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Use of The Analysis of Variance Model for Investigating Disposition Decisions of Judges and Probation Officers

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Use of The Analysis of Variance Model for Investigating Disposition Decisions of Judges and Probation Officers

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Running Head: Analysis of Variance

Abstract

The Analysis of Variance model was used to investigate differential disposition decisions from least restrictive to most restrictive court placement based on juvenile and family characteristics. Eight Juvenile and County Court Judges in Experiment I and 20 State Juvenile Probation Officers in Experiment II judged six behavioral-emotional signs in various combinations of presence or absence. The results were consistant with previous findings that a linear model more than adequately accounts for the variability of the subjects responses. The high interjudge agreement correlations and test-retest reliability estimates strongly suggest that Judges and Probation Officers can render reliable and consistant judgments, and utilize information in similar ways. Implications for professionals working with the court system are discussed as well as future research directions.

Use of The Analysis of Variance Model for Investigating Disposition Decisions of Judges and Probation Officers

The juvenile court experiment began in 1899 (Ryerson, 1978). Shortly thereafter, William Healy, a psychiatrist, was asked to establish a child guidance clinic to assist the juvenile court in making decisions about juveniles (Mennel, 1973). Other social scientists, psychologists, sociologists, and social-workers began to study the problems and solutions to juvenile delinquency (Aichorn, 1935; Burleigh & Harris, 1923; Cooley, 1927; Glueck & Glueck, 1930, 1934a, 1934b, 1950; Hall, 1904, 1906; Puffer, 1912; Rogers, 1939; Shaw, 1929, 1930; Shaw & McKay, 1931; