers, and other voicers. Analysis of the data suggests
that among 336 college students, 70 percent are voicers and
30 percent nonvoicers. Among voicers, 80 percent are guard
voicers, 10 percent are conscience voicers, and 10 percent
are other voicers. The scale which identifies guard voicers
was highly correlated with many traits including suspicion

(r=.54), resentment (r=.51), cynicism (r=.47), conformity (r=.48), and trait anxiety (r=.44). The other two voicer scales were much less highly correlated. This suggests that on the average, guard voicers differ from nonvoicers on these dimensions while conscience voicers and other voicers do not. Path analysis techniques show that the personality correlates of the guard voicer scale are mediated by the trait Egocentrism (r=.63), a tendency to believe that others are watching, listening, and thinking about you. The correlation between the guard voicer variable and neuroticism is .41. Given the nature of patients seen in private practice, this suggests that most of the patients in psychotherapy are guard voicers, a fact which would deeply color theories of personality based on clinical experience. Most authors who have discussed the inner voice have identified the inner voice with conscience. The data suggest that only 10 percent of voicers experience the inner voice as conscience.

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CHAPTER I

INTRODUCTION

Purpose

The central focus of this work was the development of a test to assess whether or not a person experiences mental life as a dialogue with an inner "voice." Some people experience thought as an explicit dialogue between parts of their personality and some people don't. For example, some people experience conscience as an inner "voice" which berates them if they do something wrong and praises them if they do something good. Others experience conscience only in the form of thoughts about moral topics; with no dialogue and no self commentary. Those individuals who experience an inner "voice" usually report an inner dialogue which extends to many aspects of life other than conscience. The inner voice may take on the role of guard, issuing warnings or reminders. The inner voice may provide commentary on the actions or appearances of others. The inner voice may take on the role of devil's advocate during times of decision. In summary, some people experience mental life as a spon-taneous dialogue between parts of their personality while others experience mental life "alone." Salzman and Hunter

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(1983) have labelled this dimension the "voicer-nonvoicer" dimension.

Salzman and Hunter (1983) devised a method of detecting the presence or absence of an inner voice built on the informal interviews used to make such decisions about friends and acquaintances. However, their method is very cumbersome even for college students and does not appear to be suitable for use with a high school or grade school population. This research makes a first attempt at developing a more standard questionnaire instrument. Salzman and Hunter (1983) report some research on the personality correlates of the voicer dimension. This research considers a much larger number of personality traits.

Hypothesis of Correlates of the Inner Voice

The other variables for this research were chosen with more than just measurement objectives in mind. Many variables were included to provide data for the development of a formal theory of the inner voice phenomenon. Thus many more outside variables were measured than was necessary for the purposes of testing the measurement model. The outside variables were chosen around four themes: the effects of negative programming, negative evaluation of others, self-orientation, and a replication of the Salzman and Hunter results.

Many psychoanalysts trace neuroticism to a punitive superego. For example, Horney (1950) specifically blames

cold and rejecting parents for producing a monstrous carica-
ture of conscience which then generates neurotic behaviors
in the child. If the inner voice acts as an introjection of
the parents, then voicers should be much more vulnerable to
negative programming than nonvoicers.

To assess the presence of negative programming, four
scales were constructed to assess parent behavior. Subjects
responded as to whether their parents were critical, were
warm, whether they used physical punishment, and whether
they practiced withdrawal of love as a compliance strategy.

The direct effects of negative programming were
assessed by three variables: feelings of inferiority
(reverse self-esteem), trait anxiety, and fearfulness. The
indirect effects were assessed by six variables. Low
self-esteem should lead to shyness and low sociability.
Shyness and fearfulness should lead to audience anxiety and
low exhibitionism. Anxiety should produce rigidity.
Fearfulness should produce conformity.

Parental affect should act as a moderator variable for
the relationship between the voicer dimension and the
effects of negative programming. That is, if the sample is
divided on the basis of parental affect, then among the
subjects with rejecting parents, there should be a high
correlation between the voicer dimension and the variables
listed in the previous paragraph.

Informal observation suggests that voicers are more
likely to have negative evaluations of others. In fact,

most voicers informally interviewed have reported that their inner voice makes uninvited comments about people and events around them. The belief that voicers have negative evaluations was tested directly by three variables: cynicism (people are weak), deep cynicism (people are vicious), and benevolence (people are good). If a person holds a negative evaluation of others, then in case of conflict, the person will tend to blame the other. Blame of others is assessed by three variables: feelings of resentment, indignation, and negativism.

If fear of others occurs early in life, then the child might become highly distrustful of others. This was assessed by two variables: suspicion and distrust. Suspicion and distrust in turn might produce a competitive stance towards others. This was assessed by three scales: competitive, importance of honesty (the opposite of trust), and practice of deceit towards others. Distrust could lead to withdrawal from others. Withdrawal was assessed by two variables: low affiliation and difficulty with self-revelation. Distrust might lead to fear of negative consequences. This was assessed by two variables: fear of expressing anger and negative afterthoughts following anger.

If the negative evaluation of others stems from fear of parents or anger at mistreatment, then parental affect might act as a moderator variable for the relationship between these variables and the voicer dimension.

Informal interviewing suggests that voicers are more likely to perceive themselves as the center of the universe:

to be more likely to believe that others are watching them or listening to them or thinking about them. This was assessed directly by one scale: egocentricism. The indirect effects of egocentricism were assessed by two variables: the importance of appearances and selfishness.

The four variables most highly correlated with the voicer dimension by Salzman and Hunter (1983) were: active head (talking in my head, talking out loud, thinking about annoying things while doing something else), need for approval (many conformity items), dominance, and the enjoyment of rule breaking. The hypotheses of correlates of the inner voice discussed above are diagrammed and presented in Figure 1.

Overview

The goal of this research was to develop an instrument for assessing whether or not a person experiences an inner voice. The long range goal is to develop an instrument which can be used in non-college settings; including an instrument which can be used with children. However, the immediate goal was to produce a scale which does not require the sophisticated reading of the semi-interview procedure used by Salzman and Hunter (1983).

The methodology will be presented in three parts: measurement methodology, operational methodology and statistical methodology. The measurement methodology is that of multiple operations. Several methods of measuring

Presence of Negative Programming → Critical parents (reversed), Warm Parents (reversed), Physical Punishment, Withdrawal of Love

Direct Effects of Negative Programming → Feelings of Inferiority, Trait Anxiety, Fearfulness

Indirect Effects of Negative Programming → Shyness, Low Sociability, Rigidity, Conformity → Audience Anxiety, Low Exhibitionism

Direct Effects of Negative Evaluation Of Others → Cynicism, Deep Cynicism, Benevolence (people are good)

Indirect Effects of Negative Evaluation Of Others (blame of others) → Feelings of Resentment, Indignation, Negativism

Fear Of Others → Suspicion, Distrust

Indirect Effects of Fear of Others → Competitive Stance Towards Others, Withdrawal, Fear of Negative Consequences → Competitive, Importance of Honesty, Practice of Deceit, Low Affiliation, Difficulty with Self Revelation, Fear of Expressing Anger, Negative Afterthoughts

Self-Orientation → Egocentricism

Indirect Effects of Self-Orientation → Importance of Appearances, Selfishness

Replication of Salmon & Hunter → Active Need, Need for Approval, Dominance, Enjoyment of Role Breaking

FIGURE 1 FLOW CHART OF HYPOTHESES OF CORRELATES OF INNER VOICE

the same thing are applied to a sample of subjects simultaneously. If all methods appear to measure the same thing, then each method is validated to that extent. The test for common measurement is that of construct validity or confirmatory factor analysis: internal and external consistency. The operational methodology lists the empirical operations required by the study: development of the inner voice items, measuring the outside variables, procedure and subjects. The statistical methodology will describe the analyses to be done and how they relate to the objectives of the study.

Research sometimes comes out much differently than was expected. This was true in the present study. The items written for the voicer dimension produced three different scales which formed a Guttman simplex. Interpretation of this pattern and the pattern of correlation between these three scales and the other personality traits is discussed in the results. The discussion states that some voicers follow the pattern suggested by the literature; their inner voice plays the role of conscience. However, the data suggest that this is true of only 10 percent of voicers. For 80 percent of voicers, the inner voice plays a role which is here labelled the "guard" role (a concern with what other people may be thinking or planning; often a preoccupation with possible negative reactions by others). The conscience and guard roles are similar in that the inner voice issues "do's" and "don'ts" as well as praise and blame for past acts. However, the basis of the concerns of the

inner voice is quite different in the two cases. The conscience is concerned with moral principles while the guard seeks to protect the person from the predatory acts of others. The implications of the relationship between neuroticism and the voicer scales is presented in the discussion. A brief summary follows the discussion.

CHAPTER II

LITERATURE REVIEW

This research is based on three lines of previous research: 12 years of informal interviewing, the formal research done by Salzman and Hunter (1983), and the scholarly literature which refers to the inner voice. Much of the literature referring to the inner voice deals with the internalization of rules and values, an issue closely related to discipline and compliance in the schools. This literature is distilled in the section titled "Conflict and discipline." Salzman and Hunter (1983) did an extensive search of the psychological literature for references to the inner voice, with a particular emphasis on clinical psychology and psychoanalysis. The results are summarized here with a few additional references mostly from sociology and education.

The literature on the voicer dimension is sparce because voicers and nonvoicers appear to be unaware of the existence of each other. That is, explicit references to the inner voice are made by authors who assume that it is universal; references such as those one would expect from authors who themselves experience an inner voice. Reference to such writings by other authors is often metaphoric or

vague; i.e. appears to be attempts by nonvoicer authors to restate the content without reference to an inner voice.

Conflict and discipline

This section will spell out a theory as to the potential relevance of the inner voice to education and other institutional settings. There will be an argument that the presence or absence of an inner voice provides a partial explanation for why some people have so much more trouble conforming to institutional demands than others. It is postulated that people with an inner voice provide two subsets on the compliance dimension: those who rigidly obey the rules and those who openly and defiantly rebel against authority. Nonvoicers tend to display unquestioned compliance, even though they "bend" the rules and even break them when they think they will not be caught.

When teachers have a chance to talk to experts, their first questions usually pertain to classroom management. They may refer to the problem of discipline or they may ask how to "meet the emotional needs of the student," but they are concerned with problems of conflict between teacher and student. Similar problems arise in other social institutions such as government and business organizations. Why is there so much conflict?

Within work organizations, Simon (1945) has noted that much of the conflict stems from subgroup goals that optimize the performance level of the subgroup while creating problems for either other subgroups or the organization as a

whole. While authority structures may be designed to resolve such conflicts, they would rarely be referred to as problems of discipline. Other conflicts arise from the competition between individuals. However, while these too require the mediation of authority, the conflicts are rarely regarded as matters of "discipline."

Problems of "discipline" arise from behavior on the part of a subordinate which appears to be inappropriate to the superior. In the openly moralistic language of the past, such pupil behavior might be referred to as "lazy" or "wicked." Current terminology for the same action would be "immature" or "disruptive." There are two classic theories of compliance in interpersonal situations; the authoritarian model and the utilitarian model. These two theories will be briefly discussed and an alternative value clash theory will be added. These theories will then be related to the behavior of the children who do or do not have an inner voice.

An authoritarian model of compliance starts from a purely institutional point of view in which departures from the prescribed path are "wrong" and should be punished by sanctions against such deviancy. Fairness to the individual requires only prior notification of the rules and procedures of investigation that ensure punishment only if actually guilty. Deviance is detrimental to the organization and voluntary deviance is evidence that the individual is inadequate or abberrant (Merton, 1973). Explanation of

non-compliance then becomes a matter of stating reasons for the deficiency of the offending individual.

In both the school and the home, disobedience at one time or another is almost universal. This leads to the theory that the natural or starting state of the child is deficient. In religion, this is the doctrine of original sin. In such a model, it is not deviancy which must be explained but compliance. How is the child transformed from its original savage state to compliant citizen? Most such models assume two phases to development; an early phase of external control and a mature phase in which external values have been internalized. The young child can be deterred from disruptiveness only by threat of punishment. The young child requires constant supervision because the threat will only operate when the sanctioning force is explicitly present. However, the older child or adult is expected to have internalized the demands of society in the form of a conscience. For example, Freud believed that the resolution of the Oedipus complex resulted in the formation of the superego, a part of the personality which functioned as an everpresent judge of thought and behavior. Many people do in fact experience conscience as an explicit "inner voice" which berates them if they make a mistake and they can experience praise and adulation if they do well. As the maturation or "socialization" process becomes stronger and stronger, the individual is more and more dominated by conscience and hence complies with the social demands of

society even when sanctions are not explicitly present. The most mature people are those who comply with institutional rules even if there is no chance of ever being caught, i.e. those who comply to avoid feelings of guilt.

A utilitarian model of human behavior pictures the child as rationally maximizing self comfort. The key to controlling the behavior of the child is shrewd manipulation of incentives. Reward structures should be set up so as to make undesireable behavior punishing while making compliance a source of reward. If the child is not provided with an outlet for basic drives, then the resulting misbehavior is blamed on poor management rather than being interpreted as evidence of a defective child. Once the reward structure has been made clear, there should be no further non-compliance. Sneaky deviance is explained as behavior stemming from an assessment of a situation as one in which the individual will not be caught.

For a utilitarian model, the key problem is that the level of non-compliance never goes as far down as it should. Skinner (1948, 1971) seeks to explain all non-compliance in terms of inconsistent reinforcement, i.e., unintended conflict in the reward structure. However, the utilitarian model has particular problems with rebellion Why would a child refuse to pick up a piece of paper just because "I didn't drop that piece of paper?" Why would the child deliberately invite harsh punishment to avoid trivial effort? The utilitarian model also has problems with rigid

adherence to rules. Why do people obey rules even when there is no chance of being caught? Why do some people even obey the rules when they are aware that obedience is counterproductive to the institution which created the rule?

The problems of these two traditional models of discipline are complementary. The problem for the authoritarian model is the continued existence of non-compliance even among mature individuals. The problem for the utilitarian model is rigid compliance in the face of negative incentive. Many of these problems can be solved by reference to the voicer dimension. Assume that some people have an inner voice and some people don't. Those who have no inner voice carry no inner sanctions for violation of rules. If sanctions are present, they comply and if sanctions are not present, they do as they please.

The simple voicer-nonvoicer model above still has certain problems, especially with defiance and rebellion. These problems may be explained in terms of value clash between supervisor and subordinate. There are at least two sources of clash between values: reverse transgression and subculture differences.

School values are largely derived from traditional middle class life, especially from the mercantile class. Yet only within the last century has a substantial portion of the population come to belong to that class. Other traditional value systems that clashed with mercantile values are those that derived from peasants and those that

were associated with war. Peasants contribute to suspicion of central authority; a retience to reveal anything to authorities and a belief that authorities are out to get you. The value system of war contributes an emphasis on honor and face saving. For example, a frequent cause of violence on the school ground is the belief that only a coward would let anyone say anything derogatory about his mother. Toch's (1980) study of violent men is a case in point. Toch found that men are not violent in general. Rather, the violent acts of any given man are "situation specific," i.e. a given man tends to be violent only in certain specific situations. One could easily restate Toch's findings by saying that most violence is rule determined. Most violent acts are moral acts; the man would have been shamed had he not done what he did. Many children have been taught values that are at least in part incompatible with middle class school values.

The inner voice can act as a Frankenstein monster to the institution. Once programmed, the inner voice uses its rules not only to evaluate self behavior but to evaluate the behavior of others as well. This can be observed in adults who are concerned with living in a neighborhood with values similar to their own. This ensures that the child is surrounded by others with values similar to those of his parents. Thus the child becomes socialized with certain values and if the inner voice evaluates the teacher as a transgressor of a value, then the only proper moral act on

the part of the child is one of "defiance" or "rebellion." The child who refuses to pick up the paper which she did not drop quite properly views the teacher as disobeying the rules of the school which state that you should not be punished for something that you did not do.

Combining the ideas about value clash with the traditional theories of discipline generates the following theory about discipline in the schools. People who experience an inner voice will appear at both ends of the discipline dimension. Those who have been programmed with values consistent with school values will be model students who comply with the rules whether the teacher is there or not. Those who have been programmed with values inconsistent with school values will exhibit "defiance" or "rebellion." Even a well programmed voicer may exhibit "lack of respect" if the teacher appears to transgress the rules. On the other hand, most nonvoicers will tend to appear in the middle of the distribution. Since the reward structure makes compliance reinforcing most of the time, the nonvoicer will usually be compliant. However, if the teacher is not there, then the nonvoicer will only be compliant if it suits him.

A critical reason for developing better instruments for assessing the presence or absence of an inner voice is to test the theory outlined above.

The inner voice

The literature on the inner voice has been much confused by the fact that voicers and nonvoicers have been

unaware of the existence of each other. When voicers speak of "conscience" or "superego" or "internalization," they refer to a concrete process in which the values of society become a separate aspect of the personality which they experience as an inner voice with which they hold a dialogue. Nonvoicers use the same words in a metaphoric way to refer abstractly to psychological processes involved in ethical thought. Voicers assume that the development of an inner voice is almost universal and that only a few psychopaths or sociopaths fail to have one (Mowrer, 1970).

There appears to be no literature on the voicer-nonvoicer dimension. Salzman and Hunter searched the clinical and social psychology literature. A similar search of the educational literature was made by the author. No one refers to a distinction between voicers and nonvoicers. On the other hand, many authors make reference to phenomena which seems related to the voicer dimension; especially the psychoanalysts in their treatment of superego. The clinical literature has been extensively reviewed in Salzman and Hunter (1983) and will receive only a brief treatment in this research project. The psychoanalysts largely identified the superego with the role of conscience. The emphasis below will be on differentiating these concepts. Many voicers do report that their inner voice plays the role of conscience, but many voicers explicitly deny that this is so. Their inner voices play other roles such as guard or judge or commentator.

The largest literature on the existence of the inner voice stems from the classic belief that man is inherently evil and that the constraining power of conscience is all that stands between civilization and chaos. For example, Freud (1958), Parsons and Shils (1965, p. 149) and Wrong (1961) have all stated in a similar way that civilization would be impossible if it were not for internalization. Freud believed societies values are internalized through the superego. Most such writers might have great difficulty with the finding that approximately half.the human race has no inner voice.

The conflict and rigidity of the inner voice has been noted by some authors. For example, Erikson (1964, p. 121) states

> For the voices and images of those adults who are now internalized as an inner voice must not contradict each other too flagrantly. Thus conscience, the consistent inner voice which delineates permissible action and thought, finds a powerful ally in the structure of language which verifies a shared actuality.

Psychoanalysts from the beginning have been aware of the trade off between the ethical and punitive aspects of the superego. Freud refers in many places to an overly punishing and inhibiting superego. This is especially nicely stated in Horney (1950, p. 15) who refers to the inner voice as an inner strait jacket. All psychoanalysts trace some neurotic states to the development of an overweaning conscience.

The inner voice can play many roles other than conscience. For example, Freud attributes narcissism to a defect in the ego ideal, which is the inner voice playing the role of setting goals rather than acting as conscience (Hall and Lindzey, 1957, p. 35). Horney (1950) expands greatly on Freud's treatment of the ego ideal by spelling out ways in which an ego ideal can generate neurotic or false pride, overweaning perfectionism, etc.

Many voicers say that the inner voice also can play an evaluative role. Some voicers report that the inner voice maintains a running commentary on others' actions and statements, often of a very judgmental nature. Horney (1945, 1950) discusses in detail, her frequent observation of contempt for others among neurotics. Many voicers can make very negative attributions of the motives and behaviors of others. Psychoanalysts attribute this to the projection of hostile impulses onto others. However, it is also possible that the inner voice is simply utilizing a theory of human behavior taught by parents with highly derogatory views of human nature.

A role played by the inner voice in some is the role of guard. Many voicers report that their inner voice frequently warns them of dangers. For example, one voicer reported that when she was stretching to relax during an exam, her inner voice said, "Keep your head down, people will think you're cheating." In the role of guard, the inner voice can contribute to the maintenance of fear. For

example, one voicer reported a near phobic reaction to offices. When she kept track of what happened when she was to visit an office, she found that her inner voice said things such as, "Don't stop by the office, he's busy." or "Don't interrupt him, he's working." Messages such as this appear to maintain shyness in certain voicers. The inner voice uses the command form in statements which makes it very difficult to disobey.

A special kind of fear maintaining message in regard to people is reported by voicers with low self-esteem. Here the messages refer to probable negative evaluation by others: "Don't talk to him, that's brazen" or "You better not tell them that, they won't like you if you do." It seems likely that such messages would make it very difficult for a voicer with low self-esteem to overcome shyness. It also appears likely that voicers with low self-esteem would be more likely than others to adopt a conformist style of interacting with others.

The people who have the greatest initial difficulty with the concept of inner voice are the nonvoicers. Nonvoicers have a tendency to confuse phrases such as inner dialogue with verbal processes such as rehearsal, role-taking, and inner conflict. The key difference is this: for a voicer the dialogue is not voluntary, the inner voice speaks whether called forth or not. The inner voice speaks spontaneously. Another difference especially when inner commands are considered is that nonvoicers usually talk to

themselves as "I've got to get this thesis done" whereas the inner voice uses the second person as in, "You better get your thesis done."

The inner voice appears to change and learn slowly. In fact, Freud believed that the superego never changed at all. He explained his observation of the primitive state of the superego by asserting that it was formed at the point where the parent is introjected in order to resolve the Oedipus complex. However, Klein (1948) found that very young children reported an inner voice. Salzman and Hunter (1983) reported that many voicers did find that their inner voice does change. For example, several said that their inner voice became more mature and more helpful as they got older. However, voicers do report that the rate of learning in their inner voices is much slower than normal learning. As a result of this slower rate of change in the inner voice, the inner voice would be predicted to preserve fears such as shyness against an otherwise eroding influence of positive and disconforming experiences. Of course, the inner voice might also preserve positive self-esteem in the face of otherwise degrading experiences. For example, Bettleheim (1960) reported what might be such cases in the strongly religious inmates of the Nazi death camps. The strongly religious seemed to maintain caring and courtesy in the face of experiences that reduced the most competent to little more than animals.

The assumption that the inner voice can change seems to be the focus of a self-help book written by Bach and Torbet (1983). Bach and Torbet's book is based on the premise that everyone has many voices which can be ally voices or enemy voices. Salzman and Hunter (1983) did find a few voicers that report more than one inner voice. Some report a voice of temptation as well as a voice of conscience; as in the Disney cartoon which shows the devil talking into one ear while a little angel speaks into the other ear. Bach and Torbet believe that change occurs as a result of becoming aware of which voices are foes and which voices are allies. Learning will result when an individual learns to listen to the positive voices. The book by Bach and Torbet lists many roles that a voice could assume but the authors do not state that there are individuals who do not have inner voices. One of the other differences between the book by Bach and Torbet and the Salzman and Hunter paper is that Bach and Torbet assume that individuals have many voices, both friend and foe, as opposed to Salzman and Hunter who assume an inner voice with many roles. Bach and Torbet's failure to recognize the existence of both voicers and nonvoicers leaves the reader wondering if the authors are merely distinguishing positive and negative self-talk or positive and negative parental programming or positive and negative thoughts.

Self-talk

There is a growing literature which uses the buzzword "self talk." The phrase self talk sounds as if it might

refer to the inner voice. However, this is not true. The phrase self talk actually refers to any kind of mental process including thoughts, feelings, perceptions, etc. Thus researchers in this area would assert that self talk is constant and universal. Their concern is whether the self talk is positive or negative in content, and whether the self talk makes a positive or negative contribution to coping with external situations.

The self talk literature is largely the work of people in the area now called cognitive behavior theory. Most behaviorists now believe that cognitive processes are relevant to behavior. The self talk concept of thought processes represents one way to view thought as relevant to behavior: people have a tendency to do what they tell themselves to do. The specific research on self talk was the behaviorists' response to the work of Albert Ellis (1958). Ellis traced all irrational behavior and inappropriate emotional responses to irrational thought. However, Ellis did not attempt to explain irrational thought in terms of traumas in the birth canal or resolution of the Oedipal complex. Rather, Ellis spelled out specific irrational thoughts that were directly related to the behavior or emotion in question, and Ellis spelled out the irrational thoughts in concrete and specific terms. For example, Ellis points out that if a person is deeply afraid that he/she will not be able to perform adequately in sexual intercourse, the autonomic response to that fear can induce a

transient state of impotence. The therapist must first eliminate the belief in inadequacy, then the fear will be reduced, the autonomic response will be weakened, and the patient will be able to enjoy normal intercourse. The cognitive behaviorists recoded Ellis to say that the key to therapy is to replace negative self talk by positive self talk.

Van Noord (1982) has a complete review of the literature on self talk with special emphasis on the use of self talk by athletes during or in anticipation of sports events. Having athletes practice positive self talk appears to be ineffective; researchers have found no improvement in performance in groups who are instructed to practice positive self talk. However, there may be an interaction here. For voicers, covert self talk is similar to listening to their inner voice. Thus voicers may react to induced self talk as a natural activity. Indeed, the inner voice may even recite the desired lines. However, a nonvoicer may find induced self talk to be unnatural and stressful; threatening or distracting. Thus induced self talk might improve the performance of voicers while reducing the performance of nonvoicers. These opposite effects on the two subgroups would tend to cancel; especially if athletes have an approximately fifty-fifty split of voicers and nonvoicers as indicated by the research of Salzman and Hunter (1983). The possibility that induced self talk might be a stressor, even though positive in content, was put

forth by Girodo (1977). However, Girodo assumed that the stressor reaction might be universal and thus would explain the findings of no effect. The interaction hypothesis proposed here would imply that the variance of the experimental group would be noticeably larger than the variance of the control group in self talk research if individuals were identified as either voicer or nonvoicer.

CHAPTER III

METHODOLOGY

MEASUREMENT METHODOLOGY

The measurement methodology for this research was a variety of construct validation. Since a formal theory of the inner voice does not yet exist, the methodology of multiple operations was used. A variety of items that should measure the presence of an inner voice were written. These items were then assessed for measurement consistency; i.e. they were empirically tested to see if they all measure the same thing. This test for convergent validity was carried out factor analytically. The assessment of discriminant validity was made by correlating the items with a set of relevant outside variables to see if they are parallel to each other. The selection of outside variables was in part based on past research by Salzman and Hunter (1983) and was in part a synthesis of hypotheses from years of informal interviewing.

Reliability and factor analysis

The key questions for this methodology are how to relate the observed variables or measurements to an unobserved underlying trait: the true distinction between voicers and nonvoicers. There are two methodologies for

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dealing with unobserved imperfectly measured variables: reliability theory and factor analysis. Reliability theory is an exploratory technique, i.e. it assumes that the indicators all measure the same thing and then goes on to other questions. Factor analysis is a confirmatory technique in that it does not assume that the measurement model is correct, but rather seeks to test that model. The reliability model is a special case of factor analysis: the Spearman (1904) one factor model. Thus factor analysis can be viewed as a prerequisite to reliability analysis. If the factor analysis finds one factor, then all the usual reliability computations can be made.

