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A COMPARISON BETWEEN HOSPITALIZED BOYS AND NON-HOSPITALIZED BOYS IN THEIR PERCEPTIONS OF VIDEOTAPED SOCIAL CUES (THAT VARIED IN AMBIGUITY AND HOSTILITY) AND THEIR CITED ACTIONS TO THESE CUES.

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by

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A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

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CHAPTER I

INTRODUCTION

Some youth are constantly involved in social difficulties. Varied and numerous speculations have been espoused as to the etiology and sustaining conditions for their poor social adjustments. The present study will examine whether a youth's cognitive inability to differentiate among diverse social cues is a contributing factor to his poor adjustment.

The study's hypotheses were formulated from personal observation made on an adolescent ward, from an empirical observational study, and from a series of laboratory studies.

First, it was observed on the adolescent ward (mostly youth with acting-out problems but who were not psychotic) that the adolescents often reacted in the same way to superficially similar but subtly, yet importantly, differing social cues. For example, whenever two boys bumped into each other, both would generally respond with aggression. Neither seemed to take the time to analyze the specific meaning of the cue, that is, was it really aggressive or was it just accidental, or even friendly.

In the empirical observational study (Raush, 1965), it was found that hyperaggressive boys reacted similarly to social cues which led to different behaviors in non-aggressive boys. Hyperaggressive boys, in a residential treatment center, were compared to a matched group of normal

boys. The two groups did not differ in responding to initially hostile gestures, but did differ in responding to initially friendly gestures. The hyperaggressive boys responded with unfriendly behaviors to the initially friendly gestures, unlike the normal boys. Possibly, the hyperaggressive boys failed to analyze and make the appropriate differentiations between the two types of social cues.

Although the series of laboratory studies was dissimilar in appearance to the personal observations made and the observational study, these studies suggested an explanation of the aggressive adolescents' behavior in terms of impulsive cognitive styles. In this series (Meichenbaum and Goodman, 1969a, 1969b, 1971), kindergarten children who had an impulsive cognitive style were compared to a matched group of children who had a reflective cognitive style. In general, it was found that the impulsive children had less self-control over their motor behavior. More specifically, impulsive children exuded more motoric energy, and also made more errors on test tasks. It was demonstrated that by teaching the impulsive children to talk to themselves before attempting a task (self-instructing), their impulsive style was modified and they then produced fewer errors.

Taking the three sources together, an intriguing idea emerged. Conceivably, acting-out behavior could be linked to lack of reflection in analyzing social stimuli. Recall

that in the personal observations described and the observational study just cited, hyperaggressive youth often reacted inappropriately because they responded similarly to social cues that called for dissimilar responses. It was also seen that more errors were produced on test tasks by children who had impulsive cognitive styles and that these decreased when they instructed themselves to examine the cues more carefully (Meichenbaum and Goodman). Perhaps such impulsive stimulus processing may not only be responsible for producing errors on test tasks but in social behavior as well.

To illustrate what has just been stated, suppose two adolescents, who have differing cognitive styles, face social stimuli that demand a decision in choosing a course of action. The first adolescent, having an impulsive cognitive style may not analyze all his options. In rushing to a decision, he may choose an option which is not necessarily the best, nor even an appropriate response. In contrast, the second adolescent, having a more deliberate cognitive style, scans through all his options. With analysis, the chance of his choosing an appropriate and better response is increased. In situations that are clear-cut, the impulsive adolescent may fare as well as his more deliberate counterpart because he can grasp the situation's meaning immediately. However, in situations that have similar-appearing stimuli with dis-

parate meanings, the impulsive individual may respond too quickly and fail to assess accurately the stimuli's meanings. By misperceiving the situation, the impulsive individual increases his chance of responding inappropriately.

The purpose of the study, then, is to examine whether misperceptions of social cues are a contributing factor in dissocial behavior. The main hypothesis (to be explained in full detail below) is that boys who have been hospitalized for "unmanageability" problems would differ significantly from non-hospitalized boys in their responses to ambiguous social cues but not when the social cues are unambiguous. Since all behavior involves a sequence from the reception of the incoming stimuli to the observable action, an issue raised is whether inaccurate perception (the focal concern of the present study), inadequate responding, or both, are responsible for the end-product of dissocial behaviors. The procedures described below in the method section represent an attempt to examine separately the contribution of stimulus-processing and response factors.

Of course, dissocial behavior is multi-determined. The present study is an attempt to tease out one specific and possibly contributing factor--inaccurate stimulus-processing--for dissocial acts. However, before discussing the research specific to inaccurate stimulus-processing, it seems appropriate to place this factor within the general context of

theories of aggression.

Megargee (1972) suggests that there are three broad classes of factors that theorists agree must be considered in formulating a viable theory of aggression, (although different theorists emphasize different factors). The first broad class of factors is instigation to aggression which he defines as the sum of the internal factors that motivates a person to commit an aggressive act. According to Megargee, social learning emphasizes instigation to aggression. By this, he is referring to child-rearing practices, role-modeling, and reward and punishment contingencies.

For example, one recent study (Goldberg and Wilensky, 1976) found that aggressive parental models were a primary source for the aggressive behavior seen in their children. The authors examined the records of 35 aggressive and 35 non-aggressive boys being seen at a mental health clinic for evidence of parental and peer models, frustrating life experiences, and capacity for fantasy on projective tests in an attempt to identify causal factors of aggressive behavior. Specifically, it was found that children who had physically aggressive mothers and fathers (and especially fathers) behaved in kind. Aggressive role-modeling was the primary source for learning to behave aggressively.

It is probable that the subjects under consideration in the present study had impulsive role-models. Perhaps because

they did not have more deliberate and reflective examples to emulate, these boys did not develop the cognitive skills necessary to carefully assess social cues.

The second broad class of factors is inhibition against aggression, which is defined by all the internal factors acting against committing an aggressive action. Delinquent youth are frequently characterized as "impulsive", implying that the major problem is in delaying or inhibiting an impulse or incipient action. For example, Aichorn (1935) stated that the delinquent youth is unable to give up immediate pleasure in favor of later pleasure in the face of reality demands. The delinquent's ego has not matured enough to make the transition from the unconscious pleasure world of the small child to that of reality. Also Redl and Wineman (1952) characterized delinquent youth as being caught up in the uncontrolled discharge of aggressive drives and impulses. Delinquents are seen as not having developed adequate patterns of impulse control and as becoming a helpless bundle of drives when faced with the challenges of everyday life. Such characterizations emphasize the role of response-inhibition factors.

However, on the other hand, Saunders, Repucci, and Sarata (1973) have questioned whether impulsivity as a trait usefully characterizes delinquents. In Saunders et al's study, it was found that (1) delinquent boys, in comparison to non-delinquent boys, were not more impulsive, as measured

by two self-reporting inventories, and a performance task, (2) these three measures, all purporting to measure impulsivity, did not correlate, and (3) a supposedly impulsive behavior seen in training schools, running away, did not correlate with the measures of impulsivity. The study demonstrated that some tools that have been used to assess impulsivity might be inadequate. The results of the study do not, however, unequivocally point to dismissing impulsivity as a trait characterizing delinquents.

To elaborate, one finding was that boys in a training school did not self-report more impulsive behaviors than boys in a public high school. It is possible that delinquent boys may be more hesitant than non-delinquent boys to report impulsive behavior for fear of retaliation from the authorities. Hence, the self-report inventory may be an inadequate tool to assess impulsivity. The Saunders et al study raises questions about the overall trait concept but is not definitive, and further work is needed.

Saunders et al's study does suggest that the term, "impulsivity", apart from its implication of response factors as the major source of difficulty, can be confusing and ambiguous. Because it is thought that some impulsive behavior is linked to inaccurate stimulus-processing, it is important to have two subject groups that are clearly different in their habitual behavioral patterns. For the present study,

the population will not be defined by their "impulsivity" per se but by the fact that they have been hospitalized for unmanageable behavior, and differ from a control group of normal school boys on various disruptive behaviors.

The third broad class of factors is situation variables, which is defined as the immediate environmental variables that either facilitate or impede an aggressive act. For example, the behavior of other people can either precipitate or impede an aggressive act by an individual. Or, the availability of weapons can increase the likelihood of an aggressive act (Berkowitz, 1968).

For the present study, situational factors are taken into account. It is thought that ambiguous social situations, even when nonhostile, facilitate the expression of aggression of those predisposed to be aggressive.

Olweus (1969, 1972, 1975) presents a comprehensive conceptualization that combines both situational and internal factors (instigation and inhibition tendencies to aggression) into one theory. He charts the path from stimulus to response, stressing the internal factors. To begin with, the stimulus can be either external or internal. The next step is cognitive appraisal by which the stimulus is perceived, judged, and evaluated by the individual. Although Olweus does not concentrate on this step, he states it is of major importance for it determines whether aggressive or inhibitive reaction

tendencies will be activated within the individual. In turn, the individual's perception of the stimulus in conjunction with the strength of his habitual reaction tendencies determine the strength of his aggressive and inhibitory reaction tendencies. The interplay between aggressive tendencies and inhibition tendencies determines the individual's overt response. For example, if an individual perceives a situation as being frustrating and/or threatening, his aggressive reactive tendencies may be activated rather than his inhibitory reactive tendencies. The individual's response may then be aggressive.

Of concern for the present study is the individual's cognitive appraisal of the situation. It is thought that the hospitalized subjects tend to perceive situations as frustrating and/or threatening, even when nonhostile, and therefore counter with more overt aggressive actions.

Studies of Cognitive Style and Behavior

As alluded to above, both Aichorn (1935) and Redl and Wineman (1952) saw dissocial behaviors resulting from insufficient ego control over impulses. The present study seeks to make a more specific statement about the role of ego functioning in dissocial actions. Instead of holding a complete breakdown of ego functioning responsible, the question here is whether a specific ego function, stimulus-processing, is partially responsible for dissocial actions.

Studies of the role of faulty mediational processes in dysfunctional behavior have been largely concerned with intellectual tasks rather than social behavior. Kagan's (1966) work on conceptual tempo is suggestive of a relationship between style of stimulus processing and effectiveness of behavior on a variety of laboratory tasks. Kagan defines conceptual tempo in terms of decision-time. It is the tendency for fast or slow responding in problem situations with high response uncertainty (alternative solutions). The research tool developed and generally used to determine conceptual tempos is the Matching Familiar Figures (MFF) tasks. The MFF is a series of standard pictures and six closely similar alternatives. The task is to choose the alternative identical of the standard. The measures used are the response time and number of errors.

From the studies done, a reflective-impulsive dimension of conceptual tempos has emerged. It has been found that individual tempos are stable and generalize across varied tasks. For instance, even with verbal ability controlled for, impulsive children had faster response times and higher error scores on inductive reasoning tests (Picture Completion Reasoning Test, Extrapolation Reasoning Test, and Guessing Objects Test) (Kagan, Pearson, and Welch, 1966). In another study (Kagan, 1965), it was demonstrated that impulsive first-graders made more recognition errors in reading English

words presented singly or in a prose selection. Reading is a discrimination problem with high response uncertainty for a beginner because each word could elicit several similar responses. Because the reflective child pauses to consider the differential validity of solutions, he makes fewer word recognition errors than the impulsive child who blurts out the first reasonable solution that comes to mind. It was suggested that this blurting out might be due either to difficulties in effectively inhibiting action tendencies, or having less anxiety about making mistakes. Indeed, it was demonstrated that reflective children, compared with impulsive children, actually look at all alternatives more. They had significantly higher mean scores on all absolute measures of frequency and duration of looking behaviors (Siegelman, 1969).

In another related study, (Siegel, Babich, and Kerasic, 1974) it was found that cognitively impulsive fifth grade boys had less adequate strategies for perceiving visual stimuli. The experimental task used was to match pictures with a standard. It was specifically found that when pictures differed in two or three details from a standard stimulus, the impulsive subjects did not differ significantly in the number of errors made. However, when the pictures differed in only one detail from the standard, the impulsive subjects' performance was significantly inferior to that of their reflective counterparts. Less clearcut stimuli presented more of

a problem to cognitively impulsive children than to reflective children.

Furthermore, certain behaviors were found to be associated with the different conceptual tempos. The reflective child, in comparison with the impulsive child, chooses harder and more solitary intellectual tasks, has a longer attention span, is less distractible, is less motorically active, is more cautious, and prefers low-risk situations (Kagan, 1965).

Differences similar to those between the children Kagan calls reflective and impulsive may underlay the differences in social behavior between normal youth and those in the hospital population of concern in the present study.

Witkin's (1965) review of the research on cognitive style and psychopathology also suggests a cognitive factor in the proneness to impulsive acting-out. Field dependent individuals were found to be more likely to exhibit problems involving impulsive acting out than were field independent persons. Field dependent individuals are less able to articulate and differentiate complex stimulus configurations, and their apparently more impulsive behavior may be a function of their poor analyzing and differentiating among configurations of cues which, when they vary slightly, have rather different implications for action.

Spivack and Levine (1963) compared adolescent boys in a treatment center to a matched group of normal boys and

found they were less proficient in planning for the future because they lacked certain cognitive skills. A number of tests were given to the youth, designed to tap four variables under the general rubric of self-regulation--internal guides, motivational and emotive components, controls, and cognitive orientations. It was found that the "poor regulator", the boy in the treatment center, was less likely to think in terms of all the necessary steps to be taken or the obstacles to be overcome in reaching a goal. Instead, his thinking seemed to skim over intermediary steps. The poor regulator also showed intolerance for tension in situations that require self-restraint. He tended to be distracted by irrelevant stimuli, and could not persist in the attainment of a goal that exists only as an idea. Furthermore, it was stated. . .

> the most striking characteristic differentiating the poor regulator from others is his level of verbal conceptualization. He has a less mature level of conceptualization. When he has to think, his thoughts do not flow smoothly and fluently, and there is reason to suspect that he is lacking in the ability to conceptualize a broad range of possibilities, possibilities not immediately given in the situation in which he finds himself. His thoughts do not roam broadly through temporal space. He limits himself to the immediate or to what is near in time. Consistent with his limited means-end cognizance is his relative lack of foresight and planfulness.[1]

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[1]Spivack, G., & Levine, M. Self-regulation in acting out and normal adolescents, The Devereux Foundation Institute for Research and Training, Devon, Pa., Research Grant M-4531, NIMH, 1963, 147.

Underlying the present study is the notion that hospitalized boys will misperceive social cues because of a cognitive orientation that precludes a careful analysis of cues, perhaps similar to the skimming over of the intermediate steps by the boys in Spivack and Levine's study.

Glueck and Glueck (1950) did a comprehensive study comparing matched groups of 500 delinquent and 500 non-delinquent boys. Of concern here is their findings on qualitative and dynamic aspects of intelligence. The two matched groups did not differ on traits of originality, creativity, banality, intuition, fantasy, and over-verbalizing intelligence. But what the two groups differed on was "power of observation" and "methodological approach to problems." The delinquent groups demonstrated less marked powers of observation or the ability for accurate observation, especially visual. Also the delinquent group demonstrated less marked methodical approaches to problems. The authors suggested that these cognitive traits bear on an individual's capacity to process stimuli, to reflect on contemplated behavior and to assess its consequences.

Again because the delinquent youths of the Gluecks' study lacked certain cognitive skills, their handling of social stimuli may have been less than adequate. The present study will depart from both Spivack and Levine's study and Glueck and Glueck's study in that it will examine the effects

of cognitive functioning in response to social cues.

The studies of Meichenbaum and his colleagues, noted above, also suggest important links between cognitive mediating processes and adequacy of overt action. In the first study of the series (Meichenbaum and Goodman, 1969a), reflective and impulsive kindergarten children (defined according to Kagan's criterion, 1966) were found to differ in their verbal control of motor behavior. The experimental conditions were either for the subjects to say aloud (overt) or say to oneself by just making the lip movements (covert) the instructions for the tasks to be performed. The tasks were a finger tapping task in which the instructions were either "faster" or "slower", and also a foot depression task in which the instructions were to "push" or "don't push." In the covert speech condition of saying the instructions, the impulsive children showed significantly less verbal control of inhibitory motor activity, and a greater magnitude of errors than the reflective children. The impulsive children seemed to use the verbal commands they gave themselves in a motoric manner, i.e., they tapped each time they said an instruction (e.g., "faster"). In contrast, the reflective children responded to the semantic aspects of the instruction word, that is, using the word as a cue for tapping several times. Moreover, it was found that the impulsive children showed significantly more motor activity,

exemplified by faster tapping speeds, and more intense foot depressions.

In a follow-up study, the development of verbal control over motor responding was examined (Meichenbaum and Goodman, 1969b). Kindergarten and first-grade children were the subjects and the experimental task was finger tapping. The three experimental conditions were that (1) the experimenter verbalized the instructions to tap "faster" or "slower", (2) the subjects said these instructions out loud (overt), and (3) the subjects verbalized these instructions making only lip movements (covert). An interaction between age and mode of delivery was found. When the kindergarten children said the instructions out loud, their performance on the task was similar to the first-graders. But when the kindergarten children said the instructions to themselves, the instructions had minimal functional control over their motor behavior. In contrast, the first-graders had more functional control over their motor behavior when they said the instructions to themselves than when they said the instructions out loud. It was suggested that the kindergarten children were at a developmental stage in which verbalizing instructions out loud aids them in performing a simple task, whereas the first-graders have passed this stage and are hindered by saying the instructions out loud.

Lastly, another study demonstrated the self-control

in impulsive kindergarten children could be increased by training them to talk to themselves before attempting a task through modeling of the cognitive procedures by the experimenter and then through practice. In the practice session, the children were first trained to say the instructions to themselves out loud, and then to say the instructions to themselves making only lip movements. After the training, there was significant improvement, in comparison to a control group, on the Porteus Maze Test, the Performance IQ of the WISC, and on a measure of cognitive impulsivity. The second part of the experiment then attempted to understand the effects of the various components of the training procedures (the modeling, and the talking to oneself). Although the modeling increased the impulsive children's response time for selection of test alternatives, it was the children's talking to themselves that decreased the number of errors made on the tasks. It was suggested that the children's saying the instructions to themselves can (1) provide the children with internally originated verbal commands, (2) strengthen the mediational properties of his inner speech in order to bring their behavior under their own verbal or discriminative control, (3) overcome any possible mediation "deficiencies", and (4) appropriately self-reinforce his own behavior.

In a related study, it was demonstrated that training

in self-directed verbal commands was an effective technique for modifying impulsive behavior for some children (Polkes, Stewart, and Boaz, 1968). The children were trained to verbalize a set of self-directed commands before responding to a task. For example, they were asked to verbalize the printed instructions of "Stop, Listen, Look and Think Before...." After training, the children improved their performance on the Porteus Maze test. It was suggested that perhaps impulsive children had not adequately internalized the external commands first presented by significant others, and could not then channel their own impulses by self-instructions.

These studies indicate that on a variety of laboratory tasks cognitive mediation can influence overt performance. The present study attempts to extend such a mediational paradigm to social behavior. If the results are promising, therapeutic interventions similar to those of Meichenbaum's may be worth exploring with behavior problems of the sort of interest here.

Modifying Impulsive Behavior in Problem Adolescents

There is some evidence with populations like the one studied here that modifying aspects of their cognitive functioning will alter apparently impulsive behavior. Verbal psychotherapies have afforded some problem youth the opportunity to learn a more deliberate way of dealing with

social stimuli.

For example, Massimo and Shore (1963) demonstrated that delinquent boys who became involved in psychotherapy improved in their perceptions of relationships between poeple, as revealed by thematic stories, and also showed a reduction of overt antisocial behaviors. Specifically, there was greater awareness and sensitivity to others, as indicated by a TAT-based scale measuring (a) degree of differentiation of roles of people in the story told, (b) degree of elaboration of the interpersonal situation, (c) degree of flexibility or stereotype in the relationships between characters, and (d) degree of closeness and warmth expressed. Also both the boys' academic and job performance improved.

Furthermore, in a follow-up study, with the same subjects, it was found that the subjects' temporal perspective increased, as measured by increased time spans used for TAT-type stories (Ricks, Umbarger, and Mack, 1964).

These delinquent boys seem to have begun to develop a cognitive mode of functioning that allowed them to step back from the demands of the immediate present. With a more deliberated cognitive orientation, their stimulus processing abilities could become more differentiated. In turn, their sensitivity and depth in handling social stimuli seemed enhanced, as measured by thematic storytelling and also social criteria.

Psychotherapy can also offer an individual the opportunity to become more aware of alternatives for action within the social stimuli he encounters. For example, Engel (1966) talks about the difficulty in doing traditional pyschotherapy with acting-out adolescents. To be successful, the therapist must accept, at first, the acting out behavior, with a relative lack of concern. Eventually, it will become necessary for the patient to talk about his acts, and this could lead, in turn, to talking about the acting-out behaviors before they occur. The talking about the action could include the seeing of alternatives. If the adolescent begins to see alternatives within a given social situation, his ability in processing social stimuli has become more complex.

The present study aims to find a basis for considering whether in working with the youth of interest here it is worthwhile to make modifications of cognitive functioning a more explicit task of the therapeutic process.

Background for and Hypotheses of the Study

What has been discussed thus far leads to three tentative conclusions which will be the background for the hypotheses for the present study. First, certain cognitive modes of functioning impede accurate stimulus-processing. Two, impulsive cognitive orientations are in fact associated with more errors in

dealing with laboratory tasks and paper and pencil tasks. Three, modifications of these impulsive cognitive orientations produced more successful responses. It is possible that some dissocial behaviors may similarly result from the inaccurate perception of social cues, and not from a total breakdown of ego controls or from a willful disregard to societal demands as some have claimed to be the case. In brief, the central notion guiding this study is that youths who are hospitalized for unmanageable behavior have difficulties because their cognitive functioning precludes careful assessments of social cues.

The present study was designed to examine whether a misreading of social cues is partially responsible for the inappropriate behaviors of youths hospitalized for antisocial actions. To accomplish this aim, a videotape of twenty brief social encounters between two adolescent boys was produced. Within each of the twenty social encounters, one of the boys was the perpetrator of the action throughout. The taped encounter was stopped just before the other boy has a chance to respond. There were two underlying dimensions that defined the perpetrator's initial action. Because it was personally observed that hospitalized boys had difficulty deciphering disparate but similar-appearing social stimuli, and because it was noted that hyperaggressive boys in Raush's (1965) study responded similarly to

friendly and unfriendly gestures, the perpetrator's action varied on how overt or unambiguous his act was and on how hostile his act was. There were, thus, four different combinations of these two variable under which the perpetrator's action or the social cue fell. The social cue can be designated as (1) unambiguous-nonhostile, (2) ambiguous-nonhostile, (3) ambiguous-hostile, and (4) unambiguous-hostile. The entire tape of the twenty social encounters was shown individually to the subjects. There were two groups of subjects--adolescent boys hospitalized for unmanageability problems and a control group of non-hospitalized normal boys.

After each of the twenty taped encounters, the subject was asked a series of four standard questions. The first question attempted to elicit what the subject would do in response to the perpetrator's action. The second question attempted to elicit the subject's perception of the intent of the perpetrator's action. The third question attempted to elicit the subject's knowledge of both short term and long term consequences of his reaction to the perpetrator's action. Lastly, the fourth question attempted to elicit what the subject believes he should have done in response to the perpetrator's action. The subjects' responses were scored according to devised criteria (see below in method section).

Of particular concern is whether inappropriate behavior results from the misperception of social cues. By looking at

the subjects' responses to the first two questions, this issue can be examined. In brief, the scorers judged the subjects' responses to the first question (what the subjects say they would do in response to the perpetrator's initial action) by placing the responses into behavioral categories of appropriateness or inappropriateness. The scorers judged the responses to the second question (what the subjects perceive to be the intent of the perpetrator's initial action) in terms of how provocative the subjects see the action and how accurate the subjects' assessment of this action is. The data from these two questions show the appropriateness of the subjects' anticipated response to the situation presented, and the provocation the subjects attribute to the perpetrator's action. By looking at the data from questions 1 and 2 in tandem, it can be determined whether a subject (1) misperceived the social cue's intent, (2) perceived the cue correctly but responded inappropriately, or (3) some combination of both.

Hypotheses

Hypothesis 1

The main hypothesis is that the hospitalized boys will differ from the non-hospitalized boys in what they say they would do if they were in the situation presented on the tape when the situation was ambiguous-nonhostile.

Hypothesis 2

The hospitalized boys will perceive significantly more provocation in an ambiguous-nonhostile situation or social cue than the non-hospitalized boys.

To elaborate, it is thought that the hospitalized boys will have more difficulty in perceiving the ambiguous situations accurately. When social cues are clearcut, the hospitalized boys may be able to process and understand the cue's message as do their non-hospitalized counterparts. However, when the cues are more ambiguous, their cognitive orientation may preclude a clear understanding of the cue's message. It is also thought that the hospitalized boys will misperceive the ambiguous cues in the direction of provocation. Since both the ambiguous and unambiguous hostile social cues are already hostile, the hospitalized subjects' perception of these cues will appear as matching the actual intent of the cues, and there will not be significant difference between the two groups of subjects. Because the unambiguous-nonhostile social cue is unambiguous, the hospitalized subjects are not expected to misperceive it. Hence, the hospitalized subjects will differ from the non-hospitalized subjects just for the ambiguous-nonhostile cue for which they will perceive more provocation (Hypothesis 2). Their misperception of the ambiguous-nonhostile cue's intent in the direction of provocativeness may, in turn, produce statements of inappropriate

behavior given in response to what they would do in the ambiguous-nonhostile situations presented (Hypothesis 1).

Hypothesis 3

When the scorers take the subjects' perception of the situation into account, the hospitalized boys will not differ from the non-hospitalized boys in what they say they would do in an ambiguous-nonhostile situation.

This hypothesis serves two functions. The scorers are told in advance that they will rate the subjects' responses given to what they would do in the situations presented twice, the second time in terms of the subjects' perception of the intent of the cue as revealed in their answers to Question 2. This serves to differentiate for the scorers whether to score the subjects' responses from an objective point of view (the preconceived designation of the type of social cue) or from the subjects' point of view (how they perceived the social cues as revealed in their responses to Question 2). This re-rating also serves another important function. It can separate inaccuracies in the subject's perception from faulty responding. From a more objective standpoint, a subject might be seen as responding inappropriately, but from the subject's own viewpoint, his responses may seem more appropriate because they are the logical follow-through of his perception. Thus, inappropriate behaviors may be the result of faulty perceptions.

Hypothesis 4

The hospitalized boys will give less latitude to the other to respond to an ambiguous-nonhostile situation than the non-hospitalized boys.

The purpose of this hypothesis is to examine whether the two subject groups differ in their encouragement of continuing interactions and relationships with another. The basis for this hypothesis was taken from Raush's (1965) study, in which it was found that hyperaggressive boys would allow an interaction to go downhill faster than the control group of normal boys. Because the hospitalized subjects will perceive the ambiguous-nonhostile social cues as more provocative than the non-hospitalized subjects, their responses will probably stifle the possible friendly responses that the other would give to these social cues.

Hypothesis 5

The hospitalized boys will be significantly less aware of the consequences of their actions than the non-hospitalized boys for all the types of social cues.

This hypothesis is included as a tentative inquiry into whether the hospitalized subjects' impulsivity may be related to a lack of awareness of the consequences of their actions. This hypothesis is not tied down to any one social cue because it is not thought that awareness is necessarily connected with either ambiguity or hostility.

CHAPTER II

METHOD

Design

Ten boys hospitalized for unmanageability were compared to a control group of ten non-hospitalized, non-problem boys on their abilities to accurately assess social cues presented in an videotape, and to also cite appropriate actions to these social cues. The social cues presented in the videotape expressed the four combinations of two underlying dimensions--the ambiguity of the cues' intent, and the hostility of the cues' intent. The four types of social cues derived then can be designated as (1) unambiguous-nonhostile, (2) ambiguous-nonhostile, (3) ambiguous-hostile, and (4) unambiguous-hostile. The subjects were asked a series of standard questions after each taped social cue was presented to them. Their responses to these questions were scored on a number of dimensions by two scorers. The data from the scorer's ratings was used to compare the hospitalized boys with the non-hospitalized boys using the *t* statistic.

Subjects

The ten hospitalized youth lived together on an adolescent ward at St. Elizabeths Hospital, Washington, D.C. Approval was granted for their participation as subjects by

their program director, and the hospital administration. Three requirements were imposed for inclusion as subjects: they had to be male, carry a non-psychotic diagnosis, and be of approximately average intelligence.

The group that developed (Group 1), then, was all male, all black, with a mean age of 13.3 years, ranging from 11 to 15 years. They all tested in the average range of intelligence, although some of these boys were estimated to be of bright normal intelligence. Their diagnoses were adjustment reaction of childhood or adolescence, passive-aggressive personality, other reaction of adolescence and depressive reaction. (The subject diagnosed with a depressive reaction also behaved impulsively.) In general, they were hospitalized because of unmanageability. Their social histories were replete with incidents of such acting-out behaviors as truancy, running away, fighting, and destructive behaviors.

It was desired to form a non-hospitalized group matched with Group 1 on the variables of sex, race, age and intelligence. Since it is difficult to gain entrance into the Washington public schools for research purposes, subjects were procured from a neighboring parochial grammar school. To insure voluntary participation, permission slips, that briefly identified the researcher and the research project and stated what would be required of a subject, were sent home to the parents of all seventh and eighth grade boys. About thirty-five slips out of about sixty-five possibilities

were returned. Because school records were not available to the investigator, the principal was asked to eliminate boys considered above or below average in intelligence. Twenty-one boys remained. As will be explained in detail below, ten boys became the subjects for a pilot study and ten boys became the comparison group to the hospitalized boys.

A focal question of this research is whether impuslive boys are hindered in making appropriate behavioral responses because of an inability to accurately differentiate among diverse social cues. To insure appropriate comparisons, it was necessary to ascertain that the hospitalized youth differed from the non-hospitalized youth on behavioral impulsivity. Two ways to ascertain the difference between the two groups were used.

First, the social histories of the hospitalized youth were looked at. Their records abound with incidents of impulsive behaviors. For example, there were incidents of fire setting, fighting and running away.

It was not possible to examine the records of the non-hospitalized youth. There was evidence, however, that their behavioral patterns were different from the hospitalized youth. First, they were not incarcerated in an institution for behavioral problems. Second, they attended a private school that has a long waiting list to get into it. Children

who are behavior problems simply do not remain in the school, but are transferred to the public schools. Thus, the school is left with a population of children exhibiting few serious behavior problems.

However, it was also desired to have a more objective basis for the comparison of impulsive behaviors. A seven-item check list of some impulsive behaviors on a five point scale was devised.

TABLE 1

Behavior Checklist

Could you please check (✓) the appropriate space for

	Never	Rarely	Sometimes	Frequently	Very Frequently
1. Does he yell out answers in class?	___	___	___	___	___
2. Does he start fights with other boys?	___	___	___	___	___
3. Does he have difficulty waiting for things?	___	___	___	___	___
4. Does he have difficulty sitting still?	___	___	___	___	___
5. Does he act before he thinks?	___	___	___	___	___
6. Does he make careless errors in his school-work?	___	___	___	___	___
7. Does he get into trouble?	___	___	___	___	___

*Scores were 1 for never, 2 for rarely, 3 for sometimes, 4 for frequently and 5 for very frequently.

This checklist was distributed to all four of the school boys' teachers and to all five of the hospitalized boys' teachers. A mean score for each boy was produced by pooling all of the ratings on each of the seven items for each rater, then combining the scores across all raters. The school boys were then rank ordered on their rated impulsivity. The first five and the last five boys were to constitute the subject group for the pilot study, and those ranked from six to sixteen were to become the comparison group for the hospitalized youth.

The ten school boys, ranked from six to sixteen, (Group 2) had a total mean rating of 2.2 on the impulsive check list, with the individual mean scores ranging from 1.8 to 2.6. In comparison, the ten hospitalized boys had a total mean rating of 3.1, with the individual mean scores ranging from 2.9 to 3.3.

The Mann-Whitney U test for independent samples was used to analyze if there was a significant difference between Group 1 and Group 2 on rated behavioral impulsivity. The ratings on the hospitalized boys were significantly different from the ratings on the non-hospitalized boys beyond the .001 level of statistical significance. It seems reasonable to assume, then, that the groups represent two different populations of rated behavioral impulsivity.

One factor that suggests that the differences between

the groups in impulsivity may be even greater than the significant difference which were obtained was class size. Class size between the two Groups varied considerably. The school boy is in average classes of about twenty-five students, whereas the hospital boy is in small classes of about four students. There is much closer surveillance by an adult for the hospitalized boys, perhaps leaving them less opportunity to transgress.

Another factor that could have increased or decreased the differences in impulsivity between the Groups is the response biases of the two different sets of teachers. This problem will be taken up in disucssing the efficacy of the checklist in the Discussion chapter.

In summary, Group 2 subjects were similar to Group 1, in that they were all male, all black, of approximately average intelligence, and from the same metropolitan area of Washington. Group 2 was slightly older with a mean age of 13.8, ranging from thirteen to fifteen years, as compared to Group 1 having a mean age of 13.3, ranging from eleven to fifteen years. Economically, both groups are estimated to be from lower to lower-middle class.

They differed in behavioral patterns. Group 1 subjects had histories of impulsive behaviors. Group 2 subjects, according to circumstantial evidence, showed no indications of impulsive patterns. Moreover, the ratings

of impulsive behaviors for the two groups of boys were significantly different beyond a .001 level of significance.

Apparatus and materials

An audio-visual tape of twenty segments of brief social encounters was the stimulus presented to each boy.

The hypotheses for the study, as well as the specifics for this filmed tape, developed through observations made on the adolescent ward for several weeks. It was observed that these children seemed to have difficulty in differentiating friendly social cues from unfriendly cues. Often, they reacted the same way to a variety of cues whose implications were quite different, and hence their reactions to some of them were inappropriate. To look more closely at this phenomenon, a videotape that varied the ambiguity and hostility of the social cues was produced.

From the observations made on the ward, several incidents were choosen in which to vary the independent variable or type of social cue. The five scenes used were a "joke telling" scene, a "bumping" scene, a "classroom" scene, a "television watching" scene and a "card playing" scene.

For each of the scenes, there were four versions, representing the four types of social cues. The four types of cues were designated as (1) unambiguous-nonhostile, (2) ambiguous-nonhostile, (3) ambiguous-hostile, and

(4) unambiguous-hostile. The idea behind this is that some of the cues are clearly (unambiguous) hostile or non-hostile and other cues are less clearcut (ambiguous). For example, mumbling a perfunctory "excuse me" after bumping into someone seems less clearly non-hostile than apologizing, asking if the other is all right and so on. (It became apparent later on that there were problems involved in the cateogrization of the sequences. The problems will be discussed in the Discussion chapter.)

Before describing each segment individually, several general comments can be made. There were two boys acting in each segment, except for the classroom scene, in which a male "teacher" also appeared. Throughout all the scenes, one boy ("Tony") was the perpetrator and the other boy ("Sonny") was more or less a victim. Tony would act and the film segment stopped just short of Sonny's reaction.

The two boys that acted throughout the tape were chosen because of their similarity to the subjects in the observable characteristics of race and age. In the filming of the tape, they were told what each segment was about, and what to say and do. However, they were allowed leeway of expression and thus the tape reflected theirs, as well as the subjects', black speech patterns.

The tape was filmed scene by scene. Later it was edited and all twenty segments were randomly ordered. The complete

tape, including film lead-ins, is about ten minutes long. Each individual segment lasts about ten to fifteen seconds.

The specific tape segments are the following: (Please note that subjects were not shown the segments in the following order, which is presented to facilitate the reader's comparison of segments. Within each scene the segments are ordered as follows: (1) Unambiguous-nonhostile; (2) Ambiguous-nonhostile; (3) Ambiguous-hostile; and (4) Unambiguous-hostile.

The twenty film segments

Tony is introduced. Sonny is introduced.

Joke-telling scene

1. Sonny and Tony are seated together at a table. Sonny is laughing. Tony is laughing and says, "that was a bad (meaning good) joke. I like that." They slap hands together.

2. Sonny and Tony are seated together at a table. Sonny is laughing. Tony is laughing and says, "you call that a joke?"

3. Sonny and Tony are seated together at a table. Sonny is laughing. Tony says "that wasn't funny", with a serious expression.

4. Sonny and Tony are seated together at a table. Sonny is laughing. Tony says "I'm tired of your jokes. Take your jokes and get on out of here." He says this with a serious expression.

Bumping scene

1. Sonny and Tony are walking towards each other. Sonny is walking reading a paper. They bump into each other. Tony says, "excuse me, I didn't see you, man. My fault."

2. Sonny and Tony are walking towards each other. Sonny is walking reading a paper. They bump into each other. Tony

says, "excuse me."

3. Sonny and Tony are walking towards each other. Sonny is walking reading a paper. They bump into each other. Tony says, "man, watch where you're going."

4. Sonny and Tony are walking towards each other. Sonny is walking reading a paper. They bump into each other. Tony says, "fool, you better watch where you're going."

Classroom scene

1. Sonny and Tony are seated at a table doing schoolwork. The teacher is standing in front of them at the blackboard. Sonny raises his hand. The teacher points to him, saying "yes." Sonny says, "I don't understand the work." The teacher responds, "you're pretty smart. You should be able to get it. Just think about it."

2. Sonny and Tonny are seated at a table doing schoolwork. The teacher is standing in front of them at the blackboard. Sonny raises his hand. The teacher points at him, saying "yes." Sonny says, "I don't understand the work." The teacher responds, "the work's not that hard. Think about it. I think you should be able to get it."

3. Sonny and Tony are seated at a table doing schoolwork. The teacher is standing in front of them at the blackboard. Sonny raises his hand. The teacher points at him saying "yes." Sonny says, "I don't understand the work." The teacher responds, "Gee, that's second-grade work."