Factor analytic methods differ from one another depending on the nature of the measurement model to be tested. If the measurement model is given in advance, then "confirmatory" factor analysis is to be used. If the measurement model is not given, then "exploratory" factor analysis is used.

The first method of confirmatory factor analysis was developed by Spearman (1904). His first model allowed only one underlying variable or factor. However, he later extended his model by adding group factors corresponding to subsets of items. The analysis scheme was extended by Holzinger (1944) and Thurstone (1945) who called the new technique "multiple groups factor analysis." In the extended model, the full set of variables is broken into mutually exclusive subsets or clusters where all variables

within a cluster measure the same underlying trait. Thus confirmatory factor analysis can be regarded as a multi-variate reliability theory. The cluster model was called "cluster analysis" by Tryon (1939), but has been more recently called "confirmatory factor analysis" by Joreskog (1966). A brief treatment of confirmatory factor analysis is given in Hunter and Gerbing (1982). A more extensive treatment is given in Hunter (1977).

Confirmatory factor analysis is used to test a measurement model which is developed on some other basis. Correlations are computed as if the model were true and are then compared with the actual correlations. If the discrepancies are too large, then the measurement model is rejected.

The researcher may not have a measurement model. Factor analysis is then used to construct a measurement model. For this purpose, exploratory factor analysis is used. This research used the typical exploratory factor analysis: principal axis factor analysis with communalities followed by VARIMAX rotation. For purposes of this research, the primary question to be answered by exploratory factor analysis is whether more than one factor is required. If more than one factor is needed, then the results of the factor analysis can be used to suggest a more complicated measurement model. This new measurement model can be tested using confirmatory factor analysis. The relation between exploratory and confirmatory (under the name "cluster

analysis") factor analysis has been spelled out in detail in Hunter (1977).

For this research, the specific methodology used was that of Hunter (1977) as laid out more recently in Hunter and Gerbing (1982). In this procedure, the analysis of the data takes the form of testing a formal measurement model. There are three steps in this test: (1) assessment of homogeneity of content, (2) assessment of internal consistency, and (3) assessment of external consistency or parallelism.

The issue of homogeneity of content is similar to the issue of content validity: do all the items seem to be assessing the same underlying dimension? If items are only indirectly rather than directly related to the trait to be measured, then there should be an explicit rationale relating the item content to the trait. This rationale should be empirically tested if possible. At a minimum, indirect items should be written in sets. If the indirect items do not assess the trait itself, then each set of comparable indirect items will identify a factor which is measured by that set of items. This factor can then be correlated with the trait in question to establish the extent of trait related variance in the indirect item as opposed to the extent of variance in the item response related to other factors. If indirect items are not duplicated in content, and if some of the indirect items measure extraneous factors, then there would be no way to identify such factors.

The test for internal consistency is a test for convergent validity. If a set of variables all measure the same underlying trait, then they should correlate with each other as highly as their reliability permits. If the items are all linearly related to the underlying trait, then the correlations between the items should form a Spearman rank one set. This can be tested in a number of ways. The usual test is to perform an exploratory factor analysis on the item correlation matrix. There should be only one non-trivial factor. The exploratory factor analysis used here was principal axis factor analysis followed by VARIMAX rotation of the factors with eigenvalues greater than one. The communality of each item was estimated by its largest correlation.

The test for external consistency is a form of the assessment of construct validity. If all items measure the same trait, then they should be related in a parallel manner to outside variables. For example, if all items have the same reliability and all measure the same trait, then they should all have identical correlations with any given outside variable. The key to an empirical test of parallelism is to have the appropriate outside variables. First, the outside variables must be related to the trait in question. If an outside variable is irrelevant to all the items, then the items could all be uncorrelated for different reasons. Second, if a bad item is to be detected, then there must be an outside variable which is related to

the extraneous factor measured by that item. The deviant item will then correlate much more highly with that outside variable than will the other items.

OPERATIONAL METHODOLOGY

There were four key steps to gathering the data for this study: developing items to assess the voicer/nonvoicer dimension, finding scales to measure the outside variables, developing a strategy for finding subjects, and providing feedback to the subjects who participated.

Origin of the inner voice items

All of the inner voice items were written for this research. There were two sources of items: the Salzman and Hunter (1983) instruments and the anecdotal compilation of the results of twelve years worth of informal interviewing.

Salzman and Hunter (1983) used a scenario method of measurement. Subjects were presented with a document that defined and described the inner voice phenomenon. Subjects were then asked to use that document to identify themselves as voicer or nonvoicer. Three different documents were constructed to focus on three different descriptive schemes. One document was a phenomenal description in colloquial terms. One document used very sophisticated and abstract language. The third document was a compromise which used a phenomenal description but with less colloquial language. These three documents are presented in Appendix A as used by Salzman and Hunter. These documents were analyzed for

statements that could be written as conventional personality items. Other items were then written based on informal memory of distinctive statements frequently made by people who experience an inner voice.

The inner voice items written for this research are presented in Appendix B. A content analysis of the original items revealed a basic problem with the original research objectives. Nearly all of the items which were most directly relevant to the phenomenal experience of the inner voice used the phrase "inner voice." Informal interviewing has shown this to be a problematic form of communication. For people who experience an inner voice, the phrase "inner voice" has a clear and concrete meaning. However, for people who do not experience an inner voice, the phrase "inner voice" usually has a metaphoric meaning which is quite different from the literal meaning. For example, consider the item: "If I have done something well, I experience an inner voice that praises me." Most voicers will say yes to the literal meaning of this item. However, a nonvoicer may translate the item into "If I have done well, then I am aware that my parents would be pleased" or "my girlfriend would be proud of me." The voicer may then say yes to the item because his metaphor is true for him.

The problem of metaphorical meaning was the stumbling block which led Salzman and Hunter to use the scenario method. A compromise solution was attempted for the current study. Just preceding the inner voice items in this

research, the subjects were given a paragraph of text which described and defined the phrase "inner voice." This paragraph in turn was preceded by two procedural paragraphs explaining why the definition was being given. These explanatory paragraphs are also given in Appendix B as presented to the subjects.

At the end of the entire questionnaire, the scenario method of Salzman and Hunter was used for comparison purposes. Because of time limitations, the entire Salzman and Hunter procedure could not be used. Instead the critical segments from the two better scenarios were used. The modified scenario used is presented in Appendix C.

Measuring the outside variables

There were thirty-eight variables used to test the inner voice items for parallelism. These variables are listed in Table 1 with their interpretation and source of the items in each case. The complete item list within each variable is found in Appendix D and the complete question-naire as given to the student is found in Appendix E.

Procedure

The subjects were recruited from two dormitories on campus. As an inducement to participate, subjects were offered detailed feedback on their personality scores. As part of the cover letter, subjects were told that if they were willing to trust us to keep their results confidential, then we would use the address label that they filled out to

send them their scores on the thirty-five variables to be measured in the questionnaire.

Students were asked to record their responses on the op-scan sheets included with the questionnaire. Computer programs were written to score the items by scales and generate a report for each participant. The feedback form is presented in Appendix F. After explanatory information, including phone numbers where students could obtain more feedback if they wanted, the results for each scale were presented as follows: title of scale, meaning of high and low scores, percentile score on the scale for that subject, error band for their score (computed by converting the usual standard error confidence interval to percentile scores).

Subjects

The subjects were 339 students at Michigan State University. The subjects were recruited by mail. The questionnaire and cover letter were put in every mailbox in two large dorms. Just over 1500 questionnaires were given out and 349 students chose to participate, yielding a return rate of 22.6 percent. Subjects were promised feedback on their personality scores if they chose to participate and were willing to trust us with their name and address. Only twenty-three students did not want feedback. Thus virtually all subjects chose to ask for feedback.

The subjects in this study were selective in three ways. First they are all college students. Second, they are students who live in a dorm rather than in town. Third,

they chose to participate rather than throw the question-
naire in the trash. These selective factors may be related
to the voicer-nonvoicer dimension. For example, most
psychoanalysts would predict that voicers would be more
likely to return the questionnaire than nonvoicers. That
is, psychoanalysts would believe that voicers have
internalized society's values and norms and hence would be
more likely to comply with a request for information. Thus
one should be cautious in interpreting any of the results as
normative.

As it happens, the selection is irrelevant to the
purposes of this study. The critical factor in this study
is correlations between the voicer-nonvoicer dimension and
other variables. For this purpose, it is necessary that the
relative number of voicers and nonvoicers not depart too far
from the 50/50 split. A point biserial correlation is
maximum for a 50/50 split on the dichotomous variable. The
greater the departure from 50/50, the smaller the corre-
lation. If the split were 90/10 or 10/90 or worse, then the
sampling error in such correlations would be greatly
increased. Scores on the scenario in this research show
that about 68% of the subjects identified themselves as
voicers rather than nonvoicers. This is a departure from
the 60/40 split obtained by Salzman and Hunter (1983),
though not so large a departure as to cause serious problems
for the analyses carried out here. For a 68/32 split, the
point biserial correlation is only seven percent smaller
than it could be for a 50/50 split.

STATISTICAL METHODOLOGY

Internal consistency

Although the inner voice items were written around
several themes, all items were written to tap into whether
or not the person has an inner voice. By this criterion,
the items are all homogenous in content. Thus the prelim-
inary hypothesis was that all items measure the desired
underlying trait. Since the items were by construction
homogeneous in content, the test for unidimensionality comes
down to the two statistical tests: internal consistency and
external consistency (parallelism).

The first step in testing for internal consistency is
to form the voicer item correlation matrix. There are
thirty-one ordinary scale items. In addition, there is the
preliminary self-identification based on a two paragraph
definition of the inner voice experience. There are also
the two items which assess the person's self identification
after reading the Salzman and Hunter (1983) scenario. Thus
the voicer item correlation matrix is 34 by 34.

The second step in testing for internal consistency is
to perform an exploratory factor analysis. If the
exploratory factor analysis shows only one common factor,
then the factor loadings will be used to assess the nature

of the cleavage. Those items which do measure the presence of an inner voice will be identified by the fact that they fall in the same cluster as the self identifications following the scenario. Items which fall into other clusters will either be dropped or will be used to define another variable.

If the inner voice items measure more than one dimension, then a multicluster model will be formed and tested using confirmatory factor analysis.

External consistency or parallelism

The second statistical test for unidimensionality is the test for external consistency or parallelism. We want to ascertain if all the items correlate in the same way with relevant outside variables. Table 1 defines 36 variables to serve as the outside variables for this analysis.

The exact nature of the test for external consistency depends on the outcome of the test for internal consistency. If all thirty-four items prove to be internally consistent, then all thirty-four items would be considered in the test for external consistency. However, if the test for internal consistency suggests that only a subset of the items measure the voice dimension, then only that subset of items would be considered in the test for external consistency. The key correlation matrix for the test of internal consistency is the correlation matrix between the inner voice items and the outside variables. If all items are internally consistent, then this matrix would have 34 columns, one for each inner

Table 1. List of variables, variable interpretation and item source.

Variable Name	Variable Interpretation	Item Source
1. Shyness	A high score means you see yourself as shy.	Hunter (1983) New
2. Shyness (post)	A high score means that you scored high on a shyness inventory.	Cheek & Buss (1981)
3. Inner Voice (pre-test)	Self-identification as voicer or non-voicer.	Hunter (1983) New
4. Inner Voice (post-test)	Final self-identification as voicer or nonvoicer.	Salzman & Hunter (1983)
5. Anxiety	A high score means that you are tense or depressed or generally unhappy while a low score means that you are positively excited.	Spielberger (1970)
6. Negativism	A high score means that you try to do the opposite of what someone wants if you are angry at them.	Buss Durkee (1952)
7. Resentment	A high score means that you have often felt resentment towards others.	Buss Durkee (1952)
8. Self Revelation	A high score means that you have no difficulty sharing facts about yourself.	Schnarch & Hunter (1976)
9. Critical Parents	A high score means that your parents were critical of you.	Hunter (1983) New
10. Warm Parents	A high score means that your parents were warm and accepting of you.	Hunter (1983) New
11. Physical Punishment	A high score means that your parents were likely to use physical punishment.	Hunter (1983) New
12. Withdrawal of Love	A high score means that your parents withdrew signs of affection if they were angry with you.	Schaefer & Bell (1965)
13. Sociable	A high score means that you enjoy being with others.	Cheek & Buss (1981)
14. Conformity	A high score means that you tend to talk or act to match those about you rather than express your own views or feelings.	Fenigstein (1975)
15. Honesty	A high score means that you place a high value on honesty.	Hunter, Gerbing & Boster (1982)
16. Cynicism	A high score means that you do not feel safe in trusting others.	Hunter, Gerbing & Boster (1982)
17. Benign	A high score means that you feel that most people are basically good and trustworthy.	Hunter (1983) New
18. Deep Cynicism	A high score means that you think that others will hurt you if given the chance.	Hunter & Gerbing (1980)
19. Indignation	A high score means that you feel that you have often been betrayed.	Hunter (1983) New

Table 1. continued

Variable Name	Variable Interpretation	Item Source
20. Egocentrism	A high score means that you think that other people think about you.	Hunter (1983) New
21. Appearances	A high score means that it is important to you to wear fine clothes and own a fine car and home.	Hunter (1983) New
22. Exhibitionism	A high score means that you enjoy being the center of attention.	Hunter (1983) New
23. Selfishness	A high score means that you have many reasons for not sharing with others.	Hunter (1983) New
24. Need for Approval	A high score means that you are always worried about what others might think of your actions.	Salzman & Hunter (1983)
25. Dominance	A high score means that you dominate social settings.	Salzman & Hunter (1983)
26. Affiliation	A high score means that you like and trust others.	Mehrabian & Kzionzkv (1974); Hunter (1983)
27. Inferiority	A high score means that you are ashamed of yourself.	Buss (1981)
28. Audience Anxiety	A high score means that public speaking creates fear and anxiety for you.	Buss (1981)
29. Fearfulness	A high score means that you are often frightened.	Buss & Plomin (1975)
30. Rule Breaker	A high score means that you enjoy breaking the rules.	Salzman & Hunter (1983)
31. Deceit	A high score means that you think you you are good at lying.	Gerbing & Hunter (1979)
32. Distrust	A high score means that you have trouble trusting others.	Gerbing & Hunter (1979)
33. Competitive	A high score means that you have adopted a competitive stance towards others.	Gerbing & Hunter (1979)
34. Suspicious	A high score means that you tend to be suspicious of others.	Buss & Durkee (1952)
35. Negative Afterthoughts	A high score means that after being angry, you often have afterthoughts of remorse or regret.	Buss & Durkee (1952)
36. Fear of Expressing Anger	A high score means that you are afraid that people will take reprisals if you show anger.	Buss & Durkee (1952)
37. Rigidity	A high score means that you like a set routine and dislike unexpected or dangerous things.	Thomander (1974)
38. Active Head	A high score means that you almost have something going on in your head.	Salzman & Hunter (1983)

voice item and 35 rows, one for each outside variable. If only a subset of the inner voice items measure the voicer dimension then the number of columns would be correspondingly reduced.

The test for external consistency is performed by examining the rows of the voicer item by outside variable correlation matrix. If each item measures the voicer dimension to exactly the same level of quality, then all correlations in a row of the key correlation matrix would be identical to within sampling error. That is, if the voicer items did not differ in quality (an assessment which is part of the test for internal consistency), then all items should have identical correlations with any given outside variable. For example, all items might correlate .40 (to within sampling error) with shyness. Or all items might correlate -.20 with affiliation (to within sampling error).

If the items differ in quality, then the test for external consistency is slightly more complicated. Items with higher quality would be expected to correlate more highly with each outside variable than do items with lower quality. Thus if items differ in quality, then the key correlation matrix needs to have the items ordered by quality. Within each row (i.e. for each given outside variable), the correlations should all have the same sign (to within sampling error). However, the magnitude of the correlations within each row should tend to decline with declining quality (to within sampling error).

Cold parents, a predicted
moderator variable

It was predicted that the impact of the inner voice would depend on the values programmed into the inner voice by parents. For example, cold and critical parents are more likely to be feared than warm and accepting parents. For example, if the inner voice plays the role of guard, then voicers with cold and rejecting parents are much more likely to be suspicious than are voicers with warm and accepting parents. Thus parental affect was predicted to be a moderator variable for the correlation between the voicer dimension and suspicion. The correlation between the voicer dimension and suspicion is predicted to be higher for those with cold parents than for those with warm parents. Similar predictions were made for each of the outside variables.

Four outside variables were defined to measure parental affect: critical parents, warm parents, physical punishment and withdrawal of love. It was anticipated that these four scales would correlate highly enough with each other to define one underlying factor. If this is true, then the four scales can be summed to form one best measure of parental affect (with warm parents reverse scored so as to be consistent with the other three scales).

The parental affect measure can be used to break the total sample into two sub-samples: a cold parents subgroup and a warm parents subgroup. Correlations between the voicer dimension and the outside variables can then be

computed for each subgroup separately. Thus there is a pair of correlations for each outside variable. If the correlations in that pair differ from each other (by more than a trivial amount and by more than sampling error), then parental affect is a moderator variable for that outside variable. The prediction is this: for each outside variable that is correlated with the voicer dimension, the correlation will be higher for the cold parent subgroup than for the warm parent subgroup.

Hypotheses

The analyses above are sufficient to test all the hypotheses listed in the introduction. There are two sets of hypotheses: measurement hypotheses and causal hypotheses. The measurement hypothesis is that the inner voice items all measure the voicer dimension. This hypothesis is tested by the assessment of internal consistency and external consistency. The causal hypotheses are embodied in the list of outside variables. Each outside variable was chosen because it was thought to be correlated with the voicer dimension. Each outside variable will be correlated with the voicer dimension on the total sample and on each parental affect subgroup. These correlations will show which outside variables are correlated with the voicer dimension and which correlations are moderated by parental affect as hypothesized.

CHAPTER IV

RESULTS

Overview

The steps in the analysis below include those stated in
the method section. However, the results led to considerable
complexity and additional analysis. The key unanticipated
finding was that the voicer items produced three voicer
factors instead of one. One factor (i.e. Voicer 3) was
defined by voicer items which assert that the inner voice is
very much concerned with other people watching or listening
or thinking about the person. Another factor (i.e. Voicer
2) was defined by items which state that the inner voice
frequently makes comments of praise or blame. Finally the
Voicer 1 factor was defined by the self identification items
and other non-specific items about the inner voice. The
findings of three factors instead of one led to two addi-
tional procedures. First, all further analyses were carried
out in terms of three voicer factors instead of the
anticipated single voicer factor. Second, there was new
theoretical work seeking to explain the unanticipated
finding.

The items that measure each of the voicer factors are
internally consistent and parallel. However, the voicer

factors are not parallel to each other. Voicer 3 has much higher correlations with other personality variables than Voicer 2 or Voicer 1. The parental warmth dimension moderates the correlations for Voicer 1 and Voicer 2, but not for Voicer 3.

All three voicer factors have their highest correlation with the outside variable Egocentrism; a measure of the extent to which a person believes that other people are watching or listening or thinking about him. The correlation for Voicer 3 was .63. Further analysis showed that Egocentrism mediates all the correlations between the voicer factors and the other personality variables except Importance of Honesty.

These findings can be explained by a typological theory of voicers. This theory postulates three types of voicer: guard voicers, conscience voicers and other voicers. In a guard voicer, the primary role adopted by the inner voice is the role of guarding the person from other people. In a conscience voicer, the inner voice adopts the role of moral authority. For other voicers, the inner voice adopts neither role. The same causal agents, such as cold parents, that cause a nonvoicer to become egocentric cause the inner voice of the guard voicer to adopt the guard role. Thus guard voicers score very high on Egocentrism while other voicers do not. Path analyses showed this typological model to fit the data.

Egocentrism does not mediate the relationship between the voicer factors and Importance of Honesty. The voicer factors are positively correlated with both honesty and with the practice of deceit. That is, voicers are more likely than nonvoicers to practice this special form of hypocrisy. Among subjects with cold parents, the correlation between Hypocrisy and Voicer 3 is .69 while the other voicer factors have much lower correlations. This suggests that guard voicers adopt a hypocritical position as a way of dealing with harsh parental discipline. The other voicers may deal with the problem by adopting a strategy of total obedience.

Frequency of voicers

For a preliminary count of voicers versus nonvoicers, we can consider the response to single items. The key items would be the two self identifications. The first self identification followed a two paragraph description of the inner voice: i.e. the paragraphs in Appendix B, response 5. The second self identification followed the synthesis of the Salzman and Hunter (1983) scenarios; i.e. the description in Appendix C, response 236. The contingency table for these two responses is presented in Table 2. The correlation between the items was .52.

On the first self identification, 71 percent of the subjects identified themselves as voicers, 17 percent said nonvoicer, and 12 percent were unsure. On the last self identification, 67 percent identified themselves as voicers, 28 percent saw themselves as nonvoicers, and only 6 percent

Table 2. Contingency table for Voicer self-identification items.

Last Voicer Identification

FIRST VOICER ID	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Strongly Disagree	9	5	1	1	3	19
Disagree	7	20	5	5	0	37
Unsure	10	9	2	9	8	38
Agree	6	11	7	77	31	132
Strongly Agree	4	9	4	30	53	100
	36	54	19	122	95	326

Last Voicer Identification

FIRST VOICER ID	Nonvoicer	Uncertain	Voicer		
Nonvoicer	41	6	9	56	17%
Uncertain	19	2	17	38	12%
Voicer	30	11	191	232	71%
	90	19	217	326	
	28%	6%	67%		

were unsure. These data suggest that nonvoicers initially found it difficult to tell that they were not voicers. However after further thought, most of them resolved their uncertainty. If this interpretation is correct, then the 67% figure of the final self identification is probably the more accurate figure. A further consideration of the frequencies will be given after the scales are specified.

Internal consistency

There were 34 items written to assess the voicer dimension. There were three self identification items: the identification following the initial description, item 5, and two items following the Salzman and Hunter scenario, items 236 and 237. The other items were responses 6 to 36. The means, standard deviations and correlations between these items are presented in Appendix G.

The first step in assessing internal consistency was to do an exploratory factor analysis using the 34 items. A principal axis factor analysis was done using the largest correlation as the communality estimate. Four factors were found with eigenvalues greater than 1.00. These factors were subjected to VARIMAX rotation. The VARIMAX solution is presented in Table 3.

Table 3 shows the items grouped in terms of their highest factor loading and then ordered within each group according to the size of that loading. Items listed near the tail end of each group may not logically belong to that cluster but may have been placed there for lack of a better place.

Table 3. Factor loadings of Voicer scale items.

Item Number	Factor Loadings 1	2	3	4
237	84	18	-2	6
236	81	14	-5	2
6	76	4	17	3
5	71	12	21	7
33	70	1	35	5
18	68	5	35	7
25	68	1	42	9
15	-67	-4	0	-2
16	-64	-10	-15	15
17	63	11	37	0
35	-61	-23	1	-2
30	55	4	40	5
23	53	18	15	5
32	52	24	21	-6
34	48	-4	40	12
20	45	5	44	-6
10	42	28	14	-1
26	-26	-20	14	-7
9	9	77	8	-4
8	8	73	3	-1
19	9	68	2	-4
7	22	62	5	1
22	6	57	13	12
24	-10	-45	3	-9
11	-27	-36	-1	-3
27	3	33	-6	15
36	0	19	-1	7
28	41	2	62	1
29	53	8	55	17
12	19	9	52	-7
31	1	-6	42	-14
14	8	13	-7	78
13	2	14	-4	77
21	1	30	-4	34
PORTION OF VARIANCE	.23	.10	.07	.04

Items 11, 15, 16, 24, 26, 35 were reflected

N = 336

The fourth factor identifies three items which assess the subject's ability to keep track of the sequence of thoughts. These items evidently do not measure the voicer dimension as was thought when they were written.

The four items that load most highly on the third factor are those which express a concern with others. Item 31 is distinguished from the others in that its loading is lower and in that it does not have a high loading on the first factor. It is also the only item which does not use the phrase "inner voice." Thus item 31 was placed in the residual cluster.

The second factor pulls together the items which ask the subjects whether their minds are always active. These are the first six items which load highly on that factor. The last three items deal with other content and do not correlate highly with any of the four factors. These items (items 11, 27, 36) were placed in the residual cluster and ultimately dropped from further consideration.

Eighteen items have their highest loading on the first factor. All but three of these items (32, 20, and 26) use the phrase "inner voice." Item 26 asks about thinking in a nonverbal manner and has only a very low loading with the first factor. It was placed in the residual cluster. Item 32 used the word "dialogue" which is approximately synonomous with inner voice. Item 20 was the Disney devil or angel item which also explicitly refers to duality. Thus

17 of the 18 items refer to duality of experience. The three self identification items are included among these.

The 17 items which load highly on the first factor are not parallel in their correlations with other factors. Seven of the items (items 33, 18, 25, 17, 30, 34, and 20) have correlations of .35 or more on the third factor. This suggests that these 17 items should be split into two clusters; those that load highly on the third factor versus those that don't.

The preceding examination of the exploratory factor analysis suggests a confirmatory factor analysis with six clusters. The first cluster would be the items which load highly on the first factor but not on the third. The second cluster would be those items which load highly on the third factor as well as on the first. The third cluster would be those items which load more highly on the third factor than on the first. These three clusters all contain items which refer explicitly to a duality of experience. The fourth cluster would be the active mind item. The fifth cluster would be the items dealing with sequence of thought. The sixth cluster would be the items dealing with sequence of thought. The sixth cluster would be the residual cluster. A preliminary confirmatory factor analysis suggested only one small departure from this design. Item 34 correlates more highly with the third cluster than with the second cluster. It also fits better with the content of the third cluster.

The voicer items clustered according to the confir-
matory factor analysis which fits the data are presented in
Table 4. The first three clusters were given content
neutral names; Voicer 1, Voicer 2, and Voicer 3 so as to
leave room for interpretation using other personality data.
The items in Voicer 3 suggest that the inner voice is very
concerned with other people. The items in Voicer 2 note
that the inner voice makes frequent comments of praise or
blame. The items in Voicer 1 are relatively neutral as to
the content of the statements made by the inner voice.

The factor loading of the confirmatory factor analysis,
the correlations between each of the items and the five
factors defined (excluding the factor for the residual
cluster which is meaningless) are presented in Table 5.
Inspection of Table 5 shows that the items in each cluster
are parallel in their correlations with the other factors.
This shows the confirmatory factor analysis to fit the data.

The correlations between the factors are presented in
Table 6. The three voicer factors are very highly corre-
lated with each other. However, the active mind factor has
only small correlations with the voicer factors. Thus the
active mind items are indicators of voicing but only poor
ones. The items assessing memory for thoughts are virtually
uncorrelated with the voicer items. This cluster of items
was therefore dropped from further consideration.

Table 4. Voicer item clusters.