4. Sonny and Tony are seated at a table doing schoolwork. The teacher is standing in front of them at the blackboard. Sonny raises his hand. The teacher points at him, saying "yes." Sonny says, "I don't understand the work." The teacher responds, "well, you must really be stupid. Anyone else in the class can do it."

Television-watching scene

1. Sonny is seated watching television. Tony comes over saying, "man, do you mind if I watch with you?"

2. Sonny is seated watching television. Tony comes over saying, "there's something better on, do you mind if I change it?"

3. Sonny is seated watching television. Tony comes over saying, "this is stupid" and proceeds to change the channel

4. Sonny is seated watching television. Tony comes over saying, "you're stupid for watching this stuff" and flips the channel.

Card-playing scene

1. Sonny is seated at a table playing cards. Tony comes over and asks "hey man, can I play with you?"

2. Sonny is seated at a table playing cards. Tony comes over and says, "man, deal me in."

3. Sonny is seated at a table playing cards. Tony comes over and says, "this is a dumb, kid's game. Why don't you play something else?"

4. Sonny is seated at a table playing cards. Tony comes over and says, "you're stupid for playing this dumb game" while pushing some of the cards off the table.

To ascertain if the types of cues fell into meaningful categories, raters were used to place each film segment into one of the four categories--(1) unambiguous-nonhostile; (2) ambiguous-nonhostile; (3) ambiguous-hostile; and (4) unambiguous-hostile. There were four women raters. One rater was eventually eliminated because she misunderstood the category definitions.

The segments were presented to the raters in the same random order that the subjects saw. They rated one segment at a time.

TABLE 2

Ratings of Social Cues

Segments	Conceived as	Rater 1	Rater 2	Rater 3
Television-watching (1)	1	2	1	1
Classroom (1)	1	1	2	1
Card-playing (4)	4	4	4	4
Bumping (3)	3	3	4	3
Classroom (2)	2	2	1	2
Television-watching (3)	3	4	4	4
Joke-telling (2)	2	3	1	2
Joke-telling (3)	3	4	2	3
Card-playing (3)	3	4	3	3
Classroom (3)	3	4	4	4
Card-playing (2)	2	2	1	1
Television-watching (2)	2	2	1	1
Bumping (4)	4	4	3	4
Classroom (4)	4	4	4	4
Joke-telling (1)	1	1	1	1
Bumping (2)	2	2	1	1
Card-playing (1)	1	2	1	1
Joke-telling (4)	4	4	4	4
Television-watching (4)	4	4	4	4
Bumping (1)	1	1	1	1

As evidenced by Table 2, Rater 1 and Rater 2 agreed with the investigator's conception of the hostile-nonhostile dimension nineteen out of twenty times. Rater 3 agreed with the investigator's conception completely on this dimension. For the ambiguous-unambiguous dimension, Rater 3 agreed with the conceived dichotomy fifteen out of twenty times, Rater 1 agreed fourteen out of twenty times, and Rater 2 agreed ten out of twenty times.

There were two items that all three raters saw as unambiguous-hostile, when it was conceived as ambiguous-hostile by the investigator. These segments were in the classroom scene, and the television watching scene. For three other segments, two raters agreed with each other but disagreed with the investigator's originally conceived category type. All three of these segments were conceived as ambiguous-nonhostile cues (for the television watching scene, the card playing scene, and the bumping scene) but were rated as unambiguous-nonhostile. Finally, for two segments (the ambiguous-nonhostile, and the ambiguous-hostile joke telling segments), there was complete disagreement among the raters and only one rater in each segment agreed with the original conception. For each of these two segments, there was a rater who disagreed with the hostile-nonhostile dichotomy and another rater who disagreed with the ambiguous-unambiguous dichotomy. (Some of these problems will be discussed in the Discussion chapter.)

Although there was not perfect agreement among the three raters, nor perfect agreement with the investigator's original

conception of the cues, the categories do seem meaningful. The hostile-nonhostile dimension was well dichotomized. For the ambiguous-unambiguous dimension, there were more discrepancies among raters and between the raters and the investigator. The general trend for the disagreement was for the raters to see the cue as unambiguous when it was conceived as ambiguous, probably due to two reasons. First, the raters were sophisticated adult women, who could well handle subtleties of social cues. The technique for creating ambiguity in this research might not have been subtle enough to cloud the cue's meaning for them. However, a twelve year old boy might be less adept at interpreting the subtleties of the cues, and thus find the cues more ambiguous than the raters. Secondly, the raters were presented one segment at a time. Rating initial segments allowed no basis for comparisons and so they could not be rated relatively

To determine if rating the tape segments in a more relative fashion would produce greater agreement between the raters and the researcher's categories, the tape segments were presented differently to two additional women raters. Originally, all twenty tape segments were presented in a completely random order. For the additional ratings, the tape segments were just randomized within each scene. In other words, the raters saw the four different versions (unambiguous-nonhostile, ambiguous-nonhostile, ambiguous-hostile, and unambiguous-hostile) of each scene together. By viewing the tape segments in this fashion, there was

more agreement between the raters and the researcher's categories. One rater agreed completely with the researcher's categorizations of the twenty tape segments. The other rater differed on two segments. Specifically, she saw the unambiguous-nonhostile segment in the card playing scene as ambiguous-nonhostile and vice versa. Hence, when rated in a relative fashion, the categories for the tape segments are meaningful.

After making the tape and editing it, the only equipment that was used in the study was a Sony AV3600 playback recorder, a Sony monitor, and the half inch Sony tape.

A series of four standard questions were devised and asked after each individual tape segment. The questions are the following:

> 1. If you were Sonny here, what would you do or say after Tony did that (or said that) to you?
>
> (Sometimes to get a better understanding, the question, 'how would you be feeling, if you were Sonny' would also be asked.)
>
> 2. What do you think Tony is trying to do? What is he up to?
>
> (Again sometimes, 'what is he feeling.')
>
> 3 a. If you did what you said Sonny might do (or say) (citing the subject's specific response to Question 1), how do you think Tony will react? What might he say or do then?
>
> b. What do you think is going to happen at the end?
>
> 4. What do you think is the best thing that Sonny should have done or said at the beginning, when Tony first did (or said) that to him?

The purpose of Question 1 was to elicit the subject's

projection of his immediate behavioral reaction to the cue given by Tony. (It was asked first so that a subject would have less opportunity to reflect upon the situation.) The purpose of Question 2 was to determine his ability to perceive the intent of the cue. The purpose of Question 3 was to determine the subject's knowledge of and ability to project into the future short term (3a) and long term (3b) consequences of his proposed action in answer to Question 1. Finally, the purpose of Question 4 was to determine his knowledge of cultural mores, and his adherence to them by seeing if his response given to Question 1 matched what he said he should do in Question 4.

Scoring categories

In order to evaluate the subject's responses, scorers were asked to rate subjects' responses according to a scheme devised for the study. The specific instructions given to the scorers are presented next:

Scorer's Ratings

1. For Question 1, put the subject's response into whichever of the following categories that best represents its predominant theme, keeping in mind the context of the segment.

   a. Appropriately friendly or encouraging of the relationship. eg: Sonny saying, "sure, c'mon" in response to Tony's coming over and asking to watch television with him.

   b. Appropriately assertive in defending of his own interests. eg: Sonny saying, "I was watching. Please turn it back," in response to Tony's coming over and flipping the TV channel.

c. Inappropriately hostile. Using more physical force than is required or more verbal hostility than required.
eg: Sonny "jumping up and hitting him down" or calling Tony "a black son-of-a-bitch", in response to Tony's coming over and flipping the TV channel.

d. Inappropritely self-debasing and against his interests.
eg: Sonny saying, "I'm sorry, it was my fault. I shouldn't have been reading the paper", in response to Tony's yelling at Sonny to watch where he's going after they bump into each other.

e. Other. This category should only be used as a last resort, when nothing else fits.

2a. For Question 2, rate the subject's perception of how provocative he sees Tony's behavior.

very unprovocative very provocative
1 2 3 4 5

eg: 1 = "He's trying to be nice and make friends with him."
5 = "He's trying to start a fight."

(Please keep in mind that these are just two representative examples and other responses can fit into these extreme ratings.)

b. Also for Question 2, rate whether the subject sees the provocation as to

much less less equal more much more
1 2 3 4 5

than it really is.

---

3. Re-rate the subject's response to Question 1 into the five behavioral categories. This time use the subject's perception of the provocativeness of Tony's behavior, and

disregard the actual level of provocation.

---

4. For Question 1, rate to what extent the subject's response leaves Tony flexibility in responding. Flexibility gives the other many response options and is unconditional.

no latitude of response great latitude
1 2 3 4 5

eg: 1 = "I'd hit him."
5 = "Will you help me with my work?"

---

5. For Question 3, rate the subject's awareness of the consequences of his original response of what he would do if he was Sonny. Is Tony's action, stated in Question 3a, the most logical follow-through to Sonny's response?

unaware aware
1 2 3 4 5

eg: 1 = Sonny hits Tony. Tony says "nice day out, isn't it."
5 = Sonny hits Tony. Tony hits him back.

Score R for rejection whenever a subject does not answer a question.

As indicated by the scorer's instructions, the subjects' responses to Questions 1, 2, and 3a were rated. Questions 3b and 4 were not rated. Questions 3b and 4 were of secondary interest in the study. They were included in case at some other time it was desired to have data on the areas elicited

by these two questions.

The task for Scorer's Rating 1 was to place the subject's response to Question 1 (what would you do or say, if you were Sonny) into one of five behavioral categories. Two of the categories were considered appropriate, (a) "appropriately friendly" and (b) "appropriately assertive", and two of the categories were considered inappropriate, (c) "inappropriately hostile", and (d) "inappropriately self-debasing." The fifth category, (e) "other", was to be used only if no other category fit, i.e., as a last resort.

Behavioral categories "a", "b", and "d" were operationally defined easily. However, a problem arose with category "c." Because both scorers, as well as the investigator were middle class and white, there was the possibility that aggressive behaviors given as responses by the subjects, which might be appropriate in the subjects' subculture, might clash with accepted middle class behavioral styles, and would thus, be scored inappropriately hostile. To attempt to deal with this, inappropriately hostile was operationally defined as behavior <u>in excess</u> of what was needed in the specific situation. Thus, aggression was not to be considered inappropriately hostile, only aggression that was overdone.

The purpose of the first rating was to see whether and in what way the hospitalized subjects' initial responses

to the social cues differed from the non-hospitalized subjects.

Scorer's Rating 2a asked the scorers to rate, on a five-point scale, how provocative the subjects perceived the social cues. The subjects' responses to be rated were in answer to Question 2 or "what was Tony up to." The anchor point were examples taken from the subjects' protocols of the pilot study. The scorers were instructed to use these examples only as representative, but not all inclusive of that point on the scale.

The purpose of the second rating was to see how much provocation the subjects project into the social cues.

Scorer's Rating 2b had the scorers re-rate the subjects' responses to Question 2 on a five point scale. They were to rate the accuracy of the subjects' perceptions, i.e., whether the subjects' perceptions matched the actual level of provocation in the cues.

Scorer's Rating 3 had the scorers re-rate the subjects' response to Question 1 but this time they were to keep in mind the subjects' <u>perceptions</u> of the provocativeness of the social cues (as scored in Rating 2), instead of the actual level of provocation. For example, a subject's response could be scored inappropriately hostile to an ambiguous-nonhostile cue. However, with the knowledge that the subject perceived the social cue as very provocative, the score might be changed to appropriately assertive the

second time.

This rating has two purposes. First, it attempted to separate inaccuracies in the subject's perception from faulty responding. From a more objective standpoint (the type of cue), a subject might be seen as responding inappropriately, but from the subject's own viewpoint (how provocative he perceived the cue), his responses may seem more appropriate. Thus, his perception is inaccurate and not necessarily his response to the cue. Also, and importantly, inclusion of this rating decreased scorers' confusion because the decision is made for them whether to score the subject's response from a more objective viewpoint or from the subject's own viewpoint.

Scorer's Rating 4 had the scorers again rate on a five point scale the subject's response to Question 1. This time it was rated on the latitude for responding given to the other. The purpose of this rating was to see if the two groups of subjects differed in their encouragement of continuing interactions and relationships with another. Great latitude was defined as giving the other a wide range of behavioral options to respond to the subject's initial action. Little latitude was defined as giving the other few options to react.

Scorer's Rating 5 had the scorers rate on a five point scale the subject's awareness of the consequences of

their action. Awareness was defined as the subject citing a relatively probable reaction of the other.

Any question that was not answered by a subject was to be scored a "R" for rejection.