Voicer 1

237. I am confident that I have an inner voice.
236. Based on the above description, I believe that I have an inner voice.
5. I experience an inner voice.
6. I experience conscience as a "voice" in my mind that speaks to me or advises me.
15. For me, conscience is merely a metaphor rather than a voice telling me what to do or say in a given situation.
16. I don't have an inner voice that eggs me on to try something new or fun.
35. The only time that I experience thought as an inner voice is if I am practicing a speech or acting out a fantasy.
23. I would feel lost without my inner voice to talk to me when I go for a walk or clean my room.
32. I often experience mental life as a dialogue between different parts of my personality.
10. Sometimes my inner voice sings or chants or even counts to me.

Voicer 2

33. If I have done something well, I experience an inner voice praising me.
18. I experience guilt as a period of internal chastisement from a voice.
25. If I perform poorly, my internal voice can berate me severely or if I do well, my inner voice can lavish me with praise.
17. My inner voice reminds me of the rules if I start to violate some rule.
30. My inner voice warns me not to lose control, e.g. "You've had enuf."
20. I have difficulty sometimes with decision making because I experience hearing both the positive and negative reasons for a given choice much like the devil speaking and the angel speaking in a Disney cartoon.

Voicer 3

28. Often my inner voice draws my attention to the fact that people are looking at me.
29. My inner voice comments on what other people are saying or doing, e.g. "Look they're blushing."
34. I often experience an inner voice that makes derogatory comments about people that I see.
12. I have "difficulty" accepting compliments because my inner voice can offer a reason or counter-example from my behavior as to why I don't deserve the compliment.

Active Mind

9. My mind is generally active with thoughts or dialogue.
8. I usually have some kind of background thinking going on.
19. I nearly always have something going on in my mind.
7. My mind is rarely silent.
22. My mind is never blank.
24. My mind is often blank.

Memory for Thoughts

14. I know which thought led to the next.
13. I have no problem detecting the step-by-step progress of my thoughts.
21. If someone asks me, "What are you thinking about?", I could tell them exactly what I was thinking.

Residual

26. I think in a non-verbal manner primarily.
11. I think primarily without internal verbal thoughts.
27. The notion of stream of consciousness is an accurate description of my mental life.
36. If I have done something well I experience a diffuse feeling of positive excitement.
31. I feel embarassed when I think other people know what I'm feeling.

Table 5. Confirmatory factor analysis for inner voice items.

	505	504	503	502	501	31	36	27	11 R	26 R	21	13	14	24 R	22	7	19	8	9	12	34	29	28	20	30	17	25	18	33	10	32	23	35 R	16 R	15 R	6	5	236	237
237	15	34	56	68	82	0	1	8	24	15	7	7	15	20	21	27	21	22	21	20	45	46	39	37	45	50	54	56	57	38	43	47	49	47	55	58	58	89	68
236	10	29	52	61	77	3	3	8	21	15	6	2	12	19	18	24	16	19	13	17	41	45	34	34	39	45	48	52	53	30	40	45	48	44	51	53	52	59	89
5	13	25	62	71	73	2	4	8	16	16	5	8	11	11	24	26	13	16	16	27	46	48	45	35	56	56	55	58	56	30	35	35	52	60	47	57	67	54	58
6	8	18	58	70	77	4	4	4	20	16	3	2	12	12	26	23	19	12	11	23	38	52	43	41	47	56	55	57	53	34	40	39	48	59	57	58			
R15	6	17	41	55	65	8	-7	-1	15	25	-3	6	11	5	7	21	10	10	11	20	45	51	45	42	47	48	43	46	41	28	33	34	40	44					
R16	-6	13	48	63	64	6	-1	9	20	17	3	9	3	11	2	26	8	16	12	15	34	42	33	28	42	43	49	48	60	35	37	36	42						
R35	11	21	37	50	58	2	7	12	15	14	6	6	9	10	8	20	14	12	14	14	33	35	37	31	35	37	45	47	44	24	33	34							
23	13	15	46	59	49	7	2	16	24	20	11	6	4	16	14	26	22	22	24	26	28	38	24	26	31	42	43	46	39	33	36								
32	2	30	41	43	58	11	1	17	14	14	-1	0	2	6	15	19	26	22	23	23	26	34	27	29	26	37	49	47	44	31									
10	6	17	39	43	49	-3	6	-5	24	13	-3	5	10	5	10	17	10	15	11	20	24	33	24	26	31	31	35	35	30										
33	8	21	64	80	71	-9	3	0	27	20	1	7	8	16	14	26	20	8	35	29	49	57	45	42	58	60	71	62											
18	11	15	65	82	72	15	6	-1	18	5	0	9	8	14	15	24	5	7	14	23	44	56	48	47	53	64	63												
25	6	24	67	77	67	16	3	-6	15	18	6	9	8	11	10	20	11	2	9	20	35	45	35	35	47	57													
17	5	15	61	68	57	8	-1	-5	21	13	2	3	11	9	15	21	20	11	8	40	47	52	41	35	47														
30	-2	21	59	57	53	15	-5	-1	15	20	0	3	3	11	10	15	5	10	11	31	35	56	43	32															
20	6	15	61	60	50	24	3	-1	21	3	9	-1	1	10	15	20	11	6	5	29	32	45	32																
28	8	21	82	72	61	31	6	-1	13	11	6	-5	-3	17	12	39	9	2	14	40	41	65																	
29	11	13	81	57	52	17	6	-4	13	20	2	9	-2	19	16	50	8	5	2	35	54																		
34	6	7	62	57	61	17	4	1	14	3	0	5	2	8	19	20	1	11	9	24																			
12	5	15	44	42	52	26	4	20	5	8	7	3	5	3	11	14	12	10	2																				
9	8	7	13	16	31	-2	12	21	8	-4	2	-1	-5	9	43	52	51	64	61																					
8	11	18	9	9	27	0	6	25	16	5	17	14	5	3	30	50	49	51																						
19	6	13	21	14	26	-2	-1	17	30	9	16	7	16	8	41	39	50																							
7	5	13	19	25	23	-1	-5	21	25	3	17	12	8	9	30	34																								
22	-2	13	6	17	36	0	5	24	32	7	10	16	11	3	33																									
R24	-1	13	7	13	21	-1	-3	13	16	7	26	26	9	9																										
14	18	21	3	6	19	-6	13	19	5	12	28	65	66																											
13	6	18	4	7	11	-8	4	11	8	16	25	60																												
21	8	17	7	2	5	-13	4	22	22	25	28																													
R26	11	18	3	14	7	-2	12	1	41	32																													
R11	6	29	4	25	27	-19	-4	18	18																															
27	8	21	7	-1	34	-6	17	9																																
36	3	1	20	14	13	-13	-3																																
31	12	19	0	25	5	5																																	
501	15	34	20	20	100																																		
502	10	39	72	89	100																																		
503	13	25	85	100																																			
504	33	100																																					
505	100																																						

R = Reverse scored.

Table 6. Correlations between voicer item factors

		V_1	V_2	V_3	AM	MT
Voicer 1	V^1	100	89	72	39	12
Voicer 2	V_2	89	100	85	25	8
Voicer 3	V_3	72	85	100	21	7
Active Mind	AM	39	25	21	100	33
Memory for Thoughts	MT	12	8	7	33	100

The voicer items can be scored in scales. This was done by averaging the responses across items so as to preserve the 1-5 metric of the original responses. The means, standard deviations, and reliabilities of the three scales are presented in Table 7. The Voicer 3 scale has the lowest reliability because it was measured by only four items. The scale means show that the probability of saying agree was highest for Voicer 1, lower for Voicer 2, and lower yet for Voicer 3. This suggests that those who answer yes to Voicer 3 may be a subset of those who say yes to Voicer 2 who may in turn be a subset of those who say yes to Voicer 1.

Evidence for this subset hypothesis can be found in the correlations between the voicer factors in Table 6. These correlations satisfy the product rule for the Guttman simplex: the product of correlations between adjacent factors equals the correlations between non-adjacent factors. That is, the product of the correlation between

Table 7. Voicer scale means, standard deviations, correlations and reliabilities (Spearman Browne coefficients).

7a. Means, standard deviations and reliabilities of voicer scales

	Number of Items	Mean	Standard Deviation	Reliability
Voicer 1	10	3.48	.86	.89
Voicer 2	6	3.45	.91	.88
Voicer 3	4	3.23	.95	.76

7b. Correlations of voicer scales.

	Voicer 1	Voicer 2	Voicer 3
Voicer 1	100	78	59
Voicer 2	78	100	71
Voicer 3	59	71	100

Voicer 3 and Voicer 2 times the correlation between Voicer 2 and Voicer 1 should equal the correlation between Voicer 3 and Voicer 1. The actual values are (.85) (.89) = .76 versus .72 which is well within sampling error of the product. The correlations between scales do not completely satisfy the product rule because of the error of measurement in the scales.

Other scales

Thirty-five other variables were measured to provide a test of parallelism for voicer scales. These scales were examined for internal consistency and reliability. Three scales proved problematic: selfishness, affiliation, and active head.

The selfishness scale was written with defensiveness in mind. The items were written to tap excuses for selfishness. The correlation analysis showed that the items split into two three-item subclusters. One cluster consists of items 98, 164, and 228 which assess the extent to which people believe that they work hard. The reliability of this cluster is .47. The other subcluster consists of items 69, 133, and 216 and measures the extent to which people feel that they have been cheated. The reliability of the cheated cluster is .69. The correlation between the two factors (i.e. the two scales corrected for attenuation) is .15. Obviously they measure different things.

The affiliation scale also broke down. The 18 original items formed two seven-item clusters and a four-item

residual set. One cluster assessed the extent to which the subject likes other people. The reliability of this cluster is .69. The items are 85, 53, 73, 37, 203, 213, and 123. The second seven-item cluster contained items 167, 189, 147, 224, 143, 176 and 207 which measures the extent to which a subject prefers to do things with others rather than alone. The reliability of this scale is .73. The two factors correlate .50 (corrected for attenuation) with each other and thus do not measure entirely different things. The four residual items were 60, 99, 158, and 181.

The last problematic scale is the Active Head scale created by Salzman and Hunter (1983). They noted that these items are not perfectly homogenous in content. The scale does show internal consistency and has a reliability of .46 which is not low for a three-item cluster.

The summary data for the 38 nonvoicer scales defined in this study are presented in Table 8. Table 8 presents the number of items, the mean, the standard deviation, and the reliability (Spearman Brown) of each scale. The scales were defined by averaging items so as to preserve the original 1-5 scoring range.

Parallelism of the voicer scales

The strongest test for construct validity in the context of item analysis is the test for parallelism. The items in a scale or cluster are parallel if they all correlate with each given outside variable in the same way. If the items in a cluster all have about the same reliability

Table 8. Summary Data for the Personality Scales.

Personality Scale	Number of Items in Scale	Mean	Standard Deviation	Reliability
41 Active Head	3	3.51	.075	.46
47 Active Mind	6	4.32	.058	.81
43 Work Hard	3	3.81	.068	.47
9 Cold Parent	5	3.16	.069	.57
10 Warm Parent	4	2.27	.087	.82
11 Physical Punishment	4	2.34	.094	.85
12 Withdrawal of Love	10	2.26	.068	.90
27 Feelings of Inferiority	8	2.51	.072	.86
5 Trait Anxiety	10	2.73	.063	.85
29 Fearfulness	5	2.89	.070	.75
2 Shyness Scale	9	3.00	.080	.88
28 Audience Anxiety	5	3.50	.084	.79
25 Dominance (Low)	3	2.94	.084	.79
14 Sociability (Low)	5	3.59	.067	.72
22 Exhibitionism (Low)	6	2.70	.067	.74
37 Rigidity	6	3.07	.058	.53
30 Rule Breaking	7	2.72	.055	.62
13 Conformity	8	3.28	.056	.67
24 Need for Approval	8	2.91	.055	.68
34 Suspicion	4	2.58	.060	.60
32 Distrust	4	2.25	.076	.73
33 Competitive	3	2.38	.076	.68
15 Importance of Honesty (low)	4	2.65	.064	.65
31 Practice Deceit	4	3.04	.075	.63
48 Like People (Low)	7	3.99	.049	.69
49 Extroversion (Low)	7	3.33	.066	.73
8 Self Revelation (Low)	3	3.27	1.005	.75
36 Fear of Expressing Anger	4	3.05	.082	.79
35 Negative Afterthoughts to Anger	5	3.12	.088	.87
43 Cheated	3	2.99	.068	.69
16 Cynicism	4	2.35	.062	.63
18 Deep Cynicism	12	2.44	.048	.81
17 People are Good (Low)	6	2.36	.052	.76
7 Feelings of Resentment	3	3.07	.072	.58
19 Indignation	3	3.49	.084	.72
6 Negativism	3	2.56	.064	.67
20 Egocentrism	3	3.25	.090	.74
21 Concern for Appearance	3	2.89	.082	.64

(the usual case) then the items are parallel only if the correlations of those items with each given outside variable are the same to within sampling error. This is the test to be applied to the voicer scales.

The correlations between each of the 20 voicer items and each of the 38 outside scales are presented in Table 9. The 20 items are listed as column variables and are broken into three sets: the ten items which measure Voicer 1, the six items which measure Voicer 2, and the four items which measure Voicer 3. Consider the first ten columns of Table 9. These are the columns used to test Voicer 1 for parallelism. If the items in Voicer 1 are parallel, then each row of the Voicer 1 subtable should have correlations that differ only by sampling error from being uniform. For example, consider scale 47. The first ten correlations in its row are the correlations between the active mind scale, scale 47, and the items of Voicer 1. These correlations vary from .15 to .31. For a sample size of 336, the standard error is .055 and the width of a confidence interval is $\pm$ .11. From a mean of .25, a correlation would have to be outside the range .13 to .36 to be suspicious. There is no such variation for scale 47.

There are few variations from parallelism in Table 9, about one in twenty as would be expected by chance. Furthermore the variations occur randomly in place and are of small magnitude. Thus the data in Table 9 confirm the parallelism of the voicer scales.

Table 9. Test for the parallelism of the voicer scales: the correlations between the voicer items and the 38 other scales.

	237	236	5	6	15	16	35	23	32	10	33	18	25	17	30	20	28	29	34	12
237	68	89	58	58	55	47	49	47	43	38	57	56	54	50	45	37	39	46	45	20
236	89	59	52	53	51	44	48	45	40	30	53	52	48	45	39	34	38	45	41	17
5	58	52	54	67	47	52	48	35	43	35	56	58	57	56	45	41	45	48	46	27
6	58	53	67	59	57	60	48	39	40	34	53	57	55	56	47	42	43	52	38	23
15	55	51	47	57	42	39	40	37	37	28	41	48	43	43	40	28	28	33	34	15
16	47	44	52	60	39	41	41	36	36	32	53	42	49	50	39	45	34	42	33	21
35	49	48	48	48	40	41	42	43	41	33	39	42	45	37	32	27	24	35	25	14
23	47	45	35	39	37	36	43	34	37	36	44	47	45	42	26	29	32	38	28	26
32	43	40	43	40	37	36	41	37	34	39	48	46	49	38	40	42	27	34	26	23
10	38	30	35	34	28	32	33	36	39	24	30	35	35	31	31	26	24	33	28	20
33	57	53	56	53	41	53	39	44	48	30	64	59	71	60	58	42	45	57	49	23
18	56	52	58	57	48	42	42	47	46	35	59	62	63	64	53	47	48	54	44	29
25	54	48	57	55	43	49	45	45	49	35	71	63	67	57	57	47	49	52	47	33
17	50	45	56	56	43	50	37	42	38	31	60	64	57	59	53	47	43	52	37	32
30	45	39	45	47	40	39	32	26	40	31	58	53	57	53	.47	35	37	56	43	29
20	37	34	41	42	28	45	27	29	42	26	42	47	47	47	35	32	41	45	32	39
28	39	38	45	43	28	34	24	32	27	24	45	48	49	43	37	41	67	65	50	40
29	46	45	48	52	33	42	35	38	34	33	57	54	52	52	56	45	65	65	54	35
34	45	41	46	38	34	33	25	28	26	28	49	44	47	37	43	32	50	54	39	24
12	20	17	27	23	15	21	14	26	23	20	23	29	33	32	29	39	40	35	24	20

	237	236	5	6	15	16	35	23	32	10	33	18	25	17	30	20	28	29	34	12
2	6	9	2	0	5	-3	1	14	7	-3	5	13	7	6	8	17	25	10	11	29
5	12	14	9	11	12	-5	1	15	24	3	10	21	19	16	13	30	33	18	22	37
6	10	15	12	13	6	13	2	7	8	2	23	13	22	15	9	8	20	19	20	13
7.	13	13	17	9	7	4	1	15	18	2	14	18	18	19	14	21	33	16	24	33
8	9	7	4	12	7	14	8	0	-2	8	5	0	2	4	-2	-3	-15	-5	-2	-13
9	-1	-2	-1	-1	-3	0	-1	-4	11	-4	-4	-6	1	-1	3	6	-2	-2	4	2
10	-2	-5	3	-6	-9	-8	4	3	13	4	-4	-4	2	-10	0	5	11	3	8	19
11	2	0	1	2	1	-10	3	-2	10	4	-1	2	6	0	6	5	5	2	1	8
12	7	6	7	7	7	1	1	5	13	9	10	3	14	-1	10	12	16	9	12	15
13	11	13	16	13	10	10	-1	14	10	8	18	23	22	11	14	25	30	22	26	28
14	7	5	8	14	3	14	4	-1	2	10	9	5	5	9	3	5	-3	4	-3	-10
15	-16	-13	-12	-14	-13	-2	-15	-14	-15	-9	-14	-22	-17	-24	-13	-8	-15	-11	-7	-17
16	7	5	16	12	6	3	-1	3	14	0	17	14	20	19	19	13	32	21	25	22
17	1	1	9	6	7	4	6	9	8	-2	5	3	6	7	-1	8	11	7	10	8
18	8	7	20	17	9	7	4	8	11	-3	16	14	24	20	17	12	32	23	24	25
19	14	14	11	9	4	11	-1	9	11	8	10	10	19	17	10	18	15	14	16	18
20	22	24	19	18	19	12	8	23	24	13	20	29	26	26	15	31	46	35	31	35
21	11	9	6	16	8	4	5	18	9	10	16	15	16	14	5	11	23	23	21	7
22	-2	0	-8	-5	-2	-10	6	11	4	-8	-10	4	-2	-2	-4	8	7	-5	-8	16
23	25	27	23	23	16	14	20	15	22	5	22	18	24	23	19	14	25	25	29	15
24	8	11	5	9	11	-2	4	14	7	4	5	16	9	9	12	25	28	18	13	20
25	2	4	-11	-11	-6	-6	-4	1	-6	-12	-8	1	-7	-4	0	11	7	1	-3	13
26	9	10	4	9	4	6	10	3	0	16	1	2	3	6	-1	3	-7	-1	-9	-3
27	5	5	3	2	6	1	-6	11	15	-3	2	14	12	10	8	24	29	14	12	38
28	7	6	1	0	5	2	4	8	5	-2	-1	12	7	3	-1	20	21	7	9	21
29	11	12	1	4	9	-5	1	16	13	4	8	21	15	12	13	26	27	18	18	28
30	0	3	-10	3	12	-8	3	11	-7	-5	-5	7	-2	7	5	1	4	-4	-12	6
31	9	8	17	12	-3	7	5	1	4	3	18	-1	11	-3	6	4	12	20	25	-2
32	3	0	11	9	5	1	-1	6	13	-1	9	12	10	12	10	15	26	13	17	19
33	3	2	11	10	3	7	5	0	8	-9	16	10	15	1	10	1	14	16	20	5
34	11	6	16	8	2	6	-2	11	17	-1	12	18	18	16	14	19	35	20	26	31
35	19	19	16	19	12	15	12	22	18	13	11	29	20	24	17	32	28	25	16	36
36	20	20	16	17	14	12	10	19	26	11	12	28	22	22	18	28	35	24	21	36
37	-7	-1	-4	-2	0	-13	-3	8	-8	-19	3	11	-2	6	12	3	-1	6	0	1
41	46	43	39	39	37	32	39	40	42	35	37	43	44	38	34	31	32	33	33	26
42	14	16	15	11	8	5	4	5	9	-5	11	5	15	13	5	12	23	13	21	16
43	23	25	19	24	17	16	26	17	24	12	22	22	21	21	24	9	14	23	22	ʳ8
44	83	79	75	78	69	68	68	64	64	58	67	68	67	63	54	49	47	58	49	29
45	63	57	66	66	51	58	47	49	56	40	82	82	84	80	75	69	56	67	54	40
46	48	45	54	51	36	42	32	40	36	34	57	57	59	54	54	52	83	83	74	67
47	31	27	22	16	15	18	28	24	27	28	16	20	15	22	18	12	13	20	8	15
48	13	15	2	10	5	8	12	10	4	15	3	1	4	8	3	0	-10	-5	-16	-5
49	2	4	2	5	3	7	4	-7	-8	10	1	2	1	1	-6	2	-2	1	-3	-7
50	0	9	4	17	8	11	6	10	6	11	11	9	3	12	0	17	0	5	-6	-3

Personality correlates
of the inner voice

The correlations between the three voicer factors and the 38 outside variables, with all correlations corrected for attenuation are presented in Table 10. The first three variables should be thought of as different from the rest. The first variable is the active head cluster from Salzman and Hunter (1983). This research replicates their finding: the active head cluster is a very short form of the Voicer 1. The second variable is active mind. Active mind correlates with the voicer factors (by hypothesis they should have correlated perfectly with Voicer 1) but does not correlate with any of the other personality variables. The third variable is Work Hard; one half of the original selfishness scale. Work hard is parallel to Active Mind; it correlates with the voicer factors but not with the other personality variables.

The other personality variables have been scored so that the predicted correlation is positive. The word "low" in the title shows which variables have been reverse scored for this purpose. The vast majority of correlations are positive as predicted. One notable exception is (Low) Importance of Honesty. This variable will be discussed separately in a later section labelled Honesty and Deceit. Otherwise all the correlations for Voicer 3 are positive, none of the negative correlations for Voicer 2 are significant and only one correlation for Voicer 1 is significant:

Table 10. Personality correlates of the voicer factors, all correlations corrected for attenuation; decimals omitted.

		Voicer 1	Voicer 2	Voicer 3	
P	41	86	75	68	Active Head
E	47	39	26	23	Active Mind
R	43	45	39	36	Work Hard
S					
O	9	-1	0	1	Cold Parent
N	10	0	-2	17	Warm Parent
A	11	2	4	7	Physical Punishment
L	12	11	12	20	Withdrawal of Love
I					
T	27	6	17	38	Feelings of Inferiority
Y	5	17	26	44	Trait Anxiety
	29	12	24	39	Fearfulness
S	2	6	14	30	Shyness Scale
C	28	7	10	25	Audience Anxiety
A	25	-9	-2	8	Dominance (Low)
L	14	-12	-9	6	Sociability (Low)
E	22	-2	-1	5	Exhibitionism (Low)
S	37	-10	11	4	Rigidity
	30	0	4	3	Rule Breaking (Low)
	13	18	31	48	Conformity
	24	12	21	35	Need for Approval
	34	14	28	54	Suspicion
	32	8	18	33	Distrust
	33	7	15	25	Competitive
	15	-22	-27	-24	Importance of Honesty (Low)
	31	12	10	26	Practice Deceit
	48	-17	-5	16	Like People (Low)
	49	-4	0	5	Extroversion (Low)
	8	-12	-1	15	Self Revelation (Low)
	36	28	34	48	Fear of Expressing Anger
	35	27	32	42	Negative Afterthoughts to Anger
	42	14	17	33	Cheated
	16	13	29	47	Cynicism
	18	14	26	43	Deep Cynicism
	17	8	7	15	People are Good (Low)
	7	20	30	51	Feelings of Resentment
	19	15	22	27	Indignation
	6	16	24	33	Negativism
	20	31	38	63	Egocentrism
	21	18	22	35	Concern for Appearances

		Voicer 1	Voicer 2	Voicer 3
Average 41,47,43 deleted		07	14	26
Standard Deviation		12	14	19

(Low) Like People. Thus it is conceivable that all the negative correlations might be due to sampling error.

Seven of the variables that have negative correlations with Voicer 1 are very highly correlated with each other: (Low) Dominance, (Low) Sociability, (Low) Exhibitionism, (Low) Like People, (Low) Extraversion, and (Low) Ease of Self Revelation. Since the sampling errors for highly correlated variables are not independent, the negative correlations for these variables should not be taken as independent replications. If these variables all represent an underlying factor such as Affiliation, then a negative sampling error for that one factor would produce negative sampling error for all. On the other hand, this pattern of correlations might indicate a real departure from the general pattern. Since the negative correlations are not significant, the results section will be written as if the population correlations were small positive numbers. The alternative hypothesis will be considered in the discussion. Finally it should be noted that these six variables also account for five of the six negative correlations for Voicer 2 (ignoring Importance of Honesty).

Although the correlations are positive as predicted, the magnitudes of the correlations are surprising in two ways. First, the correlations for Voicer 1 are much lower than expected: an average correlation of .07. On the other hand, the correlations for Voicer 3 are quite high; an

average correlation of .26. The correlations for Voicer 2 are intermediate; an average of .14.

The correlations for the three voicer factors vary with each other. For example, each of the voicer factors has its highest correlation with the same variable: Egocentrism (a measure of the extent to which a person believes that other people pay attention to him). That is, egocentrism is concerned with whether other people are watching or listening or thinking about the person. This suggests that the correlations for Voicer 1 and Voicer 2 might in some manner be mediated by the correlations for Voicer 3. This possibility will be considered in detail in the later section on the typological model.

The fact that the voicer correlations vary together suggests that the correlations for all three voicer factors might be mediated by another variable. The obvious candidate is egocentrism since all three voicer factors have their highest correlation with Egocentrism. The evidence needed to test this hypothesis is presented in Table 11.

Table 11 presents the correlations between Egocentrism and the other personality variables along side the correlations for the three voicer factors. The column for Egocentrism looks like a continuation of the first three columns. The correlations are still higher; an average correlation of .40 for Egocentrism versus .26, .14, .07 for Voicer 3, Voicer 2, and Voicer 1 respectively. Furthermore, the correlations for Egocentrism tend to vary together with

Table 11. The correlations for Egocentrism compared to the correlations for the three voicer factors; decimals omitted.