Procedure

Both a pilot study (Study I) and the experiment proper (Study II) were run. The purpose of the pilot study was to practice and modify the experimental procedures and scoring techniques, and to determine if there would be significant experimental effects. The detailed procedural steps will be presented only once under the section headed "Study II." In the description of "Study I", only procedures specific to the pilot study or modified and eliminated procedures will be mentioned.

Study I

In brief, relatively more and less impulsive school boys were shown the tape of social cues individually. After each tape segment, they were asked the standard series of questions. Their responses were recorded verbatim and then rated by two scorers according to the devised criteria described above.

The subjects for the pilot study were the five school boys who were rated the highest and the five school boys who were rated the lowest on the impulsive behavior check-list. Eventually, there were four boys in each group. One

non-impulsive boy was eliminated because his responses were tape-recorded, whereas for all other subjects, the responses were written down. Also an impulsive boy was eliminated because he was not in school the days the data were being collected. The five lowest and five highest boys rated on the checklist were chosen to maximize possible experimental differences. This assumed that boys rated high and low within the school differed sufficiently to reveal effects of the sort expected to be found (to a greater extent) between school and hospital groups.

After seeing a tape segment, the tape was stopped and a subject was asked a standard series of questions (see above). Several modifications were subsequently made on the questions asked in Study I. For Study II, the second question was changed from "what do you think about the way Tony was acting" to "what do you think Tony was trying to do" or "what was he up to"? This change was an attempt to get the subjects' perceptions of the cues' intent rather than perhaps getting the subjects' moral judgments on Tony. In addition, a last question was eliminated because it did not elicit any new information from the subjects. This question had asked "what were other things Sonny could have done" in response to the cue presented. Most of the subjects either repeated what they had previously said or gave nothing.

The subjects' responses were recorded verbatim. After the first subject's responses were tape-recorded, this practice was eliminated. Because the subjects generally responded tersely to the questions asked, their responses could easily be written down. The process of transcribing tape-recordings, then, appeared both arduous, and impractical.

The subjects' responses were then rated by two scorers according to a devised criteria. The scorers' first task was to place the subjects' responses of how they would react to the taped social cues into five behavioral categories. A fifth category of the pilot study was changed just to an "other" category for the actual study. The fifth category was defined as "discouraging of a relationship or interaction but not overtly hostile or necessarily inappropriate." It was found that this fifth category was not mutually exclusive with the other four categories, and thus caused the scorers confusion.

The next several tasks for the scorers were to rate the subjects' responses on five point scales. For Study I, there were no anchor points given. For Study II, anchor points were given, defined by examples taken from the subjects' protocols of the pilot study.

The method of scoring the protocols was different in the two studies. For Study I, the protocols of the eight subjects were distributed to each scorer. The protocols

were not identified, and were randomly ordered. The scorers were instructed to score one rating at a time, for a particular tape segment, for all subjects. Next, they scored the second rating for that segment for all subjects, until all ratings were scored for a tape segment for all subjects. They would then go on to the next tape segment, until all twenty segments were scored.

To determine the efficacy of the scoring procedure, one scorer re-scored all eight protocols. The second time all ratings for a particular subject were scored for a given segment, then all ratings for the second subject for that segment were scored and so on. When all subjects were scored for that segment, the scorer would go on to the next segment in the same fashion. There were few differences between the two scoring practices. However, the second procedure seemed to promote a better understanding of the subject's responses for the scorer, and was used in Study II (the study proper).

The results of Study I were not analyzed statistically because it was obvious by looking at the data that there would not be statistical differences between the impulsive and non-impulsive school boys. However, there were reasons to anticipate that there would be differences between the hospitalized and non-hospitalized groups of boys compared in the actual study. Study I did show individual response

variability, albeit no clear differences between boys rated high and those rated low on the impulsive checklist. As mentioned before, troublesome children simply did not attend this parochial school. Thus it seemed reasonable to assume that these boys did not show a very wide range on an impulsivity dimension, even if rated slightly differently.

The pilot study did provide an opportunity to compute inter-scorer agreements for the Scorer's Ratings. The analysis was done in terms of the per cent of agreement between the two scorers. (Scorer's Rating 3 is omitted from the table because it was not part of the pilot study.)

TABLE 3

Study I

Percentage of Agreement between Scorers for Scorer's Ratings 2a, 2b, 4, and 5*

Differences between Scorers	Rating 2a	Rating 2b	Rating 4	Rating 5
0	62	75	57.5	52.5
1	33	22.5	37.5	42.5
2	5	2.5	5	3
3	0	0	0	2
4	0	0	0	0
	100	100	100	100

*For Rating 1, which was scored on a nominal scale, differences along an ordinal dimension could not be calculated. In evaluating agreements there, it may be noted that there was perfect agreement on the assignment of categories on 76% of the ratings.

As may be seen from Table 3, for Scorer's Rating 1, there was 76% perfect agreement. For Ratings 2a, 2b, 4, and 5, the per cent of agreement with a difference of 1 or less between the scorers was 95, 97.5, 95, and 95 respectively. Because of high inter-scorer agreement, it was decided to just use two scorers for Study II.

Study II

As already mentioned, ten hospitalized boys were to be compared with ten non-hospitalized boys in their responses to taped social cues.

The same procedure was followed for all twenty subjects.

The settings for both groups were similar. In the school, a small room was used which contained a few desks and chairs; at the hospital, an unused office was provided in the wing adjacent to the hospital school. The equipment--the Sony playback recorder and Sony monitor--was set on a table. The subject sat directly in front of the monitor. The experimenter sat at the side of the table, at right angles to the subject.

Each boy was called out of his class and was seen individually. The experimenter, a white woman, introduced herself to the subjects. She was known casually by about half of the hospitalized youth. She had previously observed on their ward, although interactions were kept to a minimum at that time. After the introduction, the same instructions, recorded below, were given.

> Have you heard anything about this?. . .No. Good. Let me tell you what this is all about. I'm interested in what guys your age think about certain things. And the only way I can find out is by asking people like you some questions.
>
> What I'm going to do is to show you a film that has two boys doing everyday things. After each scene, I'm going to stop the tape and then ask you some questions about it. There are no right or wrong answers. I'm just interested in your opinions. Also since I don't put your name down, you can say

whatever you want and nobody will know who said it.

Some of the scenes you'll see will look very similar to other ones, but just try to make-believe you haven't seen anything before--that each scene is new to you.

Also if you don't understand what the boys in the film say, just ask me, or if you can't remember their names, just ask me too.

This should take about forty-five minutes of your time. I would appreciate it if you don't tell the other boys exactly what you saw. You can tell them that you just saw a film.

And for your participation in this, here's some candy. (candy bar is placed down in front of the subject.) You can have it now or later. O.K. Any questions?

The instructions were intended to accomplish several things. First, by stating that there was no right or wrong answers, and that their responses were anonymous, it was hoped that a relaxed atmosphere would prevail. It was also desired that the specifics of the scenes were not revealed to new subjects. This did not seem to be a problem. Because the scenes were similar and were shown in rapid succession, the boys had difficulty in remembering them specifically. Another problem was the effects of seeing previous tape segments upon the segments to come. The boys were asked to take each segment separately and to try not to be influenced by previous segments. For example, a subject might have said something like, "Oh, now Tony's finally acting nice", at which point he was reminded to make believe he had not seen Tony acting before. Also throughout the sessions, subjects were encouraged to respond, if necessary, by repetitions of the

question asked and by prodding by the experimenter. Thus, there were few unanswered questions. Lastly, the candy bar was provided to increase the motivation to participate (missing a class was also motivating). Although this was not the purpose of the candy, it was a way to look at the behaviors of supposedly two different groups of boys to see whether one group had more difficulty in saving it for later than the other group. It is interesting to note that none of the total twenty school boys (for Study I and Study II) ever ate the candy during the session. They all saved it for later. In contrast, three out of the ten hospitalized subjects ate at least one, and sometimes two, candy bars during the sessions.

Each boy was presented the twenty tape segments in the same order, which had originally been randomly determined.

After each segment, the tape was stopped and the subject was asked the same questions (described once above).

1. If you were Sonny here, what would you do or say after Tony did that (or said that) to you?

2. What do you think Tony is trying to do? What is he up to?

3a. If you did what you said Sonny might do (or say) (citing the subject's specific response to Question 1), how do you think Tony will react? What might he say or do then?

b. What do you think is going to happen at the end?

4. What do you think is the best thing that Sonny should have done or said at the beginning, when Tony first did (or said) that to him?

The subject's responses were recorded verbatim. Each session lasted about forty-five minutes to an hour. At the close of the session, the boy was asked if he had any questions, and what he thought about the session, and then was thanked and sent back to class.

Scoring

Two scorers were used for Study II. Both were white women, one being a clinical psychologist, the other an art therapist. The scorers were shown the audio-visual tape.

Each scorer rated all subjects for all tape segments for all scorer's ratings. They were given a packet containing the descriptions of the segments with the category indicated (e.g. ambiguous-hostile), the Questions asked to the subjects, the instructions for the series of ratings to be made on the subjects' responses (see above), and the subjects' protocols.

The scorers were then given twenty packages. Each package was a separate tape segment. The twenty subjects were not identified and were randomly ordered within each package. (For Study I, the complete protocol of an individual subject was left intact.) Because the subjects were in different orders for each of the twenty segments, the scorers could not develop a response set for individual subjects.

The scorers scored one package at a time. Hence, all ratings for each subject for a given segment were scored together. This procedure continued until all twenty segments

were scored.

The data were collected and organized into data sheets for each subject and were then ready to be analyzed.

Hypotheses

Hypothesis 1: The hospitalized boys differ from the non-hospitalized boys in what they say they would do in the situation presented, when the situation is ambiguous-nonhostile.

The data for Hypothesis 1 were taken from Scorer's Rating 1. Scorer's Rating 1 had the scorers place the subject's responses that were cited as what they would do in the situation presented into five behavioral categories.

Hypothesis 2: The hospitalized boys perceive more provocation in the ambiguous-nonhostile situation than the non-hospitalized boys.

The data for Hypothesis 2 were taken from Scorer's Rating 2a. Rating 2a had the scorers rate how provocative the subjects perceived the cues' intent on a five point scale. Because the data from Scorer's Rating 2b yielded similar results and did not provide any new information, it was not included as a separate hypothesis.

Hypothesis 3: When the scorers take the subjects' perception of the situation into account, the hospitalized boys will not differ from the non-hospitalized boys in what they say they would do in the ambiguous-nonhostile situations presented.

The data for Hypothesis 3 were taken from Scorer's Rating 3. Rating 3 had the scorers again place the subjects' responses of what they would do in the situation presented into five behavior categories. The scorers were to keep in mind the subjects' perception of the situation's intent.

Hypothesis 4: The hospitalized boys give less latitude to the other to respond to the ambiguous-nonhostile situation than the non-hospitalized boys.

The data for Hypothesis 4 were taken from Scorer's Rating 4. Rating 4 had the scorers rate the latitude given to the other (as determined by their response given to what they say they would do in the situation presented) on a five point scale.

Hypothesis 5: The hospitalized boys are less aware of the consequences of what they say they would do in the situation presented for all types of social cues than the non-hospitalized boys.

The data for Hypothesis 5 were taken from Scorer's Rating 5. Rating 5 had the scorers rate how probable the subjects' responses of what they say the other would do in reaction to the subjects' initial stated action on a five point scale.

Before turning to the results of these hypotheses, the inter-scorer agreement for Study II will be presented. The percentage of perfect agreement and the differences of

agreement between the scorers were used.

TABLE 4

Study II

Percentage of Agreement Between Scorers for Scorer's Ratings 2a, 2b, 4, and 5*

Differences between Scorers	Rating 2a	Rating 2b	Rating 4	Rating 5
0	52	77	52	49
1	43	22	35	40
2	5	1	8	9
3	0	0	4	2
4	0	0	1	0
	100	100	100	100

*For Rating 1, the percentage of perfect agreement was 75. For Rating 3, the percentage of perfect agreement was 76.

For the Scorer's Ratings 1 and 3, the percent of perfect agreement was 75 and 76 respectively. Because these were nominal data, degree of differences between the scorers cannot be estimated.

Because the Scorer's Ratings 2a, 2b, 4, and 5 yielded ordinal data, differences between scorers were used. The per cent of

agreement with a difference of one or less between scorers for Scorer's Ratings 2a, 2b, 4, and 5 were 95, 99, 87, and 89 respectively.

Reliability coefficients were also computed for the scoring of Hypotheses 2, 4, and 5 (the ordinal data). The reliability coefficients for the scoring of Hypotheses 2, 4, and 5 were found to be .90, .75, and .58 respectively.

CHAPTER III

RESULTS

Hypothesis 1

The hospitalized boys differ from the non-hospitalized boys in what they say they would do in the situation presented when the situation is ambiguous-nonhostile.