		Voicer 1	Voicer 2	Voicer 3	Egocentrism	
P	41	86	75	68	53	Active Head
E	47	39	26	23	10	Active Mind
R	43	45	39	36	5	Work Hard
S						
O	9	−1	0	1	6	Cold Parent
N	10	0	−2	17	24	Warm Parent
A	11	2	4	7	8	Physical Punishment
L	12	11	12	20	26	Withdrawal of Love
I						
T	27	6	17	38	67	Feelings of Inferiority
Y	5	17	26	44	72	Trait Anxiety
	29	12	24	39	78	Fearfulness
S	2	6	14	30	70	Shyness Scale
C	28	7	10	25	52	Audience Anxiety
A	25	−9	−2	8	30	Dominance (Low)
L	14	−12	−9	6	24	Sociability (Low)
E	22	−2	−1	5	31	Exhibitionism (Low)
S	37	−10	11	4	22	Rigidity
	30	0	4	3	20	Rule Breaking (Low)
	13	18	31	48	65	Conformity
	24	12	21	35	74	Need for Approval
	34	14	28	54	62	Suspicion
	32	8	18	33	49	Distrust
	33	7	15	25	24	Competitive
	15	−22	−27	−24	−12	Importance of Honesty (Low)
	31	12	10	26	7	Practice Deceit
	48	−17	−5	16	27	Like People (Low)
	49	−4	0	5	13	Extroversion (Low)
	8	−12	−1	15	36	Self Revelation (Low)
	36	28	34	48	63	Fear of Expressing Anger
	35	27	32	42	46	Negative Afterthoughts to Anger
	42	14	17	33	49	Cheated
	16	13	29	47	50	Cynicism
	18	14	26	43	44	Deep Cynicism
	17	8	7	15	17	People are Good (Low)
	7	20	30	51	72	Feelings of Resentment
	19	15	22	27	41	Indignation
	6	16	24	33	37	Negativism
	20	31	38	63		Egocentrism
	21	18	22	35	49	Concern for Appearances
Average		7	14	26	40	
Standard Deviation		12	14	19	23	

the correlations for the three voicer factors. This is consistent with the hypothesis that Egocentrism mediates the correlations between the voicer factors and the other personality variables.

The hypothesis that Egocentrism mediates the relations between the voicer factors and other personality varibles can be tested quantitatively. To say that the relationship between two variables x and y is mediated by a third variable z is to say that the partial correlation $xy.z$ is zero. This is true only if the numerator

$$xy = xz \ yz$$

is zero; i.e. only if

$$xy = xz \ yz$$

If we use E for Egocentrism, V for a voicer factor, and P for another personality variable; then the mediation hypothesis can be stated as an equation for population correlations:

$$r_{VP} = r_{VE} \ r_{EP}$$

This means that if we plot the correlations for a voicer factor as a function of the correlations for Egocentrism, then the correlations should lie along a line with slope r_{VE} (to within sampling error). For Voicer 1, the slope should be .31; for Voicer 2, the slope should be .38; and for Voicer 3, the slope should be .63. These three plots are presented in Figures 2, 3, and 4.

Figure 2. The correlations for Voicer 1 as a function of the correlations for Egocentrism, with the comparison line of slope .31; decimals omitted.
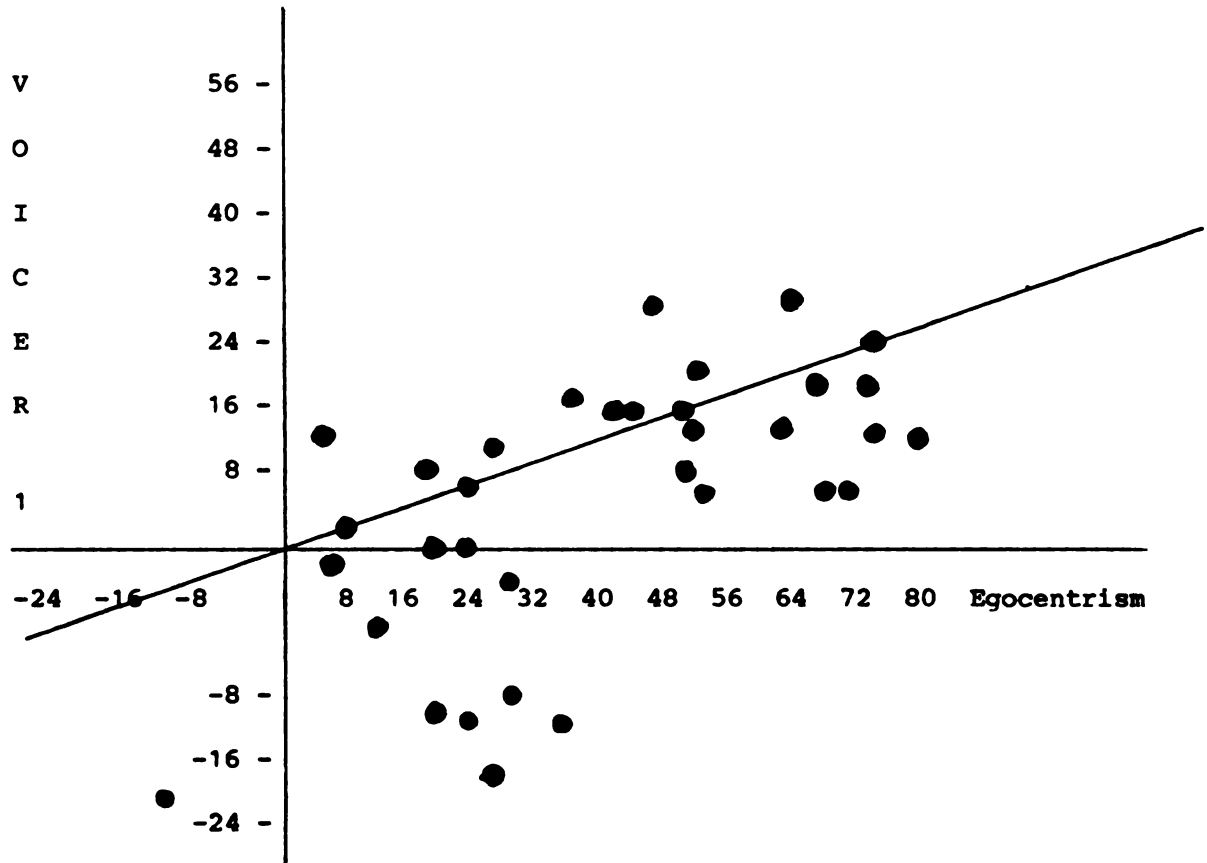
Figure 3. The correlations for Voicer 2 as a function of the
correlations for Egocentrism; with the comparison line of
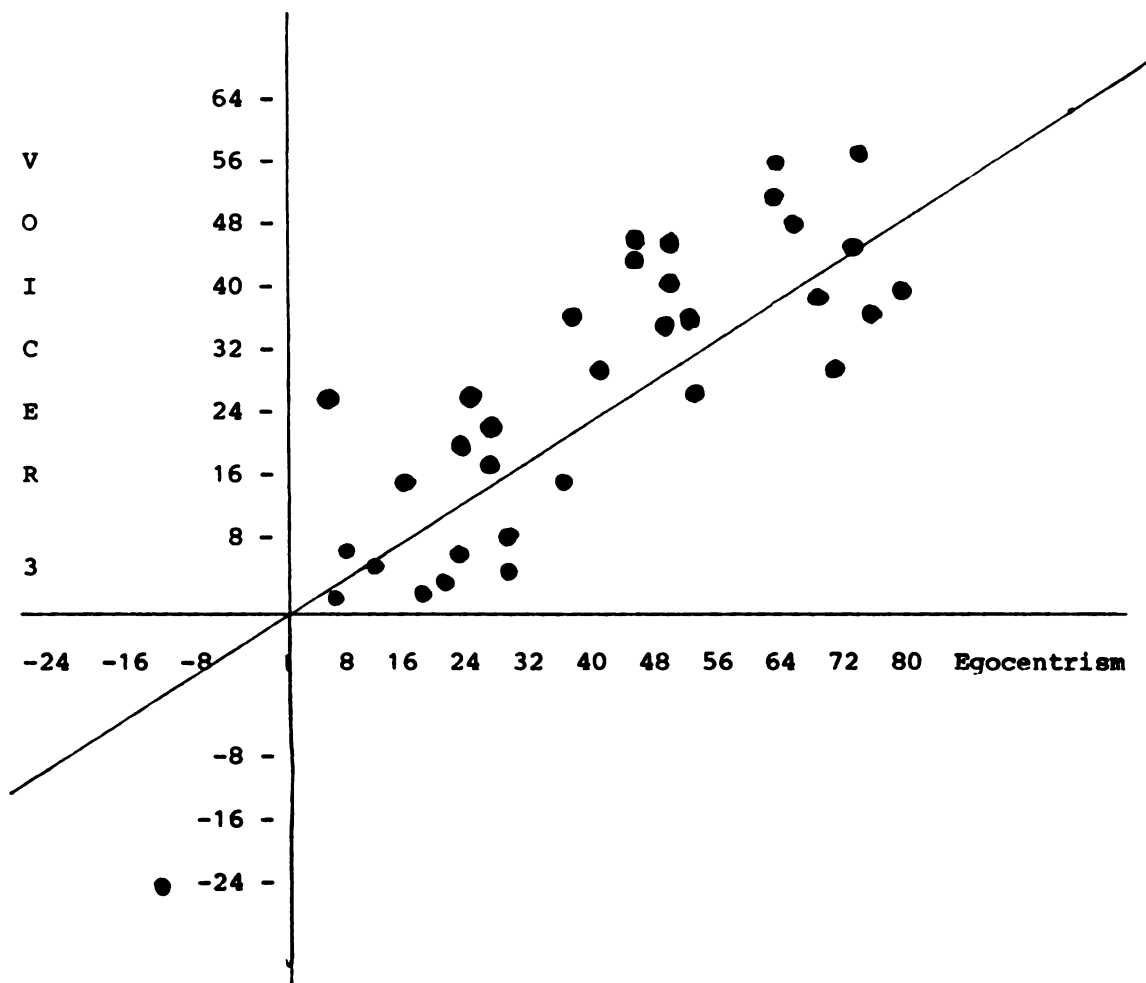slope .38; with decimals omitted.
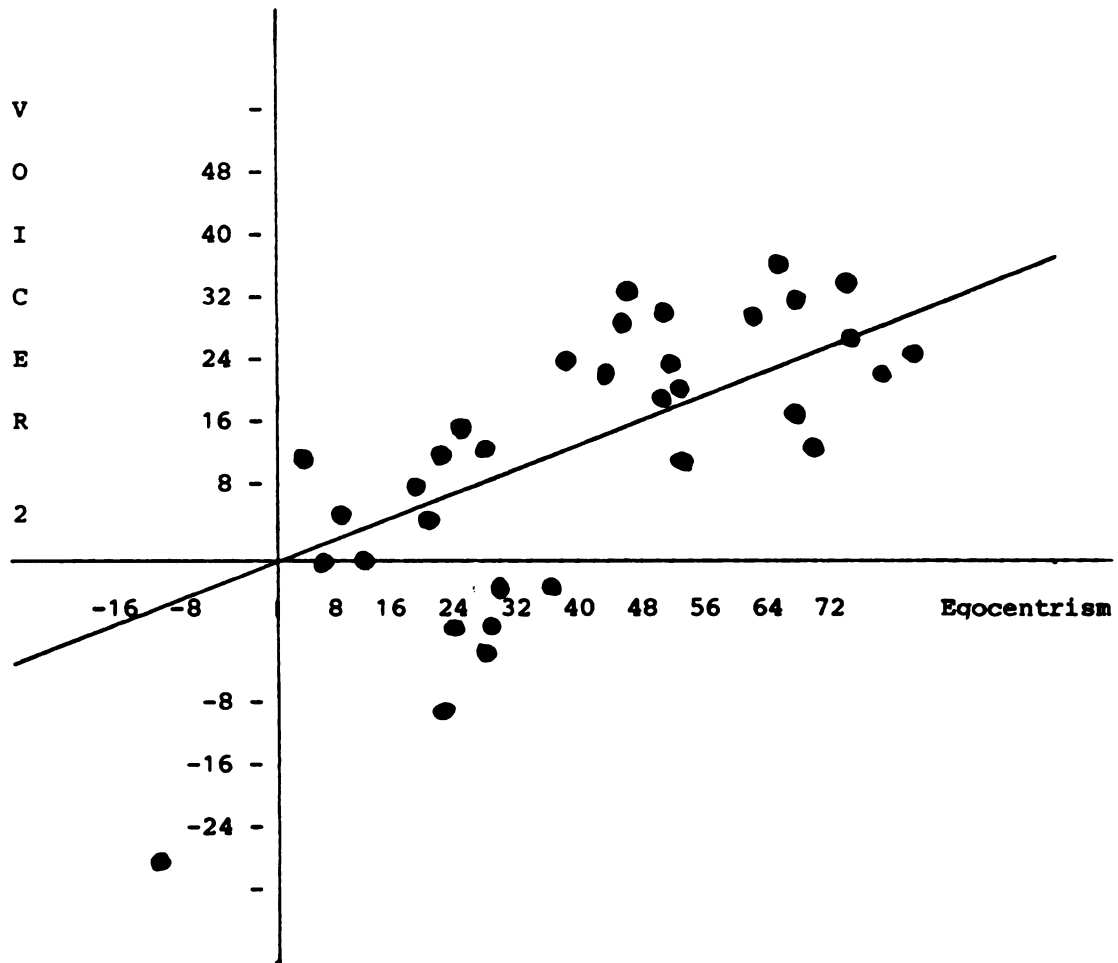
Figure 4. The correlations for Voicer 3 as a function of the
          correlations for Egocentrism; with the comparison line of
          slope .63; decimals omitted.

In each figure, the correlation for (Low) Importance of Honesty is an outlier (i.e. the point lying in the negative-negative quadrant of each graph). This variable will be treated separately later. In all three graphs, the other data points are centered about the predicted lines. The variation from the predicted line appears to be due to sampling error. The standard error of each correlation is about .07. Thus for each point in a graph, the 95 percent confidence interval for horizontal variation would be $\pm$.14. The only departures greater than this are the negative correlations for Voicer 1 referred to earlier. This is most likely replicated sampling error. The overall pattern in Figures 2, 3, and 4 sharply confirms the hypothesis that Egocentrism mediates the correlations between the voicer factors and the other personality variables (except for Importance of Honesty).

The hypothesis that relations with cold parents might lead to negative programming of the inner voice led to the hypothesis that the parental relationship might act as a moderator for correlations with the voicer dimension. This hypothesis was tested in more extended form; by checking for moderator effects on each of the three voicer factors and on Egocentrism. The four parental variables were summed (i.e. Cold Parents, (Low) Warm Parents, Critical Parents, and Withdrawal of Love) and the subjects were split at the mean. There were 155 subjects with cold parents and 181 subjects with warm parents by that definition. Correlations were

computed separately for each subgroup. The correlations for the two groups were reported in Table 12. Correlations for the four parental variables are not shown because they are too unstable after the restriction in range to be worth correcting for attenuation. The basic pattern of results is shown well in the averages at the foot of Table 12 (which leaves out the first three variables). There are sharp moderator effects for Voicer 1($r = .12$ versus $r = .06$), fairly sharp moderator effects for Voicer 2 ($r = .19$ versus $r = .13$), but only negligible moderator effects for Voicer 3 ($r = .29$ versus $r = .26$) or for Egocentrism ($r = .41$ versus $r = .39$).

A typological model
of the voicer scales

This section will put forward and test a typological theory as to why there are three voicer scales instead of one. According to this model, there are three kinds of voicers: those whose inner voice plays the role of guard, those whose inner voice plays the role of conscience, and those whose inner voice or voices play other roles. If the inner voice plays the guard role, then it is very conscious of other people. Thus those whose inner voice plays the guard role will say yes to the Voicer 3 items and say yes to the egocentrism items. If the inner voice plays the guard role, then it will tell the subject what to do and what not to do. Thus it will frequently use praise and blame to direct the actions of the subject in a manner which the

Table 12. Separate correlations for subjects with warm parents (WP) and subjects with cold parents (CP); N=181 for warm parents and N=155 for cold parents; decimals omitted.

		Voicer 1		Voicer 2		Voicer 3		Egocentrism		
		WP	CP	WP	CP	WP	CP	WP	CP	
P	41	78	96	63	88	47	88	34	76	Active Head
E	47	37	43	21	32	24	21	13	7	Active Mind
R	43	50	38	42	36	38	35	-1	-12	Work Hard
S										
O	27	13	4	19	22	40	36	62	68	Feelings of Inferiority
N	5	15	24	22	37	40	49	65	73	Trait Anxiety
A	29	3	22	17	33	30	47	71	80	Fearfulness
L										
I	2	3	13	9	22	25	34	64	72	Shyness Scale
T	28	3	12	3	20	20	28	45	58	Audience Anxiety
Y	25	-1	-18	0	-6	9	6	34	28	Dominance (Low)
	14	-6	-16	4	-20	13	-6	28	10	Sociability (Low)
	22	-1	-3	2	-3	7	0	24	34	Exhibitionism (Low)
S	37	-11	-8	7	16	-1	10	-26	14	Rigidity
C	30	0	0	9	-4	-4	0	22	21	Rule Breaking (Low)
A	13	16	23	26	38	43	52	53	77	Conformity
L	24	16	8	29	12	40	30	78	73	Need for Approval
E										
	34	0	36	17	48	41	67	51	63	Suspicion
	32	7	13	22	20	44	21	50	40	Distrust
	33	8	6	13	17	23	27	27	17	Competitive
	15	-12	-36	-19	-37	-10	-38	1	-28	Importance of Honesty (Low)
	31	9	16	0	23	13	40	-5	17	Practice Deceit
	48	-10	-24	4	-12	30	-1	35	8	Like People (Low)
	49	-2	-4	6	-4	6	0	14	2	Extroversion (Low)
	8	-21	2	-8	8	17	9	37	28	Self Revelation (Low)
	36	27	30	33	37	42	63	52	73	Fear of Expressing Anger
	35	30	23	34	32	33	49	36	56	Negative Afterthoughts to Anger
	42	5	26	11	25	34	30	50	45	Cheated
	16	6	21	29	34	49	44	50	44	Cynicism
	18	8	28	20	39	36	51	38	42	Deep Cynicism
	17	11	7	5	11	13	16	17	10	People are Good (Low)
	7	8	38	24	46	46	58	67	68	Feelings of Resentment
	19	7	28	8	39	15	39	28	49	Indignation
	6	11	24	19	33	29	34	37	33	Negativism
	20	26	42	33	49	56	72			Egocentrism
	21	11	26	18	28	26	43	56	41	Concern for Appearances
Average		6	12	13	19	26	29	39	41	
Standard Deviation		11	19	12	21	17	25	23	27	

inner voice believes to be safe. Thus the person will say yes to the Voicer 2 items. That is, if the inner voice plays the role of guard, then the person will say yes to all of the voicer items and to the egocentrism items as well.

If the inner voice plays the conscience role, then it is concerned with moral issues. Since the reference for the evaluation of action is moral (i.e. God or tradition), the inner voice pays no special interest in other people. Thus if the inner voice plays the conscience role, the person will say no to the Voicer 3 items and no to the egocentrism items. However, the inner voice will make frequent comments of praise or blame on the basis of moral judgment, and hence the person will say yes to the Voicer 2 items. Thus if the inner voice plays the role of conscience, then the person will say yes to the Voicer 1 and Voicer 2 items, but will say no to the Voicer 3 items and the egocentrism items.

If the inner voice or voices play some other role, then the person will say yes only to the Voicer 1 items, and no to the Voicer 2 and Voicer 3 and egocentrism items.

In summary, the typological model specifies five types: three types of voicer and two types of nonvoicer. The voicer whose inner voice plays the guard role says yes to all three kinds of voicer items and yes to the egocentrism items. The person whose inner voice plays the role of conscience says yes to the Voicer 1 and Voicer 2 items but no to the Voicer 3 items and egocentrism items. The person whose inner voice or voices play other roles say yes only to

the Voicer 1 items. The nonvoicers say no to all of the voicer items. The egocentric nonvoicers say yes to the egocentrism items while the nonegocentric nonvoicers say no to the egocentric items.

The theory laid out above specifies five types of people and their responses to four kinds of items. This theory is presented in schematic form in Table 13.

Table 13. Five types of person and how they respond to four scales.

Type	Voicer 1	Voicer 2	Voicer 3	Egocentrism
Voicer-guard	yes	yes	yes	yes
Voicer-conscience	yes	yes	no	no
Voicer-other	yes	no	no	no
Nonvoicer-egocentric	no	no	no	yes
Nonvoicer-nonegocentric	no	no	no	no

The preceding theory was written as if egocentrism were dichotomous. This is actually quite unlikely. Thus the phrase "say yes to egocentrism items" would actually mean "more often say yes ...." Thus guard voicers would not all score equally highly on egocentrism, but would rather have a higher mean on egocentrism than the other types of voicers. However this verbal and mathematical simplification plays no important role in the quantitative testing of the theory below.

Types and scales

According to this theory there are three types of voicers and there are three voicer scales. However, there is not a one to one correspondence between scales and types. First, the scales have error of measurement. Second, the Voicer 1 and Voicer 2 scales correspond to composite types rather than to simple types.

The reliability of the Voicer 1 scale is .89. This is high for research purposes, but it is still far from perfect. If the scale were perfect, then the distribution of scores on Voicer 1 would be sharply bimodal with one hump representing the voicers and another hump representing the nonvoicers. If the observed distribution were sharply bimodal, then it would be easy to determine the cutoff score on the scale to be used to dichotomize the scoring distribution and classify people as estimated voicers or estimated nonvoicer. It would then be an easy matter to estimate the number of voicers in the sample. However, even a reliability of .89 is not high enough to make the histogram for Voicer 1 sharply bimodal. If the scale midpoint is used as the cutoff, then the data would estimate the sample as 74 percent voicers and 26 percent nonvoicers. However, the binomial error theory for dichotomous items would say that the cutoff score should not be the scale midpoint. Rather its location would be a complicated function of the hypothesized means and standard deviations of the two groups and their hypothesized relative frequency. There appears to be

no reference in the literature to a corresponding theory for
Likert items such as those used here. However, since the
spread in scores for the more frequent group is larger than
the spread for the less frequent group, the optimal cutoff
is usually closer to the mean for the more frequent group.
If this principle applies to Likert scales, then the cutoff
should be higher than the scale midpoint and the corre-
sponding estimate of the percentage of voicers would be
lower than 74 percent.

Reliability theory permits us to estimate the size that
the correlations would have been had there been no error of
measurement. However there appears to be no method in the
literature which would generate estimates of typological
percentages from imperfect quantitative data. Since there
is no method of determining the cutoff scores for scales,
these percentages cannot be estimated by simple counting.

Even if the scales were perfect, there would not be a
simple relation between types and scales. For Voicer 3,
there is a simple relationship. If Voicer 3 were perfect,
then those who say yes would be the guard voicers. Thus it
would be possible to call Voicer 3 the guard voicer scale.
However, no such simplicity exists for Voicer 2 and
Voicer 1.

If Voicer 2 were a perfect scale, then it would be
related to the types in a composite way. Those who say yes
to Voicer 2 would be the guard voicers and the conscience
voicers. To identify the conscience voicers would require

two scales: Voicer 2 and Voicer 3. The conscience voicers would be those who say yes to Voicer 2 but no to Voicer 3.

If Voicer 1 were a perfect scale, then it too would be related to the voicer types in a composite way. Those who say yes to Voicer 1 are the guard voicers, the conscience voicers, and all other voicers. To identify the other voicers would require two scales: Voicer 1 and Voicer 2. The other voicers are those who say yes to Voicer 1 but no to Voicer 2.

Quantification of the typology

In order to test the typological model spelled out in Table 13, the frequency of the different types must be estimated. No method for doing this could be found in the literature. Therefore a trial and error method was borrowed from the mathematical model literature: First, assume certain frequencies and compute the corresponding data matrix. From that data matrix, compute a predicted correlation matrix. Then check the predicted correlation matrix against the observed correlation matrix. If the predicted correlation matrix differs significantly from the actual correlation matrix, then try new frequencies.

A hypothetical data matrix representing certain frequencies is presented in Table 14. In Table 14, the first eight people are guard voicers. There are then a conscience voicer and an other voicer. The ten voicers are followed by four nonvoicers: two egocentric nonvoicers and two nonegocentric nonvoicers. This data matrix for 14

Table 14. A hypothetical data matrix representing certain frequencies for the five types specified in Table 14; where a score of 1 represents "yes" and a score of 0 represents "no".

Person	Voicer 1	Voicer 2	Voicer 3	Egocentrism
Guard voicers:				
1	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
6	1	1	1	1
7	1	1	1	1
8	1	1	1	1
Conscience voicer:				
9	1	1	0	0
Other voicer:				
10	1	0	0	0
Egocentric nonvoicers:				
11	0	0	0	1
12	0	0	0	1
Nonegocentric nonvoicers:				
13	0	0	0	0
14	0	0	0	0

hypothetical people represents the assumption that voicers outnumber nonvoicers 71 percent to 29 percent; i.e. ten to four. The fact that voicers split 8-1-1 represents the assumption that 80 percent of voicers are guard voicers while 10 percent are conscience voicers and 10 percent are other voicers. The 2-2 split among nonvoicers represents the assumption that nonvoicers are equally likely to be either egocentric or nonegocentric.

The data matrix in Table 14 was arrived at through trial and error. The rules used in the search are these: First, there was the need to define a dichotomization of egocentrism. The rule used here was to focus on the nonvoicers and use a median split. This essentially defines the word "egocentric" in Table 13 to mean "scores higher than the average nonvoicer." Second, there was the need to estimate the relative number of voicers and nonvoicers. Salzman and Hunter (1983) estimated the proportion of voicers to be 60 percent. The midpoint split on the Voicer 1 scale estimate for voicers is 74 percent. Thus the split was taken to be about 70 percent. These two assumptions determined the format of all the hypothetical data tables. Since the nonvoicers are assumed to be equally split on egocentrism, the data matrix must have an even number of nonvoicers. The smallest total number of persons with an even minority near 30 percent is 14; where the 10-4 split is 71 percent versus 29 percent.

The initial assumption about the distribution of voicers was taken from the literature; it assumed that most voicers are conscience voicers. The actual assumed split was 1-8-1 for guard voicers, conscience voicers, and other voicers respectively. The corresponding correlation matrix showed no resemblance to the actual correlation matrix. So new frequencies were tried. As the number of conscience voicers was decreased and the number of guard voicers was increased, the fit between predicted and actual correlations steadily improved. This lead ultimately to the 8-1-1 split shown in Table 14.

The test of the typological model from Table 13 using the frequencies generated from Table 14 are presented in Table 15. The first part of Table 15 presents the implied frequencies of the five types. The second part of the table presents the correlation matrix computed from Table 14. The third part of the table presents the actual correlations between the scales (corrected for attenuation). A chi square test shows that the difference between the actual correlation matrix and the predicted correlation matrix is not statistically significant. Thus the typological model with the frequencies shown in Table 14 fits the observed data.

Although the typological model is fundamentally non-linear, it can be represented within a close approximation by a linear path model. This path model is presented in Figure 5; though the derivation of Figure 5 from the

Table 15. A test of the typological model of Table 14.

Assumed distribution of types:

Type	Percent	
Guard voicer	57	
Conscience voicer	7	
Other voicer	7	
VOICER		71
Egocentric nonvoicer	14	
Nonegocentric nonvoicer	14	
NONVOICER		29

Predicted correlation matrix:

Voicer 1	100			
Voicer 2	85	100		
Voicer 3	73	86	100	
Egocentrism	30	52	73	100

Actual correlation matrix:

Voicer 1	100			
Voicer 2	89	100		
Voicer 3	72	85	100	
Egocentrism	31	38	63	100

typological model is not obvious. The curved arrow from Egocentrism to Else represents the mediation hypothesis which fits the personality data. Since Egocentrism is causally prior to the voicer factors, the links from egocentrism to other personality variables can be in either direction in this model. The arrows from egocentrism to the voicer factors represent the assumption that the same causal processes such as cold parents, which cause some children to become egocentric also cause the inner voice to adopt the guard role. The arrow from Egocentrism to Voicer 1 represents the fact that some of those who say yes to Voicer 1 are voicers whose inner voice plays the guard role. The arrow from Voicer 1 to Voicer 2 represents the fact that those who say yes to Voicer 2 are a subset of those who say yes to Voicer 1. The arrow from Egocentrism to Voicer 2 represents the fact that the guard voicers are a larger percentage of those who say yes to Voicer 2 than those who say yes to Voicer 1. The arrow from Voicer 2 to Voicer 3 represents the fact that those who say yes to Voicer 3 are a subset of those who say yes to Voicer 2. The arrow from Egocentrism to Voicer 3 represents the fact that the percentage of guard voicers who say yes to Voicer 3 (i.e. 100 percent) is higher than the percentage of guards among those who say yes to Voicer 2 (i.e. Guards and Consciences).

The formal test of the path model derived from the typological model is presented in Table 16. Seven of the ten correlations are used up by the estimation process. Of

Table 16. A test of the path model of Figure 5.

Actual correlations:

Else	100				
Egocentrism	40	100			
Voicer 3	26	63	100		
Voicer 2	14	38	85	100	
Voicer 1	7	31	72	89	100

Reproduced correlations:

Else	---				
Egocentrism	40	---			
Voicer 3	25	63	---		
Voicer 2	21	38	85	---	
Voicer 1	19	31	72	89	---

Error (Actual minus Reproduced):

Else	---				
Egocentrism	0*	---			
Voicer 3	1	0*	---		
Voicer •2	-7	0*	0*	---	
Voicer 1	-12	0*	0*	0*	---

*Constrained to be zero by the estimation process.

Figure 5. The path model implied by the typological model.
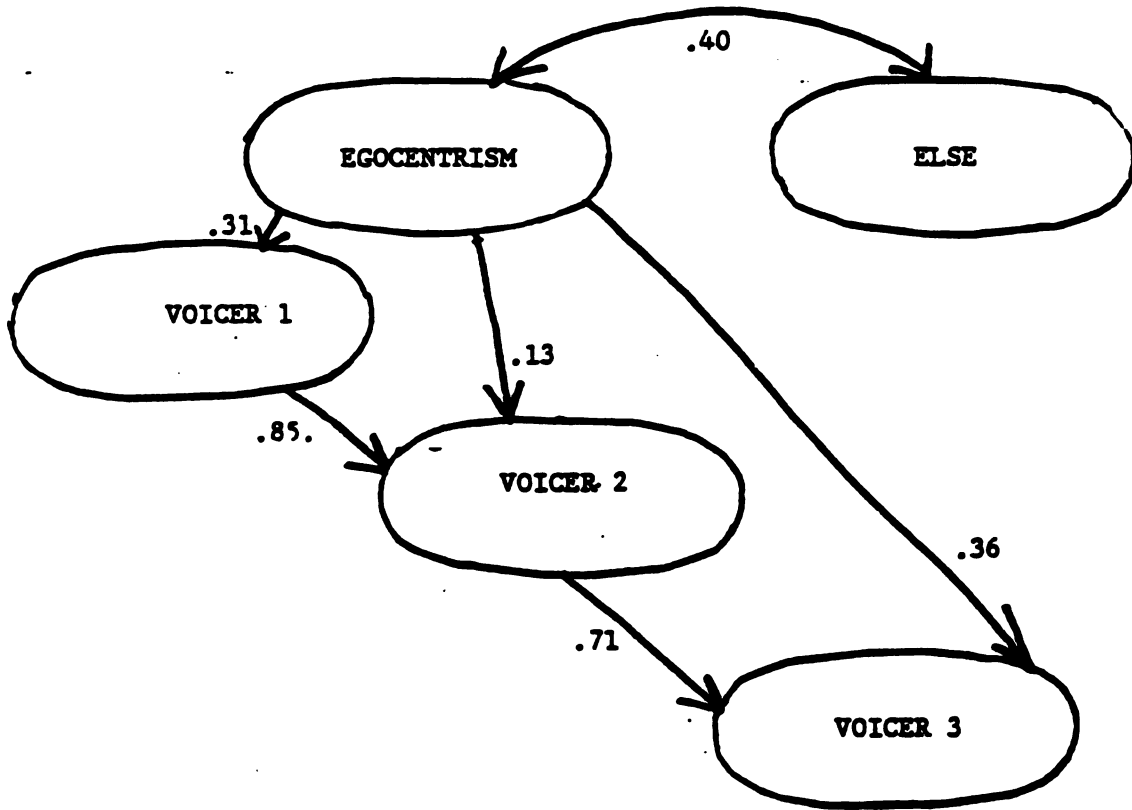
the three correlations that can be used to test the model, none is significantly discrepant. Thus the path model in Figure 5 fits the data to within sampling error. Tables 13 and 14 together show that the typological model fits all the major findings of this research.

Honesty and deceit

One would expect to find items which tap the Importance of Honesty and items which tap the Practice of Deceit to be negatively correlated. Corrected for attenuation, these variables correlate -.58 in the present data. Furthermore, these variables correlate with opposite sign with the outside personality variables in the present research. Thus most of the data is consistent with the original design which called for the reverse scoring of Importance of Honesty. Most variables correlate positively with both deceit and honesty when honesty is reverse scored.

The three voicer factors depart starkly from this pattern. All three voicer factors correlate negatively with Importance of Honesty when that variable is reverse scored. Stated more simply, if Importance of Honesty is scored in its natural direction, then all three voicer factors correlate positively with both Importance of Honesty and positively with Practice of Deceit. This means that voicers are more likely than nonvoicers to practice this special kind of hypocrisy.

The correlations of the voicer factors and Egocentrism with Deceit and Honesty and the combination of Honesty and

Deceit which will be labeled "Hypocrisy" for lack of a better term are presented in Table 17. The striking numbers are those for subjects with cold parents. The correlation between Voicer 3 and Hypocrisy is .69 while the correlation for Voicer 2 and Voicer 1 with Hypocrisy are .53 and .46 respectively. If Voicer 3 is partialled out, the correlations for Voicer 2 and Voicer 1 drop to zero. This suggests that guard voicers with cold parents adopt hypocrisy about lying as a way of dealing with their parents. The other voicers may duck the issue by adopting a strategy of complete obedience.

For subjects with warm parents, the correlations between the voicer factors and hypocrisy are .31, .26, and .29. Thus among voicers with warm parents, the number who practice hypocrisy is much lower but tend to come equally from all types of voicer.

The correlations for Egocentrism depart sharply from the pattern of mediation found for other personality variables. For subjects with cold parents, Egocentrism correlates .40 with hypocrisy. However, if we partial out Voicer 3, this correlation drops to zero. That is, if there were no guard voicers, there would be no correlation between egocentrism and hypocrisy. Thus for subjects with cold parents, the mediating roles of Voicer 3 and Egocentrism are reversed; it is Voicer 3 that mediates the relationship between Egocentrism and Hypocrisy.

Table 17.   Correlations with deceit, honesty and hypocrisy,
            decimals omitted. Hypocrisy = Honesty + Deceit.

All Subjects: r_{DH} = -.58

	Deceit	Honesty	Hypocrisy
Voicer 1	12	22	37
Voicer 2	10	27	40
Voicer 3	26	24	55
Egocentrism	07	12	21

Warm Parents: r_{DH} = -.73

	Deceit	Honesty	Hypocrisy
Voicer 1	09	12	29
Voicer 2	00	19	26
Voicer 3	10	13	31
Egocentrism	-05	-01	-08

Cold Parents: r_{DH} = .36

	Deceit	Honesty	Hypocrisy
Voicer 1	16	36	46
Voicer 2	23	37	53
Voicer 3	40	38	69
Egocentrism	17	28	40

Among subjects with warm parents, Egocentrism corre-
lates -.08 with Hypocrisy; a value even less than would be
expected from its correlation with Voicer 3 (i.e. (.55)
(.31) = .17), though the difference is only marginally
significant.

CHAPTER V

DISCUSSION

Measurement objectives

The initial objective of this research was to develop a conventional scale to assess the presence or absence of an inner voice. It proved very difficult to write items without the phrase "inner voice." Years of experience interviewing had shown that this phrase means different things to voicers and nonvoicers. Thus two paragraphs were written to define the phrase which were presented before the items were asked. Subsequent item analysis showed that all the indirect items failed; only the items using the phrase "inner voice" or equivalent words worked. The "active mind" items did form a scale which was correlated with the voicer dimension but at too low a level to use as a proxy. This experience fits the original hypothesis: the world does not yet know of the distinction between voicers and nonvoicers and thus no corresponding linguistic device can be used to construct conventional personality items.

On the other hand, the Voicer 1 scale did measure the voicer dimension. The responses to the Salzman and Hunter (1983) scenario fit within this scale in both internal structure and in terms of parallelism in their correlation

with outside variables. Without the scenario self identification responses, the Voicer 1 scale had eight items and a reliability of .85. The Voicer 1 scale meets the original measurement objective.

The voicer items proved to be multidimensional. At first, this was perplexing, but ultimately it proved to be an enormous bonus. The identification of the Voicer 2 and Voicer 3 scales provided the basis for the typological distinction between guard voicers, conscience voicers, and other voicers. The Guttman simplex structure of the voicer factors correlations suggested the typological relationship between the scales, and the order of the scales showed the content distinction.

Personality correlates of the voicer dimension

Interviews had established considerable individual differences with the set of voicers. Some hear more than one inner voice. Some hear a voice which urges them to disobey rather than an inner voice which admonishes deviance. Thus there were never overwhelming expectations as to correlations between voicer dimension and other personality variables. Salzman and Hunter (1983) were disappointed with the lack of correlation in their experiments 1 and 2 and bothered by the low level of correlation in their experiment 3. Interviews seemed to reveal consistent patterns of differences between voicers and nonvoicers which did not emerge in the empirical

research. The present findings explain this lack of convergence. The expected patterns from informal interviewing are those of the voicers identified in this study as guard voicers. The correlations of Voicer 3 are much closer to what Salzman and Hunter had expected.

A number of the outside variables from the Salzman and Hunter (1983) study were included in this study. The correlations for the Voicer 1 scale with those variables replicate the findings of Salzman and Hunter; very low correlations in the expected direction. The highest correlations for Voicer 1 tend to be in the twenties. Correlations of this size are difficult to detect in the fact of sampling error for studies of the usual size (such as N = 150 of Salzman and Hunter experiments 2 and 3). These correlations would become negligible if the personality traits were measured by single item indicators rather than scales (as in the Salzman and Hunter experiments 1 and 2).

Table 11 lists the average correlations with the outside personality variables for Voicer 1, 2, and 3 to be .07, .14, and .26 respectively. That is, the correlations for Voicer 2 are twice as high as those for Voicer 1 and the correlations for Voicer 3 are more than three times as high. The relatively high correlations for Voicer 3 represent the pattern expected for the "typical" voicer as formulated on the basis of early interview experience. From the point of view of interview experience, Voicer 3 is the "pure" voicer

scale while Voicer 2 and Voicer 1 are "contaminated" by the presence of "atypical" voicers.

The numerical analysis presented in Table 13 explains this high drop off in the size of correlations. According to the frequencies in Table 13, 90 percent of those who say yes to Voicer 1 say yes to Voicer 2 and 90 percent of those who say yes to Voicer 2 say yes to Voicer 3. That is, all voicers say yes to Voicer 1, while only the 90 percent of voicers who are conscience or guard voicers say yes to Voicer 2. Of the voicers who say yes to Voicer 2, only the 90 percent who are guard voicers say yes to Voicer 3. The high correlations between the voicer scales reflect the closeness of these frequencies. The predicted correlation between Voicer 1 and Voicer 2 is .85 while the predicted correlation between Voicer 2 and Voicer 3 is .86. On the other hand, the numerical computations show that the predicted drop off in personality correlations is much higher than would be expected from the small change in frequencies. If only guard voicers say yes to Voicer 3, the predicted correlation with Egocentrism is .73. If these guard voicers are joined by conscience voicers who are only one-ninth as many in number, the predicted correlation with Egocentrism drops from .73 to .52. Thus a small typological change produces a large change in correlation: a change of 11 percent in voicer frequency produces a 29 percent change in correlation. This effect is even more strikingly asymmetric in the case of Voicer 1. When the 80 percent

guard voicers are joined by 20 percent "atypical" voicers, the predicted correlation with Egocentrism drops from .73 to .30; a 20 percent change in frequency produces a 59 percent change in correlation. Salzman and Hunter never suspected that such a small number of "odd" cases could have such a large numerical impact on correlations.

Egocentrism

The highest personality correlate of the voicer scales is the correlatioon of .63 between Voicer 3 and egocentrism --the belief that others are constantly watching, listening, or otherwise paying attention to you. As a point biserial correlation, this means that there is a 1.63 standard deviation difference between the mean egocentrism of guard voicers and the mean egocentrism of other people. Thus only 5 percent of others are higher than the average egocentrism of guard voicers and only 5 percent of guard voicers are as low as the average for others. This difference is comparable to the difference between men and women in physical strength. Very strong people are usually--though no always --men and very weak people are usually--though not always-- women.

It is not surprising that guard voicers would score high on egocentrism. The guard voicer is distinguished by the fact that the inner voice of a guard voicer focuses on what other people might think of the person. In a sense, the Voicer 3 scale consists of combinatorial items which

yield a yes response only if (1) the person experiences an inner voice and (2) that inner voice is high on egocentrism.

However, the guard voicers are not just egocentric voicers. Nearly all of the people who are extremely high on egocentrism are guard voicers. For example, fewer than 1 in 1000 others would rank in the top 10 percent of guard voicers on egocentrism. One hypothesis that would be consistent with this fact is the assumption that those factors which would cause a nonvoicer to be somewhat high on egocentrism cause a voicer to be extremely high on egocentrism. That is, one hypothesis that fits the data asserts that voicers are much more vulnerable to the determinants of egocentrism than nonvoicers. That is, if the inner voice adopts an egocentric view toward others, the egocentrism is much more extreme than if a nonvoicer adopts such a position. This would follow in turn from the assumption that the inner voice is less adaptable to later evidence contrary to the belief that others are constantly watching.

Egocentrism mediates the relationship between the voicer variables and most of the other personality variables (the key exception being hypocrisy). If egocentrism is partialled out, then the voicer variables are largely uncorrelated with other personality variables. This may mean that the factors which produce egocentrism in voicers are the main or only factors which produce differences on the variables considered in this study.

Hypocrisy

One variable which is not mediated by egocentrism is a specific kind of hypocrisy: endorsement of the importance of honesty combined with the practice of lying to others. The correlation between Voicer 3 and hypocrisy is .55 while the correlations are substantially lower for Voicer 2 (r=.40) and Voicer 1 (.37). Thus on this variable as others, it is primarily the difference between guard voicers and others which produces the three correlations. The correlation between Voicer 3 and hypocrisy is very much moderated by parental affect. The correlation is .69 among those with cold parents and only .31 among those with warm parents. A correlation of .69 means a difference of 1.92 standard deviations between guard voicers and others, while a correlation of .31 means a difference of only .66 standard deviations.

The fact that parental affect moderates the correlation may mean that this form of hypocrisy stems from childhood. The inner voice which adopts the role of guard may seek to protect the child from the parents, especially if the parents are cold. With cold parents, the inner voice may believe that the child must lie to avoid punishment but must also profess the importance of honesty in order to curry favor. With warm parents, the inner voice may feel it safe to espouse honesty and tell the truth or it may feel it safe to admit to lying.

Psychotherapy, neuroticism, and the inner voice

The question has arisen as to how clinical psychology could have missed the distinction between voicers and nonvoicers. The present findings offer some insight to this question. The present findings suggest the population for psychotherapy papers on personality has been composed almost entirely of guard voicers.

Almost all of the classic papers on personality from clinical psychology were written by psychotherapists on the basis of their experience as therapists. Who were the patients of psychotherapists? The traditional clinical breakdown was psychotics, neurotics, and character disorders. Until recently, psychotics were largely treated with custodial care in state hospitals. The character disorders, mostly criminals and addicts, were dealt with by the police. Thus therapy was practiced almost exclusively on neurotics.

Recent changes in the rules for incarcerating mental patients has meant that psychotics are now seen by therapists in community mental health centers. The legal use of therapists has also greatly increased contact between therapists and criminals, drug addicts, and other character disorders. However, these changes have not yet registered in the personality literature. Either new theories have not yet emerged from the broader experiences or they have not yet been written up.

In the early part of this century, there were many content analyses of neuroticism. Some of these were converted to personality questionnaires (e.g. Bernreuter, 1933; Woodworth, 1920). These questionnaires were themselves gathered and subjected to both content analysis (Thurstone and Thurstone, 1930; Layman, 1940) and factor analysis (Mosier, 1937). Most of the central themes found are represented in the present list of outside variables; especially anxiety, feelings of inferiority, fearfulness and shyness. Thus a composite of these four scales serves as a good estimate of neuroticism. The correlation between this neuroticism composite and each voicer scale (corrected for attenuation) is .11 for Voicer 1, .22 for Voicer 2, and .41 for Voicer 3. The high correlation for Voicer 3 shows that guard voicers are higher than other groups on neuroticism. This correlation drops from .41 to .22 for Voicer 2. Thus when conscience voicers are added to the guard voicers the mean difference sharply drops. This suggests that guard voicers differ from nonvoicers on neuroticism while conscience voicers do not. The correlation drops still further from .41 to .11 for Voicer 1. Thus when other voicers are added to the guard and conscience voicers the difference becomes smaller yet. This suggests that other voicers do not differ from nonvoicers on neuroticism. Thus the pattern of correlations suggests that while guard voicers differ from nonvoicers on neuroticism, conscience and unclassified voicers do not. The correlation .41

between Voicer 3 and neuroticism is a point biserial corre-
lation between dichotomy -- guard voicer versus else -- and
neuroticism. According to Table 15, 57 percent of students
are guard voicers and 43 percent are not. For a point
biserial correlation of .41 and a split of 57-43, the
corresponding difference between the means is 1.00 within
group standard deviations. That is, on the average, guard
voicers are one standard deviation higher on neuroticism
than other people. If the within group standard deviations
for the two groups are equal, then the two distributions are
shown in Figure 6.

If the whole distributions are considered, there is a
considerable overlap between guard voicers and other people
on neuroticism. However, therapy patients are not randomly
chosen. Patients are usually much higher on neuroticism
than non-patients. At the top end of Figure 6, there is a
vast preponderance of guard voicers. For example, in the
college population, 57 percent of people are guard voicers.
However, if we consider only those who are high on
neuroticism, then the percentage of guard voicers will be
much higher. For example, if we consider only those who are
one standard deviation above the guard voicer mean, then 16
percent of guard voicers will be above the cutoff. Since
this cutoff is two standard deviations above the mean for
others, only 2.5 percent of others will be counted. The
total proportion of people above that cutoff is .57(.159) +
.43(.023) = .101, of whom .57(.159) = .091 are guard voicers
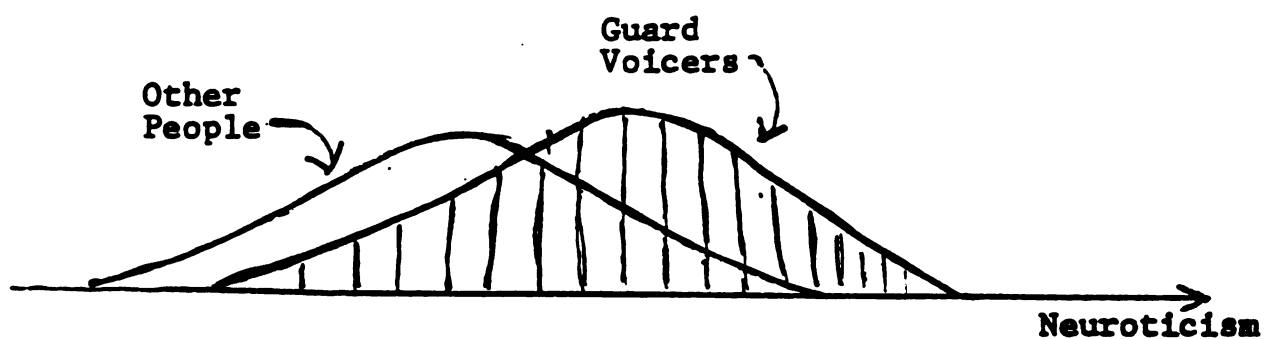
Figure 6. The distribution of guard voicers and other people on neuroticism

while .43(.023) = .010 are else. That is if we choose people who are in the top ten percent on neuroticism, then 90 percent will be guard voicers and only ten percent will not be. The ten percent breaks into three percent non-guard voicers and seven percent nonvoicers. Furthermore, therapists are not likely to write up the mundane cases. If we consider the top third of ten percent on neuroticism, then 94 percent are guard voicers, two percent are other voicers and only four percent are nonvoicers. Thus virtually all of the most extreme cases are guard voicers.

Finally it should be noted that nearly all therapists until recent times were psychoanalytic in orientation. If nearly all patients are voicers and thus appear comfortable with the concept of superego, it is likely that a psycho-analytically oriented therapist would treat the occasional nonvoicer as having suppressed their superego. That is, the therapist could assume that the nonvoicer has an unconscious superego.

Conscience and the inner voice

The numerical analysis in Table 15 shows that only ten percent of voicers are conscience voicers. In 90 percent of voicers, the inner voice plays some other role. The question arises as to why the literature review by Salzman and Hunter (1983) found virtually all references to the inner voice to be reference to conscience. The same is true of the sociological references located for this study; references to the inner voice phenomenon are references to

the conscience. Indeed the scenarios from Salzman and Hunter (1983) which were included in this research tend to stress conscience. Historically, the emphasis on conscience appears to stem from Freud. However, this brings up two other questions. First, why did Freud ignore the phenomenological evidence? That is, why did Freud confuse guard voicer comments about potential judgments by others with moral considerations? Second, why did so many readers find Freud so plausible?

Consider first the issue of conflict reports by guard voicers. The guard voicer often hears the inner voice make statements of praise or blame. However, prompting questions reveal that the inner voice is not concerned with morality but with possible retaliation or punishment by others. One could wonder why Freud did not ask the prompting questions. One explanation as to why Freud did not ask the prompting questions is Freud's overemphasis on childhood experience. For the child, "right" or "wrong" are largely a matter of parental praise or blame regardless of the reason behind the parent's act. Thus when Freud heard a reference to internal praise or blame, he jumped to the conclusion of interalized praise or blame and hence felt no need for follow up questions. This is consistent with moralists' arguments that Freud showed little understanding of guilt in the moral sense (Mowrer, 1961).

Although there is widespread acceptance of Freud's identification of the superego at a nominal level, the

practical emphasis of clinical writing has become increasingly oriented toward the real concerns of the guard voicer. For example, Horney (1950) begins her discussion of the "inner control system" with references to "morality and refers to the neurotic inner voice as an "internal strait jacket." However, the bulk of her book makes little reference to problems of conscience. Instead she sees the key problems in terms of neurotic pride, real versus false self confidence, etc. That is, Horney sees the real problems of neurosis as stemming from an obsession with the opinions of others. Other recent work in clinical psychology lays more and more emphasis on shame rather than guilt as the key clinical problem (Lynd, 1958; Kaufman, 1980). The distinction between the two and the outward reference for shame is laid out by Buss (1980, pp. 157-164). The recent book on the "inner enemy" by Bach and Torbet (1983) makes virtually no references to conscience at all.

Why have so many found Freud's emphasis on conscience to be so compelling? One possible answer is the pervasive influence of Christian ideology on theories of moral development. According to Christian thought, the child is born into original sin and is transformed into a moral being by the application of discipline. The Freudian notion that conscience is the interalization of society is thus very similar to the protestant belief that goodness can arise from making Christ a part of you; i.e. incorporating goodness from without.

Contemporary work on morality will make Freud's emphasis on conscience much less plausible to the next generation. The radical sociobiologists have begun to consider that altruism might be genetically inherited (Dawkins, 1976). Piaget's data (1965) on moral judgment directly challenges the Freudian theory that concern for others arises from a mechanical internalization of parental praise and blame. Instead, Piaget found that adolescent boys developed moral concern from the cognitive assessment of the general principles of efficient interchange with others. Steady changes took place in how boys play marbles as they conceptualized the nature and reasons for rules. There was a steady shift from fixing blame in terms of the amount of damage done--a direct connection to the amount of parental wrath--to terms of intent--a moral concern--and finally to terms of violation of principles of fairness--a cognitive concern with how things must be done to facilitate interaction. Piaget's work would suggest that nonvoicers might be just as moral in their behavior as voicers; which is consistent with our anecdotal observations.

CHAPTER VI

SUMMARY AND CONCLUSIONS

This research began with two objectives. The first objective was to develop a conventional personality scale to assess whether or not people experience an inner voice. The second objective was to extend the study of personality differences between voicers and nonvoicers by using a much larger set of personality variables than was used in previous research on the inner voice (Salzman and Hunter, 1983).

Items were written to assess the presence or absence of an inner voice. These items and items measuring 37 other personality scales were administered to 339 subjects. The analysis of the voicer items was surprising. Instead of one voicer scale, there were three voicer scales. That is, the factor analysis showed the items to break into three distinct clusters which were labeled Voicer 1, Voicer 2, and Voicer 3. The three scales were unidimensional and they were parallel in their relationship to other items. That is, the three scales each met the normal requirements of construct validity. Analysis of item content suggested that the three scales were tapping individual differences between voicers. In Voicer 3, the items say that the inner voice is

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concerned with other people; the inner voice comments on what other people are doing or saying about the person. When this pattern emerged in interviews, it was called the guard role. For example, I had an experience of that sort. I was taking an exam and sat up to stretch and my inner voice said, "Don't look up; people will think you are cheating." The Voicer 3 scale thus assesses not only whether the person experiences an inner voice or not but whether that inner voice is concerned with what other people are thinking about you.

A content analysis of the Voicer 2 scale showed that the items ask whether the inner voice makes self evaluative statements of praise or blame; e.g. asks whether the inner voice says the person is good or bad. This leads to thinking about two kinds of voicer: the guard voicer and the voicer whose inner voice plays the role of conscience. The guard voicer will make statements of self praise or blame because it tells the person what they are supposed to do to be safe from others or castigates the person for doing something dangerous. The inner voice that plays the role of conscience also makes statements of praise or blame. However, the conscience is concerned with moral authority. For example, if a person is religious, then the inner voice may tell the person what God would or would not want him to do. Not all conscience voicers are religious. There can be other sources of moral authority.