The data for Hypothesis 1 were taken from Scorer's Rating 1. Rating 1 had the scorers place the subjects' responses of what they say they would do in the situation presented into five discrete behavioral categories. The behavioral categories were originally designated as (a) appropriately friendly, (b) appropriately assertive, (c) inappropriately hostile, (d) inappropriately self-debasing, and (e) other.

As it turned out, the "other" behavioral category was eliminated from the analyses. Because it was to be used only as a last resort by the scorers, it was used infrequently. For the few times that the "other" score appeared in the data, the behavior category scored by the other scorer was substituted in its place. The same was done for "rejection" scores, or when a subject refused to respond to a question. Again because the experimenter encouraged the subjects to respond, there were few rejections. But when a rejection score occurred, the score given by the other scorer was

substituted in its place.

The data from Scorer Rating 1 were nominal and also were alternative (rather than independent) scores. Although the chi-square statistic might seem to be an appropriate test to use, there are problems in meeting the underlying assumptions of the test because the subject pool was small. Instead the t statistic was used to analyze the differences between the two subject groups. However, to meet the assumptions of the t statistic, i.e., independent measures and interval data, the data had to be conceptualized in a specific way.*

Each type of situation or social cue was analyzed separately. There were five tape segments for each type of social cue (e.g., ambiguous-nonhostile). For each tape segment, a subject's response of what he says he would do in the situation presented can either be scored as appropriately friendly, appropriately assertive, inappropriately hostile or inappropriately self-debasing by one or both scorers (signified by "a", "b", "c", and "d" respectively). Another way that the responses can be scored is with an 0 or 1 representing whether a subject's response is absent or present in each of the behavior categories.

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*The Edwards Personal Preference Scale is an example in which a similar conceptualization of the data is used.

To illustrate, a subject may have received 0"a", 1"b", 0"c" and 0"d" from one scorer and 1"a", 0"b", 0"c", and 0"d" from the other scorer on his response to one tape segment. If the scores for each of the behavior categories are then summed over the five tape segments making up one type of social cue and also for both scorers, then an interval scale ranging from 0 to 10 is produced for each response category for each type of social cue. To illustrate again, a subject's score may be 8"a", 1"b", 1"c", and 0"d" for the ambiguous-nonhostile cue. Also by summing the scores over the five tape segments making up one type of social cue, the scores can be conceptualized as independent scores. Knowing a subject's score in one response category does not enable you to know the distribution of the scores in the other three response categories. For example, knowing that a subject has 8"a" scores tells nothing about how the rest of his scores are distributed among the "b", "c", and "d" response categories. By combining the ten individual subjects' scores for the hospitalized and non-hospitalized groups, means for each response category for each type of social cue were computed. The t statistic was then used to compare the differences between the mean scores for each of the behavior categories for the two subject groups.

A separate analysis was done for each of the four behavior categories for each of the four social cues. There

were 16 t tests done and a .05, two-tailed level of significance was used.

TABLE 5

Hypothesis 1

Comparison between Hospital and Non-hospital Boys in What They Say They Would Do in the Unambiguous-nonhostile Situation

Behavioral Categories Used in Scoring Ss' Responses	Group	$\bar{X}$	s	t
Friendly	Hospital	8.70	1.06	.440
	Non-Hospital	8.50	.97	
Assertive	Hospital	.70	.67	.709
	Non-Hospital	1.00	1.15	
Hostile	Hospital	.60	.84	.530
	Non-Hospital	.40	.84	
Self-debasing	Hospital	0.00	0.00	1.00
	Non-Hospital	.10	.32	

df=18

TABLE 6

Hypothesis 1

Comparison between Hospital and Non-hospital Boys in What They Say They Would Do in the Ambiguous-nonhostile Situation

Behavioral Categories Used in Scoring Ss' Responses	Group	$\bar{X}$	s	t	
Friendly	Hospital	6.20	2.20	1.423	
	Non-hospital	7.40	1.51		
Assertive	Hospital	2.70	1.42	.298	
	Non-hospital	2.50	1.58		
Hostile	Hospital	.80	1.03	2.449	$p < .05$
	Non-hospital	.00	.00		
Self-debasing	Hospital	.30	.67	.849	
	Non-hospital	.10	.32		

df=18

TABLE 7

Hypothesis 1

Comparison between Hospital and Non-hospital Boys in What They Say They Would Do in the Ambiguous-hostile Situation

Behavioral Categories Used in Scoring Ss' Responses	Group	$\bar{X}$	s	t	
Friendly	Hospital	1.30	.67	1.434	
	Non-hospital	.90	.57		
Assertive	Hospital	6.20	1.87	1.643	
	Non-hospital	7.40	1.35		
Hostile	Hospital	1.20	1.32	2.882	$p < .05$
	Non-hospital	0.00	0.00		
Self-debasing	Hospital	1.30	1.42	.715	
	Non-hospital	1.70	1.06		

df=18

TABLE 8

Hypothesis 1

Comparison between Hospital and Non-hospital Boys in What They Say They Would Do in the Unambiguous-hostile Situation

Behavioral Categories Used in Scoring Ss' Responses	Group	$\bar{X}$	s	t
Friendly	Hospital	1.00	.94	1.765
	Non-hospital	.40	.52	
Assertive	Hospital	6.00	2.83	.235
	Non-hospital	5.70	2.87	
Hostile	Hospital	1.50	2.64	.085
	Non-hospital	1.60	2.63	
Self-debasing	Hospital	1.50	1.51	1.046
	Non-hospital	2.30	1.89	

df-18

It was found that the hospitalized boys' projected actions were rated as inappropriately hostile significantly more than those of the non-hospitalized when the situation presented was ambiguous, both nonhostile, and hostile. Hypothesis 1 is accepted in part. (It can be noted that there were four hospitalized boys who responded with inappropriate hostile responses to the ambiguous-nonhostile social cues and five hospitalized boys who responded with inappropriate hostility responses to the ambiguous-hostile social cues. For both ambiguous cue situations, there was a total of six different hospitalized boys who responded with inappropriate hostile responses.)

Hypothesis 2

The hospitalized boys perceive more provocation in the ambiguous-nonhostile social cues than the non-hospitalized boys.

The data for Hypothesis 2 were taken from Scorer's Rating 2a. Rating 2a had the scorers rate the subjects' responses of what they perceived to be the perpetrator's intent in the situations presented on a five point scale of provocativeness.

Each type of social cue was analyzed separately. For each individual tape segment, a subject got a score ranging from 1 to 5 from each of the scorers. A mean score between the two scorers was computed at each of these data points.

The mean score was then summed across all five tape segments that comprised one type of social cue, and this became the subject's score. The ten individual subject's scores that comprised a subject group were pooled and an overall mean score was found for each subject group, ranging from 1 to 25. The *t* statistic was used to compare the means between the two subject groups.

There were four separate analyses done comparing the hospitalized and non-hospitalized subjects on how provocative they saw the social cues for each type of social cue. Since it was thought that the hospitalized subjects would perceive more provocation, a one-tailed, .05 level of significance was used.

TABLE 9

Hypothesis 2

Comparison between the Hospital and Non-hospital Boys in How Much Provocation They Perceive in the Social Cues

Type of cue	Group	$\bar{X}$*	s	t	
Unambiguous-nonhostile	Hospital	7.40	2.85	.34	
	Non-hospital	7.05	1.57		
Ambiguous-nonhostile	Hospital	11.35	3.06	2.11	$p < .05$
	Non-hospital	9.00	1.73		
Ambiguous-hostile	Hospital	18.75	1.89	1.39	
	Non-hospital	17.80	1.06		
Unambiguous-hostile	Hospital	19.65	2.43	.67	
	Non-hospital	19.00	1.90		

df=18
*Group mean--scores ranging from 1 to 25.

It was found, as expected, that the hospitalized boys perceived significantly more provocation in the ambiguous-nonhostile social cue than the non-hospitalized boys and not in any of the other cues. Hypothesis 2 is accepted.

Hypothesis 3

When the scorers take the subjects' perception of the situation into account, the hospitalized boys will not differ

from the non-hospitalized boys in what they say they would do in an ambiguous-nonhostile situation.

The data for Hypothesis 3 were taken from Scorer's Rating 3. For Rating 3 the scorers again placed the subjects' responses to Question 1 into the five behavior categories designated as (a) appropriately friendly, (b) appropriately assertive, (c) inappropriately hostile, (d) inappropriately self-debasing, and (e) other. Again the "other" category was eliminated from the analysis. In the re-rating of the subjects' responses, the scorers were to keep in mind the subjects' perception of the perpetrator's intent.

The data produced for the re-rating were nominal. For the reasons cited above under Hypothesis 1, the t test was used to compare the two subject groups.

Each of the four behavior categories were analyzed separately for each of the four social cues. There were 16 t tests done comparing the hospitalized boys with the non-hospitalized boys on what they said they would do, after the scorers knew their perception of the situation. A .05, two-tailed level of significance was used.

TABLE 10

Hypothesis 3

Comparison Between Hospital and Non-hospital Boys in What They Say They Would Do in the Unambiguous-nonhostile Situation (Rated Considering Their Perception of the Situation)

Behavioral Categories Used in Scoring Ss' Responses	Group	$\bar{X}$	s	t
Friendly	Hospital	8.20	1.62	0.00
	Non-hospital	8.20	.79	
Assertive	Hospital	.80	.79	1.423
	Non-hospital	1.40	1.07	
Hostile	Hospital	.50	.85	1.395
	Non-hospital	.10	.32	
Self-debasing	Hospital	.50	1.27	.440
	Non-hospital	.30	.67	

df=18

TABLE 11

Hypothesis 3

Comparison Between Hospital and Non-hospital Boys in What They Say They Would Do in the Ambiguous-nonhostile Situation (Rated Considering Their Perception of the Situation)

Behavioral Categories Used in Scoring Ss' Responses	Group	$\bar{X}$	s	t
Friendly	Hospital	4.80	2.44	2.188 $p<.05$
	Non-hospital	6.80	1.55	
Assertive	Hospital	3.60	2.22	.688
	Non-hospital	3.00	1.63	
Hostile	Hospital	.50	.85	1.861
	Non-hospital	0.00	0.00	
Self-debasing	Hospital	1.10	1.52	1.800
	Non-hospital	.20	.42	

df=18

TABLE 12

Hypothesis 3

Comparison Between Hospital and Non-hospital Boys in What They Say They Would Do in the Ambiguous-hostile Situation (Rated Considering Their Perception of the Situation)

Behavioral Categories Used in Scoring Ss' Responses	Group	$\bar{X}$	s	t	
Friendly	Hospital	1.50	1.18	.231	
	Non-hospital	1.60	.70		
Assertive	Hospital	6.70	1.64	.283	
	Non-hospital	6.90	1.52		
Hostile	Hospital	.70	.95	2.333	$p<.05$
	Non-hospital	0.00	0.00		
Self-debasing	Hospital	1.10	1.45	.605	
	Non-hospital	1.50	1.51		

df-18

TABLE 13

Hypothesis 3

Comparison Between Hospital and Non-hospital Boys in What They Say They Would Do in the Unambiguous-hostile Situation (Rated Considering Their Perception of the Situation)

Behavioral Categories Used in Scoring Ss' Responses	Group	$\bar{X}$	s	t
Friendly	Hospital	1.70	1.42	1.754
	Non-hospital	.80	.79	
Assertive	Hospital	6.80	1.99	.345
	Non-hospital	6.50	1.90	
Hostile	Hospital	.80	1.55	.168
	Non-hospital	.70	1.06	
Self-debasing	Hospital	.70	.82	1.924
	Non-hospital	1.90	1.79	

df=18

It was found that when the subjects' perception of the cues was taken into account by the scorers, the hospitalized boys' responses were rated as appropriately friendly significantly less than those of the non-hospitalized boys for the ambiguous-nonhostile social cue.

It was also found that when the subjects' perception of

the cues was taken into account by the scorers, the hospitalized boys' responses were rated as inappropriately hostile significantly more than those of the non-hospitalized boys for the ambiguous-hostile social cue.

The data were examined more closely to see what changes were made by the scorers in scoring the subject's responses twice. Of particular interest was the difference in how the hospitalized subjects' responses were seen by the scorers in the two ratings for the ambiguous situations.

Separate analyses were done for each of the four behavior categories for each of the two ambiguous social cues and just for the hospitalized subjects. There were eight *t* tests done. Because the same subjects' scores were compared (scores on the first rating and scores on the re-rating), correlated *t* tests were used. A .05, two-tailed level of significance was used.