The Voicer 1 scale includes the responses to the Salzman and Hunter (1983) scenario as well as other neutral items which ask whether you do or do not have an inner voice. The Voicer 1 scale appears to be the answer to the first research objective of the study;: a scale which simply distinguishes between voicers and nonvoicers.

This interpretation of the scales implies a typology of voicers: guard voicers, conscience voicers, and other voicers. All voicers will say yes to the items of Voicer 1 (except for error of measurement), but only the conscience and guard voicers will say yes to Voicer 2, and only the guard voicers will say yes to Voicer 3. This implies a Buttman scale relationship between the three scales to within error of measurement. That prediction was confirmed empirically by the fact tha the correlations between scales satisfy the necessary product rule. From these correlations and from the average correlations with other personalty scales, the relative frequency of each type could be estimated. This estimate was that 70% of the college population are voicers while 30% are not. Of the voicers, 80% are guard voicers, 10% are conscience voicers, and 10% are other voicers.

The personality correlations for the Voicer 1 scale replicated the findings of Salzman and Hunter (1983); both in the narrow sense of replicating values on the specific scales carried over from that research, and in showing similar patterns of correlations with other variables. The

correlations were in the direction predicted from interviews, but were much smaller than expected.

The correlations for the Voicer 3 scale were substantially higher: for example, .54 with suspicion, .51 with resentment, .47 with cynicism, .48 with conformity and .44 with trait anxiety. This shows that our expectations from interviews were formed entirely on guard voicers. Since 80% of the voicers are guard voicers, this is not unreasonable. We were well aware of individual differences among voicers, but we thought the relationships for the typical case would dominate the statistical results. We never anticipated that a relatively small number of "odd" cases could have such a big statistical impact. The simulation showed that the presence of 20% nonguard voicers reduced personality correlataions by 59%.

The highest correlation was .63 between Voicer 3 and Egocentrism--the belief that others are constantly watching you, listening to you, and otherwise paying attention. This means that guard voicers are 1.63 standard deviations higher than others on egocentrism on the average. People high on egocentrism are almost all guard voicers. This may mean that voicers are more vulnerable to the factors that cause egocentrism. That is, the same set of circumstances that would produce mild egocentrism in nonvoicers causes a voicer's inner voice to adopt the guard role and hence produce extreme egocentrism. Egocentrism mediated the correlations between the voicer scales and the other

personality variables. This may mean that the vulnerability of voicers to the causes of egocentrism are responsible for nearly all the correlations found in this study.

One variable which is not mediated by egocentrism is a special form of hypocrisy: belief in the importance of honesty combined with the practice of lying to others. The correlation of hypocrisy with Voicer 3 is .31 among those with warm parents and .69 among those with cold parents. This may mean that the inner voice of guard voicers seeks to protect the child from its parents; especially if the parents are cold. If the parents are cold, the inner voice may feel that the child must lie to avoid punishment but profess a belief in honesty to curry favor. If the parents are warm, the inner voice may feel safe in telling parents the truth or in admitting lying.

There is a correlation of .41 between Voicer 3 and neuroticism. This means that guard voicers average one standard deviation higher than others. Thus most of the people who score high on neuroticism are guard voicers. The clinical contribution to personality theory has come mostly from therapists in private practice--therapists who see mostly neurotics. Thus clinical theories of personality have been strongly skewed by this experience. This may be why clinical psychologists and psychiatrists have not noticed that many people do not have an inner voice or superego.
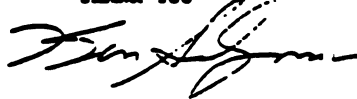
The literature on the inner voice speaks entirely in terms of conscience. The inner voice or superego is seen as the internalization of social values and the reason that people will obey rules even when they are not afraid of being caught. The numerical analysis of Table 15 shows that only 10% of voicers are conscience voicers. That is, only 7% of college students have an inner voice that plays the role of conscience. Thus the superego cannot be the explanation for social control. It may be that the guard voicers conform (r=.48) because of egocentrism--the feeling that there is always an audience. Nonvoicers may conform for cognitive reasons such as those laid out by Piaget (1965).

Appendix   A

A friend and I have been studying and arguing about certain mental processes. We are now ready to quit studying our close friends and ask how things appear to other people. We have put together this survey which describes what we are looking at. Our perceptions and descriptions differ slightly, and there are, therefore, three separate descriptions enclosed. Please read the descriptions, bearing in mind that they are all attempting to describe the same phenomenon. All three of the write-ups ask you whether you can identify with the described phenomenon. We would like you to respond to the descriptions in two ways. After you read each description, classify yourself on the basis of your reading of that description only. Then after reading all three descriptions classify yourself again on the basis of your overall understanding. If, after reading all of them, you are still unable to identify yourself, I would like to discuss the concept with you for a few minutes if you would be willing to give me your phone number. Any questions or comments on this survey or on the phenomenon would be most appreciated (my phone number is 485-5151 after 5:00).

THANK YOU

Ken Salzman

A DISCOVERY ABOUT CONSCIOUS THOUGHT

It has been generally believed that the experience of conscious thought is essentially the same for everyone. Recent evidence, however, seems to indicate that there is at least one aspect of conscious thought which is not the same for all people and separates them into two groups: the two ways people experience conscious thought appear to be quite distinct. What follows are descriptions of the two modes of thought, but please keep in mind that these descriptions are based on a fairly small group of people and may be inaccurate to some degree. Although statements are phrased as fact, remember that they are really tentative conclusions and observations drawn from a small sampling of the population. Also be aware that one description is likely to seem familiar, while the other may appear foreign, alien, or even provoke incredulity.

The people of one group experience conscious thought as a nonverbalized process by which concepts are juggled, merged, redefined and reordered, out of which are produced conclusions and new views. Thinking is a real process but is not readily subject to description, as it is a flow of concepts and relations which, though usually governed by rules of logic and reason, is not generally perceived as a step-by-step operation. It is difficult for a member of this group to examine the thinking at a given moment because the train of thought becomes interrupted by such introspection and cannot be easily put into words. Values are frequently held as subjective constructs, established by decision, rather than by any sense of an objective absolute. "Conscience" refers to an abstract set of ethical and moral beliefs, and guilt is perceived as a general feeling of distress. The members of this group often experience periods where there is no particular line of thought, especially conscious verbal thought, going through their minds. In response to the question, "What are you thinking about?" they may, in all honesty and candor, answer, "Nothing," although some may say instead, "Oh, hundreds of things." Both are true in that there is no single topic, theme, or subject occupying their conscious minds at the time, yet they are aware of their surroundings and current events. There is an important difference for this group between thinking and verbalization of thought. Since the single strongest characteristic of this process is its nonverbal nature, it is called implicit conscious thought.

The members of the other group experience conscious thought as a clearly verbal process, i.e., one which is carried out in a word-by-word fashion. Several distinct lines of thought may occur at the same time producing a multiplicity of perspectives, positions and attitudes regarding any subject under consideration. Thinking is a real process and can be described readily, but difficulty often arises over the fact that there are actually several thoughts running on parallel tracks simultaneously, sometimes taking the form of an internal dialogue. Each track is a logical process, but the conclusions drawn on one track do not necessarily prevent contradictory conclusions being drawn at the same time on other tracks. While introspection of the thinking process may disrupt one or more lines of thought, it is not generally disruptive to the process itself. Since the thinking is done on a verbal level, a train of thought can quite easily be put into words by members of this group. Values are frequently held as having an absolute nature, although competing values can both be held at once. Conscience is often experienced as one of the "voices" in their dialogue speaking to them or advising them from within their own minds. Feeling guilty is typically perceived as a period of internal chastisement from such a voice or parallel thought track. It is not unusual for a thought track to be uncomfortable to the individual and to spontaneously

-2-

take on a kind of independent existence, i.e., the individual feels unable to
stop the thought or ignore its presence. Although there are restful periods,
the members of this group rarely, if ever, fail to experience at least one
distinct train of thought at any given time. There is generally some kind of
background thinking, e.g., music or counting, which is nearly always active.
For this group, thinking and internal verbalization of thought are the same
process; the characteristic of this group is a verbalized, multitracked thought
process which is frequently experienced as an internal dialogue. Since the
single strongest characteristic of this process is its verbal nature, it is
called explicit conscious thought.

I wonder whether, while reading this, you have come to feel yourself
associated to some extent with either of these groups. You may feel that you
belong, in some ways, to both groups. It is true that everyone uses both
implicit and explicit conscious thought to some degree, but they can be
separated into groups because one or the other processing style will be dominant
for each individual. Each person uses one style very naturally and without
conscious effort, while the other style will feel somewhat less natural and
require more conscious direction and control. Please remember that all of the
above-mentioned "facts" are no more than generalizations made from a very
small sample. For any really meaningful statements to be made, it is essen-
tial that a larger sample be measured. This is why I am coming to you now with
the following statement and request.

STATEMENT: There appears to be two types of conscious functioning, and
for each person one type seems to predominate, separating people into two groups.
The members of one group think primarily in a nonverbal manner and thus find
it difficult to delineate exactly their trains of thought, hence they are
said to have implicit conscious thought (ICT). The members of the other group
think primarily in a highly verbalized manner and have very little difficulty
delineating their trains of thought, hence they are said to have explicit
conscious thought (ECT). Neither group is "abnormal:" people with ICT are
not lacking rigor or accuracy; people with ECT are not lacking depth, nor are
their dialogues or internal voices hallucinations. Neither group is "better"
or "worse" than the other, they are simply different.

REQUEST: It is understood that examining one's mental life is at the same
time exciting and sensitive. With this in mind, I ask you to help me by
filling out the questionnaire as openly and honestly as possible. Confiden-
tiality will of course be maintained, but I ask that you include your name,
address and phone number if you are willing to be contacted later for more
information. Please feel free to include your comments or ideas on the
back of the form.

Questions:

1. Now that you have read this description, how would you classify your mode
   of thought:

   ◻   ◻
   Explicit Conscious Thought   Implicit Conscious Thought

2. How confident do you feel about this judgement?

   ◻   ◻   ◻   ◻   ◻
   very   sure   hesitant doubtful just
                                       guessing

A DISCOVERY ABOUT CONSCIENCE

Friends:

I would like to share a discovery with you that I made about two years ago. One afternoon I was sitting and talking to Martha K   , and I jokingly made a reference to some naughty thing that she might do. Martha replied, "Oh, I couldn't do that, my conscience would torture me for days." At that reference to "torture" my curiosity was piqued and I asked her, "What do you mean by torture? What exactly does go on in your head when your conscience tortures you?" And then she told me the most astounding things that I have ever heard (though about half of you will not be surprised): She said, "He would just call me awful names for hours on end." And that floored me because what I understood her to say was that she heard a little voice in her head that talked to her. And, after a long conversation, this turned out to be exactly true; her conscience was a distinct male voice that would spew out a stream of insults such as "filthy, worthless, dirty, ungrateful, etc."

Then, after awhile, I made a confession to Martha that stunned her as much as her's had surprised me. I told her that I had never heard any kind of voice in my head, not mine, not anybody's (though about half of you will not be surprised to hear that). To me the word "conscience" has never been any more than a metaphor for "thinking about the ethical consequences of an act." And by "thinking" I mean a silent process of internal thought generation. Only if I am playing a role or practicing a lecture do I engage in the subvocal speech that sounds to me like my own voice speaking (which, of course, it is). Martha asked me, "Do you mean that your head is just blank with nothing going on?" And I replied that was often true, though silent thought is still thought.

In the two years since then I have been slowly checking through everyone that I know well enough to ask such a personal question. First, I told my wife about Martha. And Ronda said, "Of course, everybody has a conscience." And I said, "But you mean a little voice in your head that is always talking to you?" She said, "He doesn't always talk, only when he wants to tell me what to do or what to say or what not to do or what to be afraid of or...." After she really started listening, for the next several months, she told me that he only shuts up if she is reading or doing a lot of heavy thinking (i.e.,- math problems or related introspection, etc.). Otherwise, her head is rarely blank, one of them is almost always talking.

All in all, about half my friends have "little voices" that talk to them in their heads, and half of my friends do not. Some of those who have "little voices" have voices of the opposite sex, some have voices of the same sex, and some say that they can't really tell. Among my friends, women are more likely to have a little voice, and those women who do have a little voice say that it is frequently vocal. My male friends are more likely to say that their little voice only comes out in times of stress or worry, when they get messages such as "You can't do that, that's terrible," or "If you weren't so stupid, you would have had that thesis done months ago." Everyone who I've met who has a little voice says that it goes as far back in time as they can remember (including my son, who at 5 could not remember not having a little voice).

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Nor is the development a simple matter of family. My son has a little voice but my daughter does not. And, by the way, some people have more than one little voice. They have a little "devil" as well as a "conscience," i.e., some people hear a little voice that eggs them on to try new and "scary" or "bad" things that might be fun or might bring pleasure. In any case, almost everyone who had a little voice regards it as important to them (whether for good or for ill) and as one of the central feature of their mental life.

Are people without little voices more rational? Among the small and highly select set of people that are my immediate friends the answer is "yes." Those of us without little voices are much less susceptible to extreme mood shifts, and are much less likely to be blatantly inconsistent with our values from one time to another. After all, there is only one voice to speak to our affairs. In particular, from the sample that I've known, those of us who have no little voice are much less likely to get angry, very much less likely. But, on the other hand, during the last 2 years I have gotten angry at people whom I've never met (such as Richard Nixon and the people who want to censor violence from TV and....), I've worried over future events that are outside my power to control ("They never publish anything of mine"). I have furiously overworked, and then been highly depressed because I overwork, etc. So, I too am subject to irrational emotional states, to acting for the moment against my own long-term interests, to making thoughtless remarks, and all the other foibles of other members of the human race. It's just that I don't have a little voice to tell me "You shouldn't feel like that, that's bad," or "You should call your parents more often, you ungrateful child," or "How dare they do that to you? Who do they think they are?" You don't have to take that crap...." Instead, I simply go through life alone.

AN ANNOUNCEMENT

On the basis of my experience, I do know that I have two momentous announcements to make. First, to those who have no little voice. Lots of people "hear" a little voice which tells them what they should do, what they should not do, and whether their past acts and feelings are good or bad. Furthermore, this is no hallucination. These people know perfectly well that the little voice is inside their head and that no one else can hear it. Moreover, they are perfectly normal people. You can easily live 13 years with one and never guess what's going on inside their head. They never stop to tell you about the little voice because "everyone has one" and, when they do refer to it, they call it "I" or "me," etc.

To those of you who have a little voice (or more): lots of us don't. If you ask a person what he's thinking and he says "nothing" it may be true. If a person tells you, "I never feel guilty about the past," or "I rarely get angry," or "I get annoyed, but I never get mad" then there is a very good chance that he is telling the simple truth. There are a lot of us who have no true conscience in the old-fashioned sense of the word. Yet we are not uncontrollable beasts or monsters. I may be pretty weird, but I have a friend without a little voice who is impeccably conservative in dress and life style, and who is described by everyone as "warm, soft-hearted, and friendly."

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THE NEED FOR RESEARCH

There is only one statement above which is beyond doubt. There are two kinds of people; i.e., those who have a little voice and those who do not. Every other statement above is based on the unsystematic study of fewer than 20 people. And those people are all either my close friends or friends of my close friends and do not even begin to approach a random sample of Americans, much less humanity at large.

Thus, virtually every question that there is to ask about the little voice or its absence is still completely unanswered. If some of the crude hypotheses that I stated above seem more than tentative, then I apologize for my writing style. I am enthusiastically interested in the answers and like most people, I tend to overrate the generality of my experience.

WE WANT YOU

And, so we come to you, dear friend. We would like to know where you stand on this question and we would like to know anything that you might think might be relevant about yourself in regard to this issue. So, if you will and can, we would dearly love to have you fill out our questionnaire.

Questions:

1. From what you have read above, would you say that some of your thoughts take the form of an internal "voice"?

       ▱   ▱

   I hear an internal "voice"   I have had no such experience

2. How confident do you feel about this judgement?

  ▱   ▱   ▱   ▱   ▱
 very   sure hesitant doubtful just
 sure   guessing

A DISCOVERY ABOUT CONSCIOUSNESS

I would like to share a discovery that was made about two years ago. Two people were talking and the first jokingly made a reference to some naughty thing the second might do. "Oh, I couldn't do that," the second replied, "my conscience would torture me for days. It would just call me names for hours on end." The first person was curious about this and initiated a long conversation in which both made a startling discovery. The first person learned that the second did have an internal voice and could discuss matters with this voice. The second was astounded to learn that the first person had no such voice and experienced thinking as a conscious, nonverbal, "silent" process of internal thought generation. The closest the first person ever came to having a voice was in the act of mentally playing a role or practicing a speech, but this subvocalization was very different in character from the second's internal voice.

Over the next two years, both people discretely questioned their closest friends to determine whether others did or did not have internal voices that "talked to them." The number of people sampled was very small, less than 20 people, but there were some interesting correlates. About half of the people questioned reported having an internal voice and half reported none. People with an internal voice, "voicers," indicated that the voice is nearly always active, except when they are engaged in reading or other similarly engrossing thought. Something is always "going on" in their minds, for they are either intently thinking or they are listening to or interacting with their voice. On the other hand, the people without an internal voice, "non-voicers," often experience periods where their minds are just blank, with nothing going on at a conscious level. When the internal voice exists, it can be of any sex; there can be more than one internal voice, or the internal voice may take on different attitudes; the internal voice can be a "conscience" (judging), "friend" (supportive), or a "devil" (goading); the female voicers tended to report more constant activity of their internal voices while the male voicers reported distinct activity only in times of worry or stress; voicers could not recall ever not having an internal voice; voicers regard the internal voice as important to them and as one of the central features of their mental life. Non-voicers give the appearance of being somewhat more rationally minded than voicers, though they are not free from irrationality; voicers give the appearance of being more intuitively minded than non-voicers, though not exclusively so.

I wonder whether while reading this you have come to feel yourself associated to some extent with either of these groups. Please bear in mind that all of the above-mentioned "facts" are really no more than generalizations made from a very small sample. For any really meaningful statements to be made, it is essential that a larger sample be measured. This is why I am coming to you now with a statement and a request.

STATEMENT: There appears to be an aspect of human mental life which is not the same for all people, but separates them into two groups. The members of one group have lived with and had as an integral part of their existence an internal voice. They can, for instance, very naturally view conscience as a real thing, speaking to them or advising them from within their own minds and view feeling guilty as a period of chastisement and berating by the voice. The members of the other group have lived without any such partner or auxiliary cognitive process. Conscience to them would be simply an abstract set of

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ethical and moral beliefs, and feeling guilty would be a period of general distress. Neither group is "abnormal;" voicers are not hallucinating and non-voicers are not deficient. Neither group is "better" or "worse" than the other, they are simply different.

REQUEST: It is understood that examining one's mental life is at the same time exciting and sensitive. With this in mind, I ask you to help me by filling out the questionnaire as openly and honestly as possible.

<u>Questions</u>:

1. Now that you have read this description, how would you classify yourself?

      ▱   ▱
    Voicer   Nonvoicer

2. How confident do you feel about this judgement?

  ▱   ▱   ▱   ▱   ▱
 very   sure hesitant doubtful just
 sure   guessing

<u>Questions About Overall Assessment</u>

You have now read three descriptions of the same phenomenon with three sets of labels.

1. How would you characterize your own mode of thought?

         ▱   ▱
 Ex   In
Implicit conscious thought   Implicit conscious thought
Internal voice   No internal voice
Voicer   Non-voicer

2. How confident do you feel about this judgement?

  ▱   ▱   ▱   ▱   ▱
 very   sure hesitant doubtful just
 sure   guessing

3. Which label do you prefer for yourself?

120

4. Which description was most helpful in figuring out what we are talking about?

     A) A Discovery about Conscience

     B) A Discovery about Consciousness

     C) A Discovery about Conscious Thought

     D) Combination of the above (please specify):

5. We would like to see any criticism that we might use in writing a new description of the phenomenon.

     (a) Do you think any of the descriptions were particularly vague?

     (b) Do you think any of the descriptions was either derogatory or complementary in tone?

     (c) *** Most important ***   Is there anything important that was left out of all three descriptions?

     (d) Any other comments on the descriptions?

Appendix B

THIS QUESTIONAIRE CONSISTS OF STATEMENTS SUCH AS

"I am now shy".

YOU ARE TO READ EACH STATEMENT AND DECIDE IF THE

STATEMENT IS TRUE OF YOU OR NOT. YOU THEN FILL

OUT THE CORRESPONDING SPACE ON THE ENCLOSED

MACHINE SCOREABLE ANSWER SHEET USING THE FOLLOWING

1 = STRONGLY DISAGREE
2 = DISAGREE
3 = UNCERTAIN OR INDIFFERENT
4 = AGREE
5 = STRONGLY AGREE

DO NOT WORRY IF YOU HAVE SOME DIFFICULTY DECIDING

BETWEEN ALTERNATIVES SUCH AS "AGREE" VERSUS "STRONGLY

AGREE"; JUST USE YOUR FIRST INCLINATION. IF AN ITEM

TROUBLES YOU, FEEL FREE TO LEAVE IT BLANK. IF SEVERAL

ITEMS TROUBLE YOU, FEEL FREE TO DISCONTINUE THE

QUESTIONAIRES. IF YOU HAVE A QUESTION, PLEASE FEEL

FREE TO CALL 323-7929 AND WE WILL BE GLAD TO ANSWER

ANY QUESTIONS THAT YOU MAY HAVE.

DEFINITION OF INNER VOICE

The next set of items is written to ask if you experience an "inner voice" or "internal voice" as part of your mental life. There will first be a brief description of the inner voice phenomenon followed by a statement asking you to make a preliminary self identification as a voicer or as a nonvoicer. This will be followed by a set of questions which ask about the inner voice experience in a variety of life situations. If one of these questions causes you to change your mind about whether or not you are a voicer or nonvoicer, please do not change your earlier response (though you may indicate that you thought of doing so in the margin). These are experimental items and we want to see how you respond to each item in sequence.

There is a much more extensive description of the inner voice experience (with another request for self-identification) at the end of this questionaire. Please do **not** read this description until after you have responded to the new items at the front of the questionaire. We want to see if the new items will work as well as the extensive description at the back which was used in previous research.

THE INNER VOICE EXPERIENCE

People differ radically in how they experience conscious mental life. In a college population, about half the students experience mental life as a dialogue between parts of their personality; they experience an inner "voice which comments on them, makes suggestions, etc. The most common form of the inner voice experience is an explicit conscience which berates the person for breaking rules and praises the person for doing good. Half the population experiences no inner voice and in that sense experiences mental life alone. In some people the inner voice does not play the role of conscience, and in some people there is more than one inner voice. For others there is no inner voice at all.

---

1 = strongly disagree
2 = disagree
3 = uncertain or indifferent
4 = agree
5 = strongly agree

5. I experience an inner voice
6. I experience conscience as a "voice" in my mind that speaks to me or advices me.

Inner Voice Items

5. I experience an inner voice
6. I experience conscience as a "voice" in my mind that speaks to me or advices me.

7. My mind is rarely silent.
8. I usually have some kind of background thinking going on.
9. My mind is generally active with thoughts or dialogue.
10. Sometimes my inner voice sings or chants or even counts to me.

— 11. I think primarily without internal verbal thoughts.
12. I have difficulty accepting compliments because my inner voice can offer a reason or counter-example from my behavior as to why I don't deserve the compliment.
13. I have no problem detecting the step-by-step progress of my thoughts.
14. I know which thought led to the next.
— 15. For me, conscience is merely a metaphor rather than a voice telling me what to do or say in a given situation.

16. I don't have an inner voice that eggs me on to try something new or fun.
17. My inner voice reminds me of the rules if I start to violate some rule.
18. I experience guilt as a period of internal chastisement from a voice.
19. I nearly always have something going on in my mind.
20. I have difficulty sometimes with decision making because I experience hearing both the positive and negative reasons for a given choice much like the devil speaking and the angel speaking in a Disney cartoon.

21. If someone asks me "What are you thinking about?", I could tell them exactly what I was thinking.
22. My mind is never blank.
23. I would feel lost without my inner voice to talk to me when I go for a walk for clean my room.
— 24. My mind is often blank.
25. If I perform poorly, my internal voice can berate me severely or if I do well, my inner voice can lavish me with praise.

— 26. I think in a non-verbal manner primarily
27. The notion of stream of consciousness is an accurate description of my mental life.
28. Often my inner voice draws my attention to the fact that people are looking at me.
29. My inner voice comments on what other people are saying or doing. e.g. "Look they're blushing"
30. My inner voice warns me not to lose control. e.g. "You've had enough."

31. I feel embarassed when I think other people know what I'm feeling.
32. I often experience mental life as a dialogue between different parts of my personality.
33. If I have done something well, I experience an inner voice prasing me.
34. I often experience an inner voice that makes derogatory comments about people that I see.
— 35. The only time that I experience thought as an inner voice is if I am practicing a speech or acting out a fantasy.

— 36. If I have done something well, I experience a diffuse feeling of positive excitement.

Appendix C

There appears to be an aspect of human mental life which is not the same for all people, but separates them into two groups. The members of one group have lived with and had as an integral part of their existence an internal voice. They can, for instance, very naturally view conscience as a real thing, speaking to them or advising them from within their own minds and view feeling guilty as a period of chastisement and berating by the voice. The members of the other group have lived without any such partner or auxiliary cognitive process. Conscience to them would be simply an abstract set of ethical and moral beliefs, and feeling guilty would be a period of general distress. Neither group is "abnormal;" voicers are not hallucinating and non-voicers are not deficient. Neither group is "better" or "worse" than the other, they are simply different.

AN ANNOUNCEMENT

On the basis of my experience, I do know that I have two momentous announcements to make. First, to those who have no little voice. Lots of people "hear" a little voice which tells them what they should do, what they should not do, and whether their past acts and feelings are good or bad. Furthermore, this is no hallucination. These people know perfectly well that the little voice is inside their head and that no one else can hear it. Moreover, they are perfectly normal people. You can easily live 13 years with one and never guess what's going on inside their head. They never stop to tell you about the little voice because "everyone has one" and, when they do refer to it, they call it "I" or "me," etc.

To those of you who have a little voice (or more): lots of us don't. If you ask a person what he's thinking and he says "nothing" it may be true. If a person tells you, "I never feel guilty about the past," or "I rarely get angry," or "I get annoyed, but I never get mad" then there is a very good chance that he is telling the simple truth. There are a lot of us who have no true conscience in the old-fashioned sense of the word. Yet we are not uncontrollable beasts or monsters.   . I have a friend without a little voice who is impeccably conservative in dress and life style, and who is described by everyone as "warm, soft-hearted, and friendly."

A DISCOVERY ABOUT CONSCIOUS THOUGHT

I would like to share a discovery with you that I made about two years ago. One afternoon I was sitting and talking to Martha K   , and I jokingly made a reference to some naughty thing that she might do. Martha replied, "Oh, I couldn't do that, my conscience would torture me for days." At that reference to "torture" my curiosity was piqued and I asked her, "What do you mean by torture? What exactly does go on in your head when your conscience tortures you?" And then she told me the most astounding things that I have ever heard (though about half of you will not be surprised): She said, "He would just call me awful names for hours on end." And that floored me because what I understood her to say was that she heard a little voice in her head that talked to her. And, after a long conversation, this turned out to be exactly true: her conscience was a distinct male voice that would spew out a stream of insults such as "filthy, worthless, dirty, ungrateful, etc."

Then, after awhile, I made a confession to Martha that stunned her as much as her's had surprised me. I told her that I had never heard any kind of voice in my head, not mine, not anybody's (though about half of you will not be surprised to hear that). To me the word "conscience" has never been any more than a metaphor for "thinking about the ethical consequences of an act." And by "thinking" I mean a silent process of internal thought generation. Only if I am playing a role or practicing a lecture do I engage in the subvocal speech that sounds to me like my own voice speaking (which, of course, it is). Martha asked me, "Do you mean that your head is just blank with nothing going on?" And I replied that was often true, though silent thought is still thought.

In the two years since then I have been slowly checking through everyone that I know well enough to ask such a personal question. First, I told my wife about Martha. And Ronda said, "Of course, everybody has a conscience." And I said, "But you mean a little voice in your head that is always talking to you?" She said, "He doesn't always talk, only when he wants to tell me what to do or what to say or what not to do or what to be afraid of or...." After she really started listening, for the next several months, she told me that he only shuts up if she is reading or doing a lot of heavy thinking (i.e.,- math problems or related introspection, etc.). Otherwise, her head is rarely blank, one of them is almost always talking.

All in all, about half my friends have "little voices" that talk to them in their heads, and half of my friends do not. Some of those who have "little voices" have voices of the opposite sex, some have voices of the same sex, and some say that they can't really tell. Among my friends, women are more likely to have a little voice, and those women who do have a little voice say that it is frequently vocal. My male friends are more likely to say that their little voice only comes out in times of stress or worry, when they get messages such as "You can't do that, that's terrible," or "If you weren't so stupid, you would have had that thesis done months ago." Everyone who I've met who has a little voice says that it goes as far back in time as they can remember (including my son, who at 5 could not remember not having a little voice).

Nor is the development a simple matter of family. My son has a little voice but my daughter does not. And, by the way, some people have more than one little voice. They have a little "devil" as well as a "conscience," i.e., some people hear a little voice that eggs them on to try new and "scary" or "bad" things that might be fun or might bring pleasure. In any case, almost everyone who had a little voice regards it as important to them (whether for good or for ill) and as one of the central features of their mental life.

Questions:

235. Based on the above description, I believe I have an inner voice.

236. I am confident that I have an inner voice.

THANK YOU

Appendix   D

APPENDIX D

Shyness Self Identification

1. I was shy when I was in the fifth grade.

2. I was shy when I was in the eighth grade.

3. I was shy when I was in the 11th grade.

4. I am now shy.

Shyness Post-Test

44. I feel tense when I'm with people that I don't know well.

78. I feel inhibited in social situations.

113. I am socially somewhat awkward.

154. I am often uncomfortable at parties and other social functions.

177. When conversing, I worry about saying something dumb.

191. I feel nervous when speaking to someone in authority.

202. I don't find it hard to talk to strangers.

205. I feel shy with members of the opposite sex.

222. I have trouble looking someone right in the eye while talking.

Inner Voice Post-Test

235. State your sex. 1 = MALE   2 = FEMALE

236. Based on the above description, I believe I have an inner voice.

237. I am confident that I have an inner voice.

Anxiety

64. I feel pleasant.

106. I am cool, calm, and collected.

139. I am happy.

187. I am confident.

169. I feel secure.

110. I become tense and upset when I think about my present concerns.

192. I feel that difficulties are piling up so that I cannot overcome them.

206. I worry too much over something that really doesn't matter.

227. Some unimportant thought runs through my mind and bothers me.

234. I take disappointment so keenly that I can't put them out of my mind.

Negativism

107. When I am angry at someone, I won't do what they ask me to do.

140. If I am angry at somebody who asks me to do something, I will say yes but put it off indefinitely.

170. When I am angry at somebody, I do the opposite of whatever they ask.

Resentment

108. I am bitter about not getting what is coming to me.

141. It makes me mad when I see other people getting things that they don't deserve.

171. When I look back on what's happened to me, I can't help feeling resentful.

Self Revelation

109. I feel unable to tell anyone all about myself.

142. I reveal my deepest feeling to my friends.

172. If someone is important to me, it is easy for me to let them know it.

Critical Parents

38. My parents were often critical of what I did.

54. My parents never seemed satisfied with what I did.

157. My parents had a lot of expectations of me growing up.

144. My parents rarely tried to make me conform to their values.

74. My parents were easy going and rarely commented on what I was doing.

Warm Parents

86. My parents gave me lots of warmth and affection.

124. My parents expressed affection towards me more than most parents.

100. My parents were somewhat reserved towards me.

61. My parents were not particularly interested in what I did.

Physical Punishment

175. My parents believed in spanking when I broke the rules set for me.

166. I was sometimes punished with a stick or switch.

180. I was often spanked.

188. My parents believed that physical punishment builds character.

Withdrawal of Love

200. My mother avoided looking at me when I disappointed her.

201. My father avoided looking at me when I disappointed him.

208. Sometimes when my mother disapproved of something I did, she was cold and distant.

212. Sometimes when my mother was angry with me, she did not speak to me.

218. Sometimes when my father disapproved of something I did, he did not speak to me for awhile.

221. Sometimes when my father was angry with me, he was cold and distant for awhile.

223. When I hurt my mother's feelings, she stopped talking to me until I pleased her again.

229. When I hurt my father's feelings, he stopped talking to me until I pleased him again.

232. When I upset him, my father didn't have anything to do with me until I found a way to make up.

233. When I upset my mother, she did not have anything to do with me until I found a way to make up.

Conformity

39. In different situations and with different people, I often act like very different persons.

76. When I am uncertain how to act in social situations, I look to the behavior of others for cues.

111. Even if I am not enjoying myself, I often pretend to be having a good time.

152. I'm not always the person that I pretend to be.

173. I often put on a show to impress or entertain people.

190. At parties and social gatherings, I do not attempt to do or say things that others will like.

204. I may deceive people by being friendly when I really dislike them.

231. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.

Sociable

41. I like to be with people.

77. I welcome the opportunity to mix socially with people.

112. I prefer working alone rather than with others.

153. I find people more stimulating than anything else.

174. I'd be unhappy if I were prevented from making many social contacts.

Honesty

46. There is no excuse for lying to someone else.

79. Honesty is the best policy in all cases.

114. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons which carry more weight.

155. All in all, it is better to be humble and honest than to be important and dishonest.

Cynicism

47. Anyone who completely trusts anyone else is asking for trouble.

80. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.

115. The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.

156. Never tell anyone the real reason that you did something unless it is useful to do so.

Benign

63. Most people are basically good and kind.

104. Most people try to be fair.

137. Most people are honest.

145. Most people enjoy helping others.

193. If you act with consideration and honesty, most people will be considerate and honest in return.

219. Most people will act as "Good Samaritans" if given the opportunity.

Deep Cynicism

48. The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.

75. Most people have a vicious streak and it will come out when they are given a chance.

55. For the most part people cannot be trusted.

62. Most people pursue their own goals even if it hurts others.

105. Most people are ultimately concerned with achieving power over others.

138. People care only about themselves.

168. Smart people bend the truth to suit their own purposes.

186. People cannot be trusted except when they are afraid of being punished otherwise.

194. Most friendships are set up primarily as a means to achieve power.

220. Anyone who completely trusts anyone else is asking for trouble.

226. People who try to be good will meet their ruin among the great number of people who are not good.

230. In general, material possessions are more important to people than friends or family.

Indignation

65. There have been several people who cheated me.

94. On a number of occasions, people have taken advantage of me.

129. There have been times when people betrayed me.

Egocentricism

66. In public places, I am always aware of people watching me.

95. I worry about what other people are saying about me.

130. I often wonder what gossip there is about me.

Appearances

67. It is important to me to wear nice clothes.

96. It is important to me to drive a nice, expensive-looking car.

131. It is important to me to someday have a nice home in an exclusive area.

Exhibitionism

40. I like to tell a good joke.

68. I enjoy being the center of attention.

97. I would enjoy speaking to a large group.

132. I try to be inconspicuous.

163. I seldom try to call attention to myself.

215. I enjoy entertaining other people.

Selfishness

69. Most people try to get more than they give in a bargain.

98. People don't value what they have unless they earn it.

133. Most people want to keep what is theirs and share what is yours.

164. I worked hard to get what I have.

216. If you give an inch, they take a mile.

228. I haven't worked for anything that I have.

Need for Approval

70. Before I raise my hand in class, I always worry about what other classmates might think of my question.

101. I usually maintain my original position even when my superiors disagree.

134. I usually avoid doing something that might provoke criticism.

165. I easily change my mind after I hear what others have to say.

195. I'm likely to discontinue doing something that others think is not worthwhile.

211. I feel comfortable being different from those around me.

225. When I take a stand I tend to hold on to it, particularly if others disagree.

217. I find it hard to do anything that my parents would disapprove of.

Dominance

72. I feel that I can dominate a social situation.

103. I feel that I can control a social situation, even though it may not be obvious to other people.

136. In most social situations, I emerge as the leader.

Affiliation

85. It makes me feel good to see others happy.

53. A large part of my happiness is sharing my life with others.

73. I want to be sensitive to the needs and feelings of others.

37. I enjoy helping others.

203. I don't believe in showing overt affection towards friends.

213. I have liked nearly everyone that I have ever met.

123. I want to be around one or more people with whom I can share my emotions and feelings.

167. I like to work with other people rather than alone.

189. I prefer independent work to cooperative effort.

147. I spend most of my leisure time with other people.

224. I devote most of my leisure time to hobbies where I work alone.

143. Often I would rather be alone than with a group of friends.

176. I don't really have fun at large parties.

207. I think that any experience is more significant when shared with a friend.

60. I always try to consider the other person's feelings before I do something.

99. In problem solving, I look for a solution which is fair to those around me and to myself.

158. I don't care whether the people around me are my friends.

181. When I don't feel well, I would rather be with others than alone.

Inferiority

50. I have a low opinion of myself.

    I often wish that I was someone else.

120. Things are all mixed up in my life.

146. I'm fairly sure of myself.

179. There are lots of things about myself that need to e changed.

197. I feel like a failure.

210. I am basically a worthwhile person.

214. I feel like I disappoint other people.

Audience Anxiety

51. I feel very relaxed before speaking in front of a group.

88. I feel anxious when I speak in front of a group.

121. I am very nervcus while performing in front of people.

182. My voice never shakes when I recite in class.

198. Sometimes my body trembles when I speak up in class.

Fearfulness

52. I am easily frightened.

89. I often feel insecure.

122. I tend to be afraid in new situations.

148. I have fewer fears than most people my age.

183. When I get scared, I panic.

Rule Breaker

42. It bothers me to break rules, even when I know I won't get caught.

81. Sometimes I rather enjoy going against the rules and doing things that I'm not supposed to.

116. I feel comfortable acting unconventionally.

149. If I were in a cabin in the woods, I wouldn't mind getting undressed in front of a window without closing the curtains.

178. I don't mind speeding if there are no police around.

196. I feel comfortable acting unconventionally if an important issue is involved.

209. I like to say things that will shock other people.

Deceit

43. I can tell a good lie if I have to.

82. I'm pretty good at bluffing.

117. I enjoy the challenge of inventing a good excuse.

150. If I get a chance to cut in on a line, I'll take it.

Distrust

45. I don't trust anyone completely.

83. I am not afraid to trust my closest friends.

118. I have known many people who can be trusted.

151. I have never known a person who was really honest.

Competition

49. The most important thing in life is winning.

84. My life would not be meaningful without a chance to compete and do better than others.

119. I would rather cooperate and share than compete and win.

Suspicious

56. I am on my guard with people who are somewhat more friendly with me than I expected.

90. I wonder what hidden reason another person my have for doing something nice for me.

125. I think people rarely tell the truth.

159. It's never safe to take what people say at face value.

Negative Afterthoughts

57. When I show that I am angry with someone, I can't stop thinking that I shouldn't have done that.

91. When I express my anger, afterwards I feel that I was wrong to do so.

126. After I express my anger, I wonder if I was justified in doing so.

160. When I show my anger in a situation, afterwards I feel that I had every reason tc do so.

184. When I show that I am angry, I often regret it afterwards.

Fear of Expression of Anger

58. When I express my anger, I am afraid that something bad will happen.

92. I feel uneasy when my anger for someone shows.

127. I worry that people won't like me if I express my anger.

161. It's easy for me to express my anger the way that I really like to.

Rigidity

59. I like the idea of having my meals at odd hours and going to bed when the mood strikes me.

93. I find it easy to stick to a certain schedule, once I have started on it.

128. I do dangerous things just for the thrill of it.

162. Sudden unexpected changes in plans makes me uncomfortable.

185. I don't like to change plans in the middle of an undertaking.

199. I like a great deal of variety in my life.

Active Head

71. When I am alone, there is always some kind of talking going on in my head.

102. I often notice that I am talking to myself out loud.

135. There are times when I get so annoyed with myself over something that I think about it while I do other things.

Appendix E

MICHIGAN STATE UNIVERSITY

DEPARTMENT OF PSYCHOLOGY
355-3445 or 323-7929

EAST LANSING · MICHIGAN · 48824-1117

Dear Friend,

This letter is an invitation to participate in a research study of shyness. As an inducement to participate we offer two things: an argument for why what you do will help others and an offer to send you feedback as to the nature of your personality. The enclosed questionaire asks you about your thoughts, feelings, and experiences in a number of areas of life. The information that you provide will enable us to answer a number of questions about the causes of shyness. Knowledge of causes can be used by those who help people to deal with shyness. We also hope that knowledge about the causes of shyness may be used by educators to figure out some way to run schools in such a way as to reduce the frequency of shyness. We will say more about this below.

FEEDBACK

Your responses can be coded so as to see where you stand on some twenty-five personality dimensions such as shyness, self-esteem, anxiety, need for approval, etc. If you would like feedback on how you score on each dimension in comparison with the others who participate in the study, then fill out the enclosed label with your name and address and a computer print out of your scores will be sent to you.

These questionaires are being distributed randomly to the dorm mailboxes. If you fill out the questionaire and send it back to us through the campus mail without a label with your name and address, there is no way that anyone could know who filled it out. Thus if you send the questionaire back without your name and adress, you are guaranteed absolute anonymity.

However, we have not been able to figure out any way to give feedback without asking you for your name and address. So if you want feedback, then you will have trust our promise to maintain strict confidentiality. What we will do is this. We will number each questionaire as it is return to us. If you fill out the name and address label, then we will put the questionaire number on the label. When the computer reports are generated, then we will use your label on the letter that we use to send you your report. We will then have no identifying information on your questionaire.

We have tried to avoid questions that might be offensive or threatening, but we might have slipped up somewhere. If any item offends you, then leave that item blank. If worst comes to worst, just throw the questionaire away. We need all the data we can get, but we do not need the data enough for anyone to upset themselves providing it.

SHYNESS

Recent surveys find that 40% of americans report themselves to be shy. All of these people experience some discomfort in some aspect of life. For a few very shy people, the shyness distorts the whole fabric of life. Very shy people avoid strangers; thus cutting themselves off from sporting events, from dances, from restaurants, etc. Some shy people have trouble getting to know anyone of the opposite sex. They are cut off from dating, from marriage, and ultimately from family life.

-2-

The focus of our research is on the causes and time course of shyness. For example, some people may be shy because they fear others. Some may be shy because they feel shame around others. Some may be shy because they distrust others. Etc. The time course of shyness differs. Some people are shy when they are young and become less shy as they get older. Some people do not become shy until some special event happens during their teenage years or even later. What is the difference between those who become less shy and those who don't? Why do some people become shy as adults? We hope to answer these questions in our research.

One key question in our study is the comparison of those who are shy to those who are not. Thus, it is just as important to receive data from those who are not shy as from those who are.

THE INNER VOICE

We have postulated that a key difference between shy people and others and between different kinds of shy people is a difference on a personality dimension which is not very well known: the "voicer-non voicer" dimension. Some people experience their mental life as an inner dialogue between parts of their personality and some people don't. For example, some people experience conscience as an inner "voice" which berates them if they do something wrong and praises them if they do something good. Others experience conscience only as thoughts about right and wrong. That is, some people experience mental life as a dialogue with an "inner voice" while others experience mental life "alone". In a college population, there is about a 50/50 split between voicers and non-voicers. Our informal interviews suggest that shyness is a very different experience for voicers than for nonvoicers. Since voicers are not aware that others are nonvoicers while nonvoicers are not aware that others are voicers (including individuals who have been married 20 years), most of the general public is not aware of this personality difference. This makes it difficult to write items about the inner voice that both voicers and nonvoicers can answer. The reason that so many items in the early part of the questionaire concern the inner voice is that we have written a number of experimental items in hopes of finding a better scale than exists at the present time.

REDUNDANCY

For some people, certain questions will seem to be redundant. For example, if we ask if you are shy in each of 7 situations, then those who are always shy and those who are never shy may feel that they have answered the same question 7 times. However those who are only somewhat shy may find the questions about different situations entirely different from one another. Please bear with us if some of the questions seem redundant.

BENEFIT TO OTHERS

People do fall in love with their own research and we doubtless overestimate the worth of this research. But we know that shyness is a very acute problem for many. We do believe that this research will lead to the kind of understanding of shyness that will help us help those who are now shy. We also hope that this research will contribute to our search for ways to revise the social structure of schools so that fewer people become shy and so that fewer people who enter school shy will stay shy. We do believe that the time that you spend answering our questions will eventually bring a reduction in shyness.

Thank you,

Ronda Hunter

SHYNESS   PROJECT

THIS QUESTIONAIRE CONSISTS OF STATEMENTS SUCH AS

"I am now shy".

YOU ARE TO READ EACH STATEMENT AND DECIDE IF THE

STATEMENT IS TRUE OF YOU OR NOT. YOU THEN FILL

OUT THE CORRESPONDING SPACE ON THE ENCLOSED

MACHINE SCOREABLE ANSWER SHEET USING THE FOLLOWING

1 = STRONGLY DISAGREE
2 = DISAGREE
3 = UNCERTAIN OR INDIFFERENT
4 = AGREE
5 = STRONGLY AGREE

DO NOT WORRY IF YOU HAVE SOME DIFFICULTY DECIDING

BETWEEN ALTERNATIVES SUCH AS "AGREE" VERSUS "STRONGLY

AGREE"; JUST USE YOUR FIRST INCLINATION. IF AN ITEM

TROUBLES YOU, FEEL FREE TO LEAVE IT BLANK. IF SEVERAL

ITEMS TROUBLE YOU, FEEL FREE TO DISCONTINUE THE

QUESTIONAIRES. IF YOU HAVE A QUESTION, PLEASE FEEL

FREE TO CALL 323-7929 AND WE WILL BE GLAD TO ANSWER

ANY QUESTIONS THAT YOU MAY HAVE.

DEFINITION OF SHYNESS

The first set of items asks you whether you are now or were shy at
certain times in the past. The definition of "shy" which we wish
to use is this: "shy" means discomfort in the presence of strangers,
where "discomfort" means fear or tension or shame or embarassment
or painful awkwardness or etc.

---

	1 = STRONGLY DISAGREE
use this	2 = DISAGREE
scale	3 = UNCERTAIN OR INDIFFERENT
to mark	
answer	4 = AGREE
sheet	5 = STRONGLY AGREE

---

1. I was shy when I was in the fifth grade.

2. I was shy when I was in the eigth grade.

3. I was shy when I was in the 11th grade.

4. I am now shy.

GO TO THE NEXT PAGE FOR
THE INNER VOICE ITEMS

DEFINITION OF INNER VOICE

The next set of items is written to ask if you experience an "inner voice" or "internal voice" as part of your mental life. There will first be a brief description of the inner voice phenonmenon followed by a statement asking you to make a preliminary self identification as a voicer or as a nonvoicer. This will be followed by a set of questions which ask about the inner voice experience in a variety of life situations. If one of these questions causes you to change your mind about whether or not you are a voicer or nonvoicer, please do not change your earlier response (though you may indicate that you thought of doing so in the margin). These are experimental items and we want to see how you respond to each item in sequence.

There is a much more extensive description of the inner voice experience (with another request for self-identification) at the end of this questionaire. Please do **not** read this description until after you have responded to the new items at the front of the questionaire. We want to see if the new items will work as well as the extensive description at the back which was used in previous research.

THE INNER VOICE EXPERIENCE

People differ radically in how they experience conscious mental life. In a college population, about half the students experience mental life as a dialogue between parts of their personality; they experience an inner "voice which comments on them, makes suggestions, etc. The most common form of the inner voice experience is an explicit conscience which berates the person for breaking rules and praises the person for doing good. Half the population experiences no inner voice and in that sense experiences mental life alone. In some people the inner voice does not play the role of conscience, and in some people there is more than one inner voice. For others there is no inner voice at all.

---

1 = strongly disagree
2 = disagree
3 = uncertain or indifferent
4 = agree
5 = strongly agree

5. I experience an inner voice
6. I experience conscience as a "voice" in my mind that speaks to me or advices me.

1 = strongly disagree
2 = disagree
3 = uncertain or indifferent
4 = agree
5 = strongly agree

7. My mind is rarely silent.
8. I usually have some kind of background thinking going on.
9. My mind is generally active with thoughts or dialogue.
10. Sometimes my inner voice sings or chants or even counts to me.

11. I think primarily without internal verbal thoughts.
12. I have difficulty accepting compliments because my inner voice can
    offer a reason or counter-example from my behavior as to why I don't
    deserve the compliment.
13. I have no problem detecting the step-by-step progress of my thoughts.
14. I know which thought led to the next.
15. For me, conscience is merely a metaphor rather than a voice telling
    me what to do or say in a given situation.

16. I don't have an inner voice that eggs me on to try something new
    or fun.
17. My inner voice reminds me of the rules if I start to violate some rule.
18. I experience guilt as a period of internal chastisment from a voice.
19. I nearly always have something going on in my mind.
20. I have difficulty sometimes with decision making because I experience
    hearing both the positive and negative reasons for a given choice much
    like the devil speaking and the angel speaking in a Disney cartoon.

21. If someone asks me "What are you thinking about?", I could tell them
    exactly what I was thinking.
22. My mind is never blank.
23. I would feel lost without my inner voice to talk to me when I go for
    a walk for clean my room.
24. My mind is often blank.
25. If I perform poorly, my internal voice can berate me severely or if
    I do well, my inner voice can lavish me with praise.

26. I think in a non-verbal manner primarily
27. The notion of stream of consciousness is an accurate description of
    my mental life.
28. Often my inner voice draws my attention to the fact that people are
    looking at me.
29. My inner voice comments on what other people are saying or doing.
    e.g. "Look they're blushing"
30. My inner voice warns me not to lose control. e.g. "You've had enough."

31. I feel embarassed when I think other people know what I'm feeling.
32. I often experience mental life as a dialogue between different parts
    of my personality.
33. If I have done something well, I experience an inner voice prasing me.
34. I often experience an inner voice that makes derogatory comments
    about people that I see.
35. The only time that I experience thought as an inner voice is if I am
    practicing a speech or acting out a fantasy.

1 = strongly disagree
2 = disagree
3 = uncertain or indifferent
4 = agree
5 = strongly agree

36. If I have done something well, I experience a diffuse feeling of positive excitement.
37. I enjoy helping others.
38. My parents were often critical of what I did.
39. In different situations and with different people, I often act like very different persons.
40. I like to tell a good joke.

41. I like to be with people.
42. It bothers me to break rules, even when I know I won't get caught.
43. I can tell a good lie if I have to.
44. I feel tense when I'm with people that I don't know well.
45. I don't trust anyone completely.

46. There is no excuse for lying to someone else.
47. Anyone who completely trusts anyone else is asking for trouble.
48. The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.
49. The most important thing in life is winning.
50. I have a low opinion of myself.

51. I feel very relaxed before speaking infront of a group.
52. I am easily frightened.
53. A large part of my happiness is sharing my life with others.
54. My parents never seemed satisfied with what I did.
55. For the most part people cannot be trusted.

56. I am on my guard with people who are somewhat more friendly with me than I expected.
57. When I show that I am angry with someone, I can't stop thinking that I shouldn't have done that.
58. When I express my anger, I am afraid that something bad will happen.
59. I like the idea of having my meals at odd hours and going to bed when the mood strikes me.
60. I always try to consider the other person's feelings before I do something.

61. My parents were not particularly interested in what I did.
62. Most people pursue their own goals even if it hurts others.
63. Most people are basically good and kind.
64. I feel pleasant.
65. There have been several people who cheated me.

66. In public places, I am always aware of people watching me.
67. It is important to me to wear nice clothes.
68. I enjoy being the center of attention.
69. Most people try to get more than they give in a bargain.
70. Before I raise my hand in class, I always worry about what other classmates might think of my question.

1 = strongly disagree
2 = disagree
3 = uncertain or indifferent
4 = agree
5 = strongly agree

71. When I am alone, there is always some kind of talking going on in my head.
72. I feel that I can dominate a social situation.
73. I want to be sensitive to the needs and feelings of others.
74. My parents were easy going and rarely commented on what I was doing.
75. Most people have a vicious streak and it will come out when they are given a chance.

76. When I am uncertain how to act in social situations, I look to the behavior of others for cues.
77. I welcome the opportunity to mix socially with people.
78. I feel inhibited in social situations.
79. Honesty is the best policy in all cases.
80. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.

81. Sometimes I rather enjoy going against the rules and doing things that I'm not suppose to.
82. I'm pretty good at bluffing.
83. I am not afraid to trust my closest friends.
84. My life would not be meaningful without the chance to compete and do better than others.
85. It makes me feel good to see others happy.

86. My parents gave me lots of warmth and affection.
87. I often wish that I was someone else.
88. I feel anxious when I speak in front of a group.
89. I often feel insecure.
90. I wonder what hidden reason another person my have for doing something nice for me.

91. When I express my anger, afterwards I feel that I was wrong to do so.
92. I feel uneasy when my anger for someone shows.
93. I find it easy to stick to a certain schedule, once I have started on it.
94. On a number of occasions, people have taken advantage of me.
95. I worry about what other people are saying about me.

96. It is important to me to drive a nice expensive looking car.
97. I would enjoy speaking to a large group.
98. People don't value what they have unless they earn it.
99. In problem solving, I look for a solution which is fair to those around me and to myself.
100. My parents were somewhat reserved towards me.

101. I usually maintain my original position even when my superiors disagree.
102. I often notice that I am talking to myself out loud..
103. I feel that I can control a social situation, even though it may not be obvious to other people.
104. Most people try to be fair.
105. Most people are ultimately concerned with achieving power over others.