TABLE 14

Hypothesis 3

Comparison of Scores Given to the Hospitalized Boys On an Initial Rating of Their Responses and on a Re-rating that Took into Account Their Perception of the Ambiguous-nonhostile Situation

Behavioral Categories Used in Scoring Ss' Responses	Rating	$\bar{X}$	t	
Friendly	1	6.20	3.77	$p < .05$
	2	4.80		
Assertive	1	2.70	2.38	$p < .05$
	2	3.60		
Hostile	1	.80	.82	
	2	.50		
Self-debasing	1	.30	1.81	
	2	1.10		

df=18

TABLE 15

Hypothesis 3

Comparison of Scores Given to the Hospitalized Boys On an Initial Rating of Their Responses and on a Re-rating that Took into Account Their Perception of the Ambiguous-hostile Situation

Behavioral Categories Used in Scoring Ss' Responses	Rating	$\bar{X}$	t
Friendly	1	1.30	1.00
	2	1.50	
Assertive	1	6.20	1.46
	2	6.70	
Hostile	1	1.20	1.63
	2	.70	
Self-debasing	1	1.30	.80
	2	1.10	

df=18

It was found that when the subjects' perception of the cues was taken into account by the scorers, the hospitalized boys' responses were rated as appropriately friendly significantly less for the ambiguous-nonhostile situation.

It was also found that when the subjects' perception of

the cues was taken into account by the scorers, the hospitalized boys' responses were rated as appropriately assertive significantly more for the ambiguous-nonhostile situation.

There were no differences found in how the hospitalized subjects' responses were scored in the two ratings for the ambiguous-hostile social cue.

Hypothesis 3 is not accepted.

Hypothesis 4

The hospitalized boys give the other less latitude to respond in the ambiguous-nonhostile situation than the non-hospitalized boys.

The data for Hypothesis 4 were taken from Scorer's Rating 4. Rating 4 had the scorers rate how much latitude the other was given to respond as determined by what the subject said he would do in the situation.

There were four *t* tests done comparing the two groups--one for each of the four types of social cues. A .05, one-tailed level of significance was used.

TABLE 16

Hypothesis 4

Comparison Between Hospital and Non-hospital Boys in the Latitude for Responding They Give to Another

Type of cue	Group	$\bar{X}$	s	t	
Unambiguous-hostile	Hospital	23.50	1.29	.70	
	Non-hospital	23.15	.91		
Ambiguous-nonhostile	Hospital	19.50	2.58	1.970	$p<.05$
	Non-hospital	21.45	1.77		
Ambiguous-hostile	Hospital	15.45	4.52	1.197	
	Non-hospital	17.30	1.86		
Unambiguous-hostile	Hospital	16.60	4.15	.676	
	Non-hospital	15.50	3.05		

df=18

It was found that in the ambiguous-nonhostile situation the hospitalized boys gave the other significantly less latitude to respond than did the non-hospitalized boys. Hypothesis 4 is accepted.

Hypothesis 5

The hospitalized boys are less aware of the consequences of their action than the non-hospitalized boys for all types of social cues.

The data for Hypothesis 5 were taken from Scorer's Rating 5. Rating 5 had the scorers rate on a five point scale how aware the subjects were of the consequences of their actions as determined by how probable was the reaction they cited as the other's likely response.

There were four *t* tests done comparing the two subject groups--one for each of the four types of social cues. A .05, one-tailed level of significance was used.

TABLE 17

Hypothesis 5

Comparison Between Hospital and Non-hospital Boys in Awareness of Consequences

Type of cue	Group	$\bar{X}$	s	t
Unambiguous-nonhostile	Hospital	23.65	1.63	.396
	Non-hospital	23.40	1.15	
Ambiguous-nonhostile	Hospital	21.60	.88	.894
	Non-hospital	21.20	1.11	
Ambiguous-hostile	Hospital	18.55	1.64	.764
	Non-hospital	19.10	1.58	
Unambiguous-hostile	Hospital	19.40	2.56	.446
	Non-hospital	18.95	1.91	

df=18

It was found that the hospitalized boys were not significantly less aware of the consequences of their actions than the non-hospitalized boys. Hypothesis 5 is not accepted.

CHAPTER IV

DISCUSSION

The results of the study offer some support for both perceptual and response interpretations of the behavior difficulties shown by the hospitalized youths, and suggest that it is primarily in situations where cues as to others' intent are ambiguous that these youth have problems. In the unambiguous cue situation the hospitalized youths did not tend to differ from the non-problem controls.

A perceptual interpretation of the behavior difficulties shown by the hospitalized youths was suggested by their responses given to the ambiguous-nonhostile cue situations. The hospitalized subjects seemed to have difficulty in perceiving interpersonal cues accurately, as indicated by their perceiving more provocation in the ambiguous-nonhostile situations in comparison to the non-hospitalized controls. For example, in the ambiguous-nonhostile classroom scene in which the teacher responds to the student that he should be able to get the work if he just thinks about it, one hospitalized subject perceived the teacher "like he was trying to be mean." Another example is for the ambiguous-nonhostile bumping scene in which one boy says "excuse me." A hospitalized subject perceived this boy as "trying to make him (the other boy) fight." Their misperceptions are even more striking if it

is recalled that the raters of the tape segments saw the ambiguous-nonhostile social cues, when in disagreement with the researcher's conception, as unambiguously non-hostile. There was no doubt in their minds that the cues were nonhostile.

The perceptual differences between the two subject groups seemed to be responsible for some differences in behavioral characteristics between the two groups. Specifically, the actions the hospitalized youths said they would have taken were more frequently rated as inappropriately hostile than was the case for the non-hospitalized youths when the situation was nonhostile but ambiguous.

When the subjects' perception of the intent of the ambiguous-nonhostile cues was taken into account, some impact was made on how the hospitalized subjects' responses to the cues were then rated. The hospitalized subjects were no longer rated more frequently as responding with more inappropriately hostile cited actions in comparison to the non-hospitalized youths. However, the change in the number of inappropriate hostile scores from the initial rating of the hospitalized subjects' responses to the re-rating of their responses was not significant. Hence, although the hospitalized subjects were seen as responding with less inappropriately hostile cited actions when the subjects' perception of the ambiguous-nonhostile cues was taken into

account, the size of this effect was not great.

However, it should be noted that even with taking into account the hospitalized subjects' subjective perception of the nonhostile situation, they were still seen as responding differently from the non-hospitalized youths.

Specifically, the hospitalized youths were less often rated as appropriately friendly. Raush (1965) had found that hyperaggressive boys were less prone to rescue an interaction once it started to go downhill compared to normal boys. It is possible that the hospitalized boys were exhibiting a similar behavioral pattern. Even where they did not actively discourage an interaction from continuing, they may have been less prone to encourage an interaction continuing, since they were less often seen as acting in an appropriately friendly manner.

The data were more closely looked at to determine what changes were made in rating the hospitalized subjects' responses to the ambiguous-nonhostile cues initially and then rating their responses after the subjects' perception of the cue was taken into account. It was found that when their perception of the cue was taken into account, the hospitalized subjects said they would have taken actions that were less frequently rated as appropriately friendly and more frequently rated as appropriately assertive. Their responses to the nonhostile cue were seen, then, as more logical follow-throughs

of their perceptions. Because the hospitalized youths perceived provocation in the nonhostile situation, friendly behavior was seen as less appropriate and they were then scored less often as acting appropriately friendly. They were, however, seen more often on a re-rating as defending themselves against provocation by acting assertively.

Other aspects of the study suggest that even where the hospitalized youths perceive a situation similarly to the control youths, they are likely to respond differently. In contrast to the results for the ambiguous-nonhostile cues, for the ambiguous-hostile cues, what the hospitalized youths said they would do was more frequently rated as inappropriately hostile, even though they did not construe the situation differently. For example, in response to the teacher saying that the boy must really be stupid because he could not do the work, one hospitalized subjects' response was "I would have stand up and told him, if I'm so stupid why don't you tell me what to do. Then start cursing him. I wouldn't have hit him because he might know karate or kung-fu. But I could get a .38 (gun)." Even when the hospitalized subjects' subjective perception of the situations' intent was taken into account, the hospitalized subjects were still seen as responding with more inappropriately hostile actions than the control group. This was reasonable to expect. Because the hospitalized youths did

not misperceive the ambiguous-hostile situation, their cited actions were not seen from a new vantage point or from a different subjective perception. Because their cited actions were not viewed in a new light, the hospitalized subjects were still seen as responding with more inappropriate hostility. Hence it seems that in the ambiguous-hostile situation, it was faulty responding and not misperception that lead to inappropriate actions.

As an aside, the observation made about the candy-eating behavior of the subjects offers a further indication of responding difficulties for the hospitalized subjects. For participation in the experiment, all subjects were given a candy bar, and were told they could eat it at any time. The candy was absolutely non-contingent upon their performance in the experiment. None of the non-hospitalized boys (including those in the pilot study) ate the candy during the session--they all decided to save it for later. In contrast, three out of the ten hospitalized boys ate at least one candy bar. Indeed, one boy explicitly stated that he was going to save his second bar for after the session, and the gulped it down five minutes later. The hospitalized youths seemed to have more difficulty with delay of gratification. In this situation, they were not misperceiving but had difficulties with their responses.

At first glance, it may look like the determinants of

inappropriate behavior vary with the kind of cues the person encounters. When the cues were unambiguous, the hospital and control subjects did not differ either in how they construed the situation or in how they say they would have responded. When the situation presented was essentially a nonhostile one, but there was some ambiguity about it, the hospitalized youths saw the situation as more hostile, and responded differently. Where the situation was a hostile one, but with ambiguity, there was no difference between the groups in how they perceived the situation, but the hospitalized youths indicate a different way of reacting.

However, in looking at all the results, it seems that a combination of perception and response difficulties was in effect for the hospitalized youths. To begin with, differences between the groups were not apparent for the unambiguous social cues. Because the hospitalized youth are not out-of-touch with reality, as indicated by their nonpsychotic diagnoses and also by their similar knowledge compared to the non-hospitalized subjects of the consequences of their actions, they would be unlikely to misconstrue the unambiguous situations' intent. Consequently, they would be less likely to respond differently to the unambiguous social cues. Although the hospitalized youths seemed to have difficulty in responding, as was indicated by their being seen as responding with more inappropriately hostile actions for

all four cue situations, there was no significant difference between them and the control group on this dimension for the unambiguous situation. This is because for the unambiguous-nonhostile situation, the hospitalized subjects did not have enough inappropriately hostile scores to make them significantly different from the control group. For the unambiguous-hostile situation, the control group also was seen as responding with inappropriately hostile cited actions.

When the situations were ambiguous and nonhostile, the hospitalized youths misperceived them by perceiving provocation in them. Because of their ambiguity, it is easier to misperceive these situations. But more importantly these situations were misperceived in the direction of provocativeness. The hospitalized youth act as if they perceive their personalized phenomenological worlds as hostile and provocative. They then confirm their perception by creating and re-creating situations which fit into their phenomenological world. They seem to assume hostility in situations, and do not carefully scrutinize them. Hence, when the situations are ambiguous and nonhostile, the hospitalized youths tend to presume hostility and then fail to discriminate the situation sufficiently; they misperceive the situations in line with their expectations of a hostile world.

Also, for the ambiguous-nonhostile social cue, the hospitalized subjects were seen as responding more frequently with inappropriate hostile actions than the control group. Although the hospitalized youths' misperception of the nonhostile cue in the direction of provocativeness may have accounted for some of their stated inappropriate actions, it seems that there is also a response component here contributing to their behavior difficulties. For instance, it was found that when the subjects' perception of the cue was taken into account, the hospitalized subjects were no longer being seen as responding more frequently with inappropriately hostile cited actions. However, the drop in the frequency of inappropriately hostile scores between the initial rating and the re-rating was not significant.

With the ambiguous-hostile situations, the hospitalized youths did not misperceive the situations but were seen as responding differently--with more inappropriately hostile actions--than the control gorup. It is conceivable that only because the hospitalized youths presume hostility in situations, they did not misperceive the ambiguous-hostile cues. They may have correctly categorized the ambiguous-hostile situations as hostile but not through a careful

assessment of the situation. Because the hospitalized youths may assume a priori that when something is ambiguous it is also hostile, they were just fortuitous in assessing the ambiguous-hostile situation accurately. Indeed, there was some suggestion that the hospitalized subjects were misperceiving the ambiguous-hostile situations in the direction of provocativeness also. Specifically, the hospitalized youths perceived more provocation in the ambiguous-hostile situations than the control group at a .10 level of significance.

There also seemed to be a response component contributing to the behavior difficulties shown by the hospitalized youths in the ambiguous-hostile situations. The hospitalized youths were seen as responding more frequently with inappropriately hostile cited actions than the non-hospitalized group both before and after their perceptions of the situation were taken into account. This tendency to respond with hostility in situations may be due to social learning. For example, Goldberg and Wilensky (1976) found that aggressive parental role models were the primary source for aggression in the children in their study. Redl and Wineman (1952) found that the youth they worked with seemed unable to tolerate frustration or delay of gratification. Without being able to delay behavior these boys were unable to develop response alternatives.