1 = strongly disagree
2 = disagree
3 = uncertain or indifferent
4 = agree
5 = strongly agree

106. I am cool, calm, and collected.
107. When I am angry at someone, I won't do what they ask me to do.
108. I am bitter about not getting what is coming to me.
109. I feel unable to tell anyone all about myself.
110. I become tense and upset when I think about my present concerns.

111. Even if I am not enjoying myself, I often pretend to be having a good time.
112. I prefer working alone rather than with others.
113. I am socially somewhat awkward.
114. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons which carry more weight.
115. The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.

116. I feel comfortable acting unconventionally.
117. I enjoy the challenge of inventing a good excuse.
118. I have known many people who can be trusted.
119. I would rather cooperate and share than compete and win.
120. Things are all mixed up in my life.

121. I am very nervous while performing in front of people.
122. I tend to be afraid in new situations.
123. I want to be around onw or more people with whom I can share my emotions and feelings.
124. My parents expressed affection towards me more than most parents.
125. I think people rarely tell the truth.

126. After I express my anger, I wonder if I was justified in doing so.
127. I worry that people won't like me if I express my anger.
128. I do dangerous things just for the thrill of it.
129. There have been times when people betrayed me.
130. I often wonder what gossip there is about me.

131. It is important to me to someday have a nice home in an exclusive area
132. I try to be inconspicuous.
133. Most people want to keep what is theirs and share what is yours.
134. I usually avoid doing something that might provoke criticism.
135. There are times when I get so annoyed with myself over something that I think about it while I do other things.

136. In most social situations, I emerge as the leader.
137. Most people are honest.
138. People care only about themselves.
139. I am happy.
140. If I am angry at somebody who asks me to do something, I will say yes but put it off indefinitely.

1 = strongly disagree
2 = disagree
3 = uncertain or indifferent
4 = agree
5 = strongly agree

141. It makes me mad when I see other people getting things that they don't deserve.
142. I reveal my deepest feeling to my friends.
143. Often I would rather be alone than with a group of friends.
144. My parents rarely tried to make me conform to their values.
145. Most people enjoy helping others.

146. I'm fairly sure of myself.
147. I spend most of my leisure time with other people.
148. I have fewer fears than most people my age.
149. If I were in a cabin in the woods, I wouldn't mind getting undressed in front of a window without closing the curtains.
150. If I get a chance to cut in on a line, I'll take it.

151. I have never known a person who was really honest.
152. I'm not always the person that I pretend to be.
153. I find people more stimulating than anything else.
154. I am often uncomfortable at parties and other social functions.
155. All in all, it is better to be humble and honest than to be important and dishonest.

156. Never tell anyone the real reason that you did something unless it is useful to do so.
157. My parents had a lot of expectations of me growing up.
158. I don't care whether the people around me are my friends.
159. It's never safe to take what people say at face value.
160. When I show my anger in a situation, afterwards I feel that I had every reason to do so.

161. It's easy for me to express my anger the way that I really like to.
162. Sudden unexpected changes in plans makes me uncomfortable.
163. I seldom try to call attention to myself.
164. I worked hard to get what I have.
165. I easily change my mind after I hear what others have to say.

166. I was sometimes punished with a stick or switch.
167. I like to work with other people rather than alone.
168. Smart people bend the truth to suit their own purposes.
169. I feel secure.
170. When I am angry at somebody, I do the opposite of whatever they ask.

171. When I look back on what's happened to me, I can't help feeling resentful.
172. If someone is important to me, it is easy for me to let them know it.
173. I often put on a show to impress or entertain people.
174. I'd be unhappy if I were prevented from making many social contacts.
175. My parents believed in spanking when I broke the rules set for me.

1 = strongly disagree
2 = disagree
3 = uncertain or indifferent
4 = agree
5 = strongly agree

176. I don't really have fun at large parties.
177. When conversing, I worry about saying something dumb.
178. I don't mind speeding if there are no police around.
179. There are lots of things about myself that need to be changed.
180. I was often spanked.

181. When I don't feel well, I would rather be with others than alone.
182. My voice never shakes when I recite in class.
183. When I get scared, I panic.
184. When I show that I am angry, I often regret it afterwards.
185. I don't like to change plans in the middle of an undertaking.

186. People cannot be trusted except when they are afraid of being punished otherwise.
187. I am content.
188. My parents believed that physical punishment builds character.
189. I prefer independent work to cooperative effort.
190. At parties and social gatherings, I do not attempt to do or say things that others will like.

191. I feel nervous when speaking to someone in authority.
192. I feel that difficulties are piling up so that I cannot overcome them.
193. If you act with consideration and honesty, most people will be considerate and honest in return.
194. Most friendships are set up primarily as a means to achieve power.
195. I'm likely to discontinue doing something that others think is not worthwhile.

196. I feel comfortable acting unconventionally if an important issue is involved.
197. I feel like a failure.
198. Sometimes my body trembles when I speak up in class.
199. I like a great deal of variety in my life.
200. My mother avoid looking at me when I disappointed her.

201. My father avoided looking at me when I disappointed him.
202. I don't find it hard to talk to strangers.
203. I don't believe in showing overt affection towards friends.
204. I may deceive people by being friendly when I really dislike them.
205. I feel shy with members of the opposite sex.

206. I worry too much over something that really doesn't matter.
207. I think that any experience is more significant when shared with a friend.
208. Sometimes when my mother disapproved of something I did, she was cold and distant.
209. I like to say things that will shock other people.
210. I am basically a worthwhile person.

211. I feel comfortable being different from those around me.
212. Sometimes when my mother was angry with me, she did not speak to me.
213. I have liked nearly everyone that I have ever met.

1 = strongly disagree
2 = disagree
3 = uncertain or indifferent
4 = agree
5 = strongly agree

214. I feel like I disappoint other people.
215. I enjoy entertaining other people.
216. If you give an inch, they take a mile.
217. I find it hard to do anything that my parents would disapprove of.
218. Sometimes when my father disapproved of something I did, he did not speak to me for awhile.
219. Most people will act as "Good Samaritans" if given the opportunity.
220. Anyone who completely trusts anyone else is asking for trouble.

221. Sometimes when my father was angry with me, he was cold and distant for a while.
222. I have trouble looking someone right in the eye while talking.
223. When I hurt my mother's feelings, she stopped talking to me until I pleased her again.
224. I devote most of my leisure time to hobbies where I work alone.
225. When I take a stand I tend to hold on to it, particularly if others disagree.

226. People who try to be good will meet their ruin among the great number of people who are not good.
227. Some unimportant thought runs through my mind and bothers me.
228. I haven't worked for anything that I have.
229. When I hurt my father's feelings, he stopped talking to me until I pleased him again.
230. In general, material possessions are more important to people than friends or family.

231. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
232. When I upset him, my father didn't have anything to do with me until I found a way to make up .
233. When I upset my mother, she did not have anything to do with me until I found a way to make up.
234. I take disappointment so keenly that I can't put them out of my mind.
235. State your sex.   1 = MALE   2 = FEMALE

PLEASE GO TO THE NEXT PAGE AND READ OUR LONGER

DESCRIPTION OF THE INNER VOICE AND ANSWER THE

LAST TWO QUESTIONS IN THIS RESEARCH

There appears to be an aspect of human mental life which is not the same for all people, but separates them into two groups. The members of one group have lived with and had as an integral part of their existence an internal voice. They can, for instance, very naturally view conscience as a real thing, speaking to them or advising them from within their own minds and view feeling guilty as a period of chastisement and berating by the voice. The members of the other group have lived without any such partner or auxiliary cognitive process. Conscience to them would be simply an abstract set of ethical and moral beliefs, and feeling guilty would be a period of general distress. Neither group is "abnormal;" voicers are not hallucinating and non-voicers are not deficient. Neither group is "better" or "worse" than the other, they are simply different.

AN ANNOUNCEMENT

On the basis of my experience, I do know that I have two momentous announcements to make. First, to those who have no little voice. Lots of people "hear" a little voice which tells them what they should do, what they should not do, and whether their past acts and feelings are good or bad. Furthermore, this is no hallucination. These people know perfectly well that the little voice is inside their head and that no one else can hear it. Moreover, they are perfectly normal people. You can easily live 13 years with one and never guess what's going on inside their head. They never stop to tell you about the little voice because "everyone has one" and, when they do refer to it, they call it "I" or "me," etc.

To those of you who have a little voice (or more): lots of us don't. If you ask a person what he's thinking and he says "nothing" it may be true. If a person tells you, "I never feel guilty about the past," or "I rarely get angry," or "I get annoyed, but I never get mad" then there is a very good chance that he is telling the simple truth. There are a lot of us who have no true conscience in the old-fashioned sense of the word. Yet we are not uncontrollable beasts or monsters.   . I have a friend without a little voice who is impeccably conservative in dress and life style, and who is described by everyone as "warm, soft-hearted, and friendly."

A DISCOVERY ABOUT CONSCIOUS THOUGHT

I would like to share a discovery with you that I made about two years ago. One afternoon I was sitting and talking to Martha K   , and I jokingly made a reference to some naughty thing that she might do. Martha replied, "Oh, I couldn't do that, my conscience would torture me for days." At that reference to "torture" my curiosity was piqued and I asked her, "What do you mean by torture? What exactly does go on in your head when your conscience tortures you?" And then she told me the most astounding things that I have ever heard (though about half of you will not be surprised): She said, "He would just call me awful names for hours on end." And that floored me because what I understood her to say was that she heard a little voice in her head that talked to her. And, after a long conversation, this turned out to be exactly true; her conscience was a distinct male voice that would spew out a stream of insults such as "filthy, worthless, dirty, ungrateful, etc."

Then, after awhile, I made a confession to Martha that stunned her as much as her's had surprised me. I told her that I had never heard any kind of voice in my head, not mine, not anybody's (though about half of you will not be surprised to hear that). To me the word "conscience" has never been any more than a metaphor for "thinking about the ethical consequences of an act." And by "thinking" I mean a silent process of internal thought generation. Only if I am playing a role or practicing a lecture do I engage in the subvocal speech that sounds to me like my own voice speaking (which, of course, it is). Martha asked me, "Do you mean that your head is just blank with nothing going on?" And I replied that was often true, though silent thought is still thought.

In the two years since then I have been slowly checking through everyone that I know well enough to ask such a personal question. First, I told my wife about Martha. And Ronda said, "Of course, everybody has a conscience." And I said, "But you mean a little voice in your head that is always talking to you?" She said, "He doesn't always talk, only when he wants to tell me what to do or what to say or what not to do or what to be afraid of or...." After she really started listening, for the next several months, she told me that he only shuts up if she is reading or doing a lot of heavy thinking (i.e.,-math problems or related introspection, etc.). Otherwise, her head is rarely blank, one of them is almost always talking.

All in all, about half my friends have "little voices" that talk to them in their heads, and half of my friends do not. Some of those who have "little voices" have voices of the opposite sex, some have voices of the same sex, and some say that they can't really tell. Among my friends, women are more likely to have a little voice, and those women who do have a little voice say that it is frequently vocal. My male friends are more likely to say that their little voice only comes out in times of stress or worry, when they get messages such as "You can't do that, that's terrible," or "If you weren't so stupid, you would have had that thesis done months ago." Everyone who I've met who has a little voice says that it goes as far back in time as they can remember (including my son, who at 5 could not remember not having a little voice).

Nor is the development a simple matter of family. My son has a little voice but my daughter does not. And, by the way, some people have more than one little voice. They have a little "devil" as well as a "conscience," i.e., some people hear a little voice that eggs them on to try new and "scary" or "bad" things that might be fun or might bring pleasure. In any case, almost everyone who had a little voice regards it as important to them (whether for good or for ill) and as one of the central features of their mental life.

Questions:

236. Based on the above description, I believe I have an inner voice.

237. I am confident that I have an inner voice.

THANK YOU FOR YOUR PARTICIPATION IN THIS PROJECT. PLEASE TEAR THE COVER LETTER OFF THE MANILLA ENVELOPE. THE ENVELOPE IS ALREADY ADDRESSED AND READY FOR THE CAMPUS MAIL ONCE YOU HAVE ENCLOSED YOUR ANSWER SHEET & LABEL.

Appendix   F

APPENDIX F

Dear Friend,

We thank you for taking part in the shyness project. We thank you for trusting us to maintain confidentiality of your response. This letter contains the feedback on your personality scores.

Since there are no absolute meanings for scores on most of these scales, we will report your score in relation to the other participants. For example, we might say your score higher than 90 percent of others. This would mean that you score lower than 10 percent of others.

The accuracy of a test depends on its length. A short test provides only a rough estimate of what the score might have been on a very long test. The difference between the score on a short test and the actual score for a long test is called error of measurement.

Some of our scales are very short, thus there is error of measurement in each of your scores. While the percent that we report is the best estimate of your standing, the actual standing could be either higher or lower. We will report an error band that works like this: The band will be a pair of numbers; a lower percentage and an upper percentage. Your actual standing should be in that band with probability 68 percent. There is a 16 percent chance that your actual standing might be above the upper percent, and there is a 16 percent chance that your actual standing might be below the lower percent.

If you have a question about the test, then you can call us (Jack or Ronda) at 323-7929. If you have more fundamental questions, then you can consult your dorm resident assistant or the University Counselling Center at 355-5555.

The following comments describe each scale and tell you how you stand on that scale.

Shyness--A high score means that you see yourself as shy.
    You score higher than 66 percent of others.
The error band is from   66   to   66

Subject Number   1053
Shyness--A high score means that you scored high on a shyness scale
    You score higher than 77 percent of others.
The error band is from   65   to   85

Subject Number   1053
Inner Voice--Pre--Your first self identification as voicer
(high score) or nonvoicer (low score)
     You score higher than 85 percent of others.
The error band is from   85   to   85

Subject Number   1053
Inner Voice--Post--Your final self identification as voicer
(high score) or nonvoicer (low score)
     You score higher than 10 percent of others.
The error band is from   10   to   10

Subject Number   1053
Anxiety--A high score means that you are tense or depressed
or generally unhappy while a low score means that you are
positively excited.
     You score higher than 79 percent of others.
The error band is from   67   to   89

Subject Number   1053
Negativism--A high score means that you try to do the
opposite of what someone wants if you are angry at them.
     You score higher than 65 percent of others.
The error band is from   43   to   83

Subject Number   1053
Resentment--A higher score means that you have often felt
resentment toward others.
     You score higher than 84 percent of others.
The error band is from   63   to   95

Subject Number   1053
Self Revelation--A high score means that you have no
difficulty sharing facts about yourself with others.
     You score higher than 21 percent of others.
The error band is from   10   to   38

Subject Number   1053
Critical Parents--A high score means that your parents were
critical of you.
     You score higher than 11 percent of others.
The error band is from   3   to   28

Subject Number   1053
Warm Parents--A high score means that your parents were warm
toward you.
     You score higher than 14 percent of others.
The error band is from   6   to   25

Subject Number   1053
Physical Punishment--A high score means that your parents
were likely to use physical punishment.
        You score higher than 42 percent of others.
The error band is from   27   to   57

Subject Number   1053
Withdrawal of Love--A high score means that your parents
withdrew signs of affection if they were angry at you.
        You score higher than 89 percent of others.
The error band is from   82   to   94

Subject Number   1053
Conformity--A high score means that you tend to talk or act
to match those about you rather than express your own views
or feelings.
        You score higher than 64 percent of others.
The error band is from   41   to   82

Subject Number   1053
Sociable--A high score means that you like to be around
others.
        You score higher than 22 percent of others.
The error band is from   10   to   41

Subject Number   1053
Honesty--A high score means that you place a high value on
honesty.
        You score higher than 65 percent of others.
The error band is from   41   to   83

Subject Number   1053
Cynicism--A high score means that you do not feel safe in
trusting others.
        You score higher than 19 percent of others.
The error band is from   7   to   40

Subject Number   1053
Benign--A high score means that you feel that most people
are basically good and trustworthy.
        You score higher than 25 percent of others.
The error band is from   12   to   43

Subject Number   1053
Deep Cynicism--A high score means that you think that others
will hurt you if given the chance.
        You score higher than 71 percent of others.
The error band is from   55   to   84

Subject Number   1053
Indignation--A high score means that you feel that you have
often been betrayed.
        You score higher than 65 percent of others.
The error band is from   44   to   82

Subject Number   1053
Egocentrism--A high score means that you think that other
people think about you.
        You score higher than 84 percent of others.
The error band is from   69   to   93

Subject Number   1053
Appearances--A high score means that it is important to you
to wear fine clothes, drive a fine car, and own a swank
home.
        You score higher than 62 percent of others.
The error band is from   38   to   81

Subject Number   1053
Exhibitionism--A high score means that you enjoy being the
center of attention.
        You score higher than 20 percent of others.
The error band is from   9   to   38

Subject Number   1053
Selfishness (Experimental Scale)--A high score means that
you have many reasons for not sharing with others.
        You score higher than 65 percent of others.
The error band is from   37   to   86

Subject Number   1053
Need for Approval--A high score means that you are always
worried about what others might think of your actions.
        You score higher than 70 percent of others.
The error band is from   48   to   86

Subject Number   1053
Dominance--A high score means that you dominate social
settings.
        You score higher than 23 percent of others.
The error band is from   11   to   39

Subject Number   1053
Affiliation--A high score means that you like and trust
others.
        You score higher than 19 percent of others.
The error band is from   9   to   35

Subject Number   1053
Inferiority--A high score means that you are ashamed of
yourself.
        You score higher than 59 percent of others.
The error band is from   44   to   72

Subject Number   1053
Audience Anxiety--Including stage fright--A high score means
that public speaking creates fear and anxiety for you.
        You score higher than 34 percent of others.
The error band is from   19   to   52

Subject Number   1053
Fearfulness--A high score means that you are often frigh-
tened.
        You score higher than 51 percent of others.
The error band is from   32   to   70

Subject Number   1053
Rule Breaker--A high score means that you enjoy breaking
rules.
        You score higher than 32 percent of others.
The error band is from   14   to   56

Subject Number   1053
Deceit--A high score means that you think that you are good
at lying.
        You score higher than 58 percent of others.
The error band is from   17   to   61

Subject Number   1053
Distrust--A high score means that you have trouble trusting
others.
        You score higher than 69 percent of others.
The error band is from   50   to   85

Subject Number   1053
Competitive--A high score means that you have adopted a
competitive stance toward others.
        You score higher than 47 percent of others.
The error band is from   26   to   69

Subject Number   1053
Suspicious--A high score means that you tend to be suspi-
cious of others.
        You score higher than 65 percent of others.
The error band is from   48   to   84

Subject Number   1053
Negative Afterthoughts--A high score means that after being
angry, you often have afterthoughts of remorse or regret.
     You score higher than 40 percent of others.
The error band is from   27   to   54

Subject Number   1053
Fear of Expressing Anger--A high score means that you are
afraid that people will take reprisals if you show anger.
     You score higher than 52 percent of others.
The error band is from   35   to   70

Subject Number   1053
Rigidity--A high score means that you like a set routine and
dislike unexpected or dangerous things.
     You score higher than 83 percent of others.
The error band is from   58   to   97

Appendix G

APPENDIX G

VOICER ITEMS MEANS, STANDARD
DEVIATIONS, AND CORRELATIONS

Note that the items have been ordered according to the final confirmatory factor analysis. Items marked with an "R" have been reverse scored. Items were scored numerically using 1-5 for strongly disagree through strongly agree.

MEANS, STANDARD DEVIATIONS & NUMBER OF NON-MISSING ELEMENTS

5		3.792	1.162	336
6		3.503	1.150	334
7		4.205	.878	336
8		4.342	.681	336
9		4.342	.698	336
10		2.988	1.322	334
11	R	2.222	1.027	333
12		2.866	1.294	335
13		3.348	.949	333
14		3.426	.936	333
15	R	2.803	1.194	330
16	R	2.449	1.192	334
17		3.499	1.092	335
18		3.179	1.188	329
19		4.383	.699	332
20		3.355	1.273	335
21		3.376	1.175	335
22		3.693	1.097	335
23		2.988	1.266	332
24	R	1.669	.833	335
25		3.329	1.201	334
26	R	2.744	1.157	336
27		3.475	.827	322
28		3.120	1.198	334
29		3.337	1.232	335
30		3.417	1.174	333
31		2.949	1.204	334
32		2.967	1.184	333
33		3.317	1.092	334
34		3.281	1.225	334
35	R	2.030	1.003	334
36		4.099	.684	333
236		3.571	1.350	326
237		3.290	1.426	324

CORRELATIONS.

BIBLIOGRAPHY

BIBLIOGRAPHY

Bach, G.B. and Torbet, L. 1983. The Inner Enemy. New York: William Morrow and Company, Inc.

Bettelheim, Bruno. 1960. The Informed Heart. Glencoe, Illinois: The Free Press.

Bernreuter, R.G. 1933. Theory and construction of the personality inventory. Journal of Social Psychology, 4, 387-405.

Buss, A.H. and Durkee, A. 1957. An inventory for assessing different kinds of hostility. Journal of Consulting Psychology, 21, 343-349.

Buss, A.H. 1980. Self-Consciousness and Social Anxiety. San Francisco: W.H. Freeman and Co.

Buss A.H. and Plomin, R. 1975. A Temperament Theory of Personality Development. New York: John Wiley and Sons.

Cheek, J.M. and Buss, A.H. 1981. Shyness and sociability. Journal of Personality and Social Psychology, 41, 330-339.

Dawkins, Richard. 1976. The Selfish Gene. New York: Oxford University Press.

Ellis, A. 1973. Humanistic Psychotherapy. New York: Julian Press.

Ellis, A. 1958. Rational psychotherapy, Journal of General Psychology, 59, 35-49.

Erikson, E.H. 1964. Insight and Responsibility. New York: W.W. Norton and Co.

Freud, S. 1958. Civilization and Its Discontents. Garden City, New York: Doubleday.

Freud, S. 1959. Collected Papers. New York: Basic Books.

Girodo, M. 1977. Self-talk: Mechanisms in anxiety and stress management. In C. Speilberger and I.G. Sarason (eds), _Stress and Anxiety_, Washington, D.C.: Hemisphere Press.

Hall, C.S. and Lindsey, G. 1957. _Theories of Personality_. New York: John Wiley and Sons.

Holzinger, K.J. 1944. A simple method of factor analysis. _Psychometrika_, 257-262.

Horney, K. 1945. _Our Inner Conflicts_. New York: W.W. Norton and Company.

Horney, K. 1950. _Neurosis and Human Growth_. New York: W.W. Norton and Company.

Hunter, J.E., Gerbing, D.W. and Boster, F.J. 1982. Machiavellian beliefs and personality: Construct invalidity of the Machiavellinism dimension. _Journal of Personality and Social Psychology_, 43, 1293-1305.

Hunter, J.E. Cluster Analysis: Reliability, construct validity, and the multiple indicators approach to measure. Paper presented at a workshop titled "Advanced Statistics" given at the U.S. Civil Service Commission on March 21, 1977.

Hunter, J.E. and Gerbing, D.W. 1982. Unidimensional measurement, second order factor analysis and causal models. In Barry Staw and L.L. Dummings (eds), _Research in Organizational Behavior,_ volume IV. Greenwich, Connecticut: JAI Press Inc.

Joreskog, K.G. 1966. Testing a simple structure hypothesis in factor analysis. _Psychometrika_, 31, 165-190.

Kaufman, G. 1980. _Shame: The Power of Caring_. Cambridge, Massachusetts: Shenkman Publishing Company Inc.

Klein, M. 1948. _Psychoanalysis of Children_. New York: Humanities Press.

Klein, M. 1949. _The Writings of Melanie Klein_. (1921-1945). London: Hogarth Press.

Klein, M. 1975b. _Love, Guilt and Reparation_. London: Hogarth Press.

Layman, E.M. 1940. An item analysis of the adjustment questionnaire. _The Journal of Psychology_, 10, 87-106.

Lynd, H.M. 1961. _On Shame and the Search for Identity_. New York: Science Editions, Inc.

Mehrabian, A. and Ksionzky, S.A. 1974. A Theory of Affiliation. Lexington, Massachusetts: D.C. Heath and Company.

Merton, R.K. 1973. Nonconforming and aberrant behavior. In R.S. Denisoff and C.H. McCaghy (eds), Deviance, Conflict and Criminality. New York: Rand McNally and Company.

Mosier, C.I. 1937. A factor analysis of certain neurotic symptoms. Psychometrika, 2, 263-286.

Mowrer, O.H. 1961. The Crisis in Psychiatry and Religion. Princeton, New Jersey: D. Van Nostrand Company, Inc.

Mowrer, O.H. 1970. Civilization and its malcontents. In Readings in Social Psychology Today. Delmar, California: CRM Books.

Parsons, T. and Shils, E.A. 1965. Toward A General Theory of Action. New York: Harper and Row.

Piaget, J. 1965. The Moral Judgment of the Child. New York: The Free Press.

Salzman, K. and Hunter, J.E. 1983. The voicer/nonvoicer distinction: A dimension in the experience of conscious thought. Unpublished manuscript.

Schaefer, E. and Bell, R.Q. 1958. Development of a parental attitude research instrument. Child Development, 29, 340-361.

Schnarch, D.M. and Hunter, J.E. 1979. Migraine incidence in clinical and nonclinical populations. Psychosomatics, 21, 314-325.

Schnarch, D.M. and Hunter, J.E. 1979. Personality differences between randomly selected migrainous and nonmigrainous people. Psychotherapy Theory, Research and Practice, 16, 297-309.

Simon, H.A. 1945. Administrative Behavior. New York: The Free Press.

Skinner, B.F. 1948. Walden Two. New York: The MacMillan Company.

Skinner, B.F. 1971. Beyond freedom and dignity. Psychology Today, August, 37-80.

Spearman, C. 1904. General intelligence objectively determined and measured. American Journal of Psychology, 15, 201-293.

Speilberger, C. 1961. The Measurement of Anxiety. Sidney, Wales: John Wiley and Sons.

Speilberger, C.D., Gorsuch, R.L. and Lushene, R.E. 1970. Manual for the State Trait Anxiety Inventory. Palo Alto, California: Consulting Psychologists Press.

Toch, H. 1980. Violent Men. Cambridge, Massachusetts: Schenkman.

Thomander, L.D. 1972. Some relations between anxiety, cognitive style and problem solving. Unpublished Masters thesis, Michigan State University.

Thurstone, L.L. 1945. A multiple group method of factoring the correlation matrix. Psychometrika, 10, 73-78.

Thurstone, L.L. and Thurstone, T.G. 1930. A Neurotic Inventory - Journal of Social Psychology, 1, 3-30.

Tryon, R.C. 1939. Cluster Analysis. Ann Arbor, Michigan: Edwards Brothers.

Woodworth, R.S. 1920. Test of emotional instability. In Franz, S.I. Handbook of Mental Examination Methods. New York: MacMillan.

Wrong, D.H. 1961. The oversocialized conception of man in modern sociology. American Sociological Review, 26, 183-193.

Van Noord, N. 1982. Self-talk assessment of tennis players. Dissertation proposal.