The original issue of concern in this study was whether inappropriate behaviors resulted from misperceptions of social cues. There was research evidence to suggest that youth like the ones under study here responded less effectively on intellectual tasks because of a cognitive orientation that precluded careful assessments of the stimuli presented to them (Spivack and Levine, 1963; Glueck and Glueck, 1950). Instead of looking at responses to paper and pencil tasks, the present study looked at responses to taped social cues. In keeping with what was found in the studies cited above, the hospitalized subjects here seemed to deal less effectively with some social situations because they did not assess the situation well enough. The results of the study clearly point to misperceptions of some social cues leading to inappropriate behavior. Problems with response inhibition or with inappropriate types of responding--inappropriate even given how they perceived the situation--also were suggested, however. Thus, the point of view of writers such as Aichorn (1935) and Redl and Wineman (1953) also seems viable.

A complex conception of how these youths' inappropriate behavior is generated seems required. By misreading nonhostile and probably hostile cues as more provocative and also by allowing the other fewer options to respond, the hospitalized youths may inhibit or stifle potentially positive

interactions from developing. Also by reacting with excessive hostility to actually hostile situations and probably nonhostile situations even when perceived accurately, the hospitalized group may invite strong retaliatory actions. They may thus create and recreate a self-fulfilling prophecy. Hostility is expected and so one acts defensively (i.e., aggressively), which produces the expected hostility, confirming the initial expectation.

It must be noted that even where significant, the differences observed were small. The difference between groups in the inappropriate-hostile category was limited, for example, by the relative lack of such responses even by the hospitalized subjects. Several factors inherent in the structure of the experiment may have depressed response differences. First, the structure of the study demanded that the boys respond verbally to a series of questions. Because a verbal mode of responding requires some delay of action and also because by the very nature of the specific questions asked the boys were asked to give thought to their responses, a more careful assessment of the social cues may have been encouraged. This may not make any difference for the boy who carefully assesses situations anyway. But it may have aided the impulsive boy in making better assessments. Perceptual differences between the groups may have been somewhat inhibited by this aspect of the experiment.

Second, the tone and context of the sessions may have inhibited response differences between the groups in what they say they would have done in the situations presented. The tone and context of the sessions themselves were unambiguously nonhostile. The boys were treated with respect, they were supplied with candy and they got to miss a class--all thing they seemed to relish. All of the boys responded appropriately to the nonhostile atmosphere. However, there was some evidence that the hospitalized boys were actively censoring and trying to control some impulses. For example, several boys attempted to change "curse" words into supposedly more non-offensive expressions. Outside the confines of the experiment, in situations in which the general context is less clearly nonhostile, the hospitalized boys may respond with even more inappropriate actions.

However, although the absolute number of inappropriately hostile scores was limited, the response category differentiated hospital youths from non-hospital youths. Not one of the non-hospitalized youths got an inappropriately hostile score for their responses given to either of the ambiguous cue situations. It can be said with some assurance that if a youth is given an inappropriately hostile score for a response given to an ambiguous cue, then he is from the hospital group.

Another issue of concern is in interpretating the

significance of results derived from doing a series of t tests. A .05 level of acceptance was used, and consequently, it is expected that one out of twenty t tests will be significant by chance. For both Hppothesis 1 and Hypothesis 3, sixteen t tests were done and for each hypothesis, there were two t tests that reached significance. Two out of sixteen t tests being significant is greater than the expected number.

Several unforseen factors, some inherent in the research design, and some practical problems as well, place limitations on generalizing the results of the study. First, the problems in doing the specific study and suggestions for needed modifications will be discussed. Then, questions for future research will be raised.

To begin with, further work is needed on the details of the tape segments. It is now apparent that the original intent of producing segments which varied reliably in the ambiguity of the hostile or nonhostile social cues was only partially achieved. In some instances segments intended to vary in ambiguity seemed, on later reflection, to vary instead in degree of hostility rather than ambiguity of hostility. For example, in the television watching scene, one boy calling the program "stupid" that the other boy was watching, in comparison to calling the other boy "stupid", seems to be a difference in the degree of hostility and

not necessarily in ambiguity; both are clearly hostile, though one may be viewed as more hostile. Though this problem does not seem to alter the interpretation of the specific results (the hospitalized boys had more difficulty in perceiving cues accurately that were not outrightly stated, whether because they were ambiguous or moderate), it leaves doubt as to what was the stimulus component that caused the difference between the groups. The original plan envisaged several revisions of the tape until a thoroughly satisfactory set of segments was obtained. Unfortunately, the needed flexibility to use the audio-visual equipment and technicians became unavailable. The tape used was the best that could be produced under the circumstances.

Another problem with the tape segments was whether the designation of categories, i.e., unambiguous-nonhostile, ambiguous-nonhostile, ambiguous-hostile, and unambiguous-hostile, was meaningful. It was noted above that the raters did not disagree with the researchers' conception of the unambiguous situations. These categories seemed well-delineated. However, there was disagreement among the raters with the categorization of some of the ambiguous situations. Of importance here is the effect of the disagreements on the main results found in the study. The main finding for the ambiguous-nonhostile social cues was

that the hospitalized youths had more inappropriately hostile scores than the non-hospitalized youths. The responses of the subjects were compared in a new analysis that eliminated the tape segments of the ambiguous-nonhostile cue that had rater disagreements. It was found that the hospitalized subjects were seen as less frequently responding with appropriately friendly actions in comparison to the non-hospitalized subjects (t=2.3, df-18). (In the analysis using all the tape segments, the difference between the two groups in the frequency of appropriately friendly scores seemed to be approaching significance.) It was also found that the hospitalized subjects showed a tendency toward more frequently responding with inappropriately hostile actions at a .10 level of significance (t=1.85, df-18). In a similar vein, the subjects' responses to the ambiguous-hostile tape segments were compared in a new analysis that eliminated segments where there was rater disagreement. It was found that although the hospitalized subjects were still seen as more frequently responding with inappropriately hostile actions, the difference between the groups was not significant (t=1.5, df=18). No other significant differences between the two groups were found. By eliminating disputed tape segments, the new results found seem to be in the same general direction as those found with using all the tape segments for the cues.

Scorer reliability was not a problem. The reliability between the scorers was high enough to make meaningful interpretations of the results. It is, however, possible to raise question about the validity of the scorers' ratings on the subjects' responses because of the probable dissimilar frames of reference of scorers and subjects. The scorers were white, middle-class, and female; the subjects were black, lower-class, and male. It is indeed possible that what the scorers labeled "inappropriate" behavior, for example, is sanctioned by the boys' sub-culture. One specific attempt addressed to this issue was the instructions for scoring the "inappropriate hostile" category. The scorers were explicitly instructed not to score aggression per se into this category but aggression in excess. Of course, though, the scorers' definition of "in excess" may vary somewhat from that of the boys' culture. However, since all the boys are more or less from the same subculture, the found differences between the groups should not have been adversely affected by this possible culture bias. The problem lies in applying the labels used in the study, for example "inappropriate", to behavior outside of the study. The use of scorers more similar to the subjects might provide an interesting perspective.

Lastly, one might raise questions about the behavior checklist for impulsive behavior which was used in the study.

As described above, the hospitalized and non-hospitalized boys were differentiated according to their social histories and the checklist. (The social histories clearly differentiated the two groups). Initially, the checklist was included to provide a more objective measure than the boys' records. The checklist was given to both the private school teachers for them to rate their pupils, and to the hospital school teachers for them to rate their pupils. Although there was a significant difference in rated impulsivity between the hospitalized boys and the control group, the ratings may be questioned because of possible response biases of the two groups of teachers. For example, it is possible that in the ratings done by the hospital school teachers, a "negative halo" effect was operating. The teachers may have altered their recollections of a boy because they knew he had previously gotten into trouble. The ratings would have then been an overestimation of the boys' impulsivity. However, other considerations suggest that the opposite might actually have occurred. Since the hospital school teachers see serious behavior problems more often than their private school counterparts, they may have become blase about behaviors that would be deemed serious in the private school. Consequently, the hospital school teachers may have had a response set that underestimated the impulsiveness of a behavior, whereas the

private school teachers may have overestimated the impulsivity of an act; thus the difference between the groups would be diminished. In order to use a checklist, it would be more desirable that both groups of teachers would rate all subjects and not just one group of subjects. Practical considerations precluded doing so in the present study.

As mentioned above, Saunders et al (1973) criticized the use of "impulsivity" as a trait that even characterizes delinquents. The criticism seems pertinent to much of the literature, where the term impulsivity is overused and too broadly defined. However, when specifically defined, as in the present study, the term seems useful. Two meaningful and well-delineated subject groups seemed to be obtained which differed on impulsivity, as determined by their social histories and a behavioral checklist. Perhaps for future research, the term "impulsivity" must be more carefully defined and made more narrow in scope.

The present research has much heuristic value. It clearly points to differences between a group of boys hospitalized for behavior problems and a control group in their responses given to taped social cues. The results of the study provide some support for both perceptual and response interpretations for the difficulties shown by the hospitalized youths. Future research is needed to make these findings more definitive. It is important to know

whether the hospitalized boys have both difficulty in perceiving the cues accurately and in responding to the cues effectively in order to better plan treatment programs. One can better proceed if one knows a source of difficulty. Future research can then determine whether it makes sense to teach the youth under study here different perceptual and/or response styles. Also, a major methodological problem was in knowing what was the stimulus quality that roduced the differences in responses between the two subject groups. It was clear that the hospitalized subjects were seen as responding differently--rated as more inappropriately hostile--to the ambiguous social cues. It is unclear, however, whether the stimulus quality that produced these results was indeed ambiguity or was the degree of hostility. Further research may be able to pinpoint the exact stimulus quality that produced the differences found between the two subject groups. It is also recommended that observational studies be used in some of the future research. It would be especially useful to observe what these youth actually do and not just what they say they would do, as was the case in the present study.

The initial impetus of the study was to gain some insight into the hospitalized youths' behavioral problems so as to be able to plan some effective treatment programs. A broad array of factors have been associated with dissocial youth, and hence, a multiplicity of treatment

approaches seems the most promising to try. Because some hospitalized youths were sometimes seen as misperceiving social cues, a treatment plan that teaches them to process stimuli more accurately seems worth considering. Dissocial youths can be initially screened to determine if inaccurate stimulus-processing is a problem for them. Then, the paradigm developed by Meichenbaum and Goodman (1971) in working with cognitively impulsive children may be useful to apply. As described above, impulsive children were trained to use self-instructions, by learning how to talk to themselves while doing cognitive tasks. Following their self-instruction, the number of errors the impulsive children made decreased. In later studies, Meichenbaum and Cameron (1973, 1974) found that training in self-instructions helped clinical populations with some of their diverse problems. The training consisted of an experimenter modeling cognitive procedures which included (1) questions about the nature of the task, (2) answers to these questions in the form of cognitive rehearsal and planning, (3) self-instruction in the form of self-guidance, and (4) self-reinforcement. After the modeling, the subjects attempted to do tasks by imitating the experimenter's cognitive procedures by first talking outloud, and then by talking to themselves. Client populations that were helped by this training procedure in confronting some of their specific problems were hospitalized

schizophrenics, test anxious college students, uncreative students, and snake phobic students. Although this training procedure was not tried with delinquent youth, it seems that it may be applicable to them as well.

In another study (Siegel, Babich, and Kerasic, 1974), it was found that cognitively impulsive children had less adequate strategies for perceiving visual stimuli. As pictures became more similar to a standard, the number of errors made by the impulsive children increased.

A behavioral rehearsal paradigm may be able to incorporate the findings of both these studies into a viable treatment plan. In brief, behavioral rehearsal affords an opportunity to act out problems (perhaps the preferred mode of responding--action--for these youth) or to rehearse everyday situations within a supervised setting. As applied here, pairs of social situations can be presented to the youth in a hierarchical fashion with increasing similarity between the pairs. A model can first demonstrate the cognitive procedures necessary to make an accurate discrimination between the social cues. The subjects can then practice the self-instructing procedures by first talking out-loud and then by talking to themselves.

The hospitalized boys were also seen as sometimes responding inappropriately regardless of their perception of the situation. By using the behavioral rehearsal

paradigm, inappropriate responses can be modified also. After learning to make accurate discriminations between the cues, the boys can later on be required to make appropriate responses to their perceptions as well. For example, they can learn to respond assertively rather than with overdone hostility.

In conclusion, although many different treatment programs have been tried and have failed in working with dissocial youths, it seems to make sense, because of the findings of this study, to explicitly teach some dissocial youths cognitive procedures to enable them to make more accurate assessments of social cues.

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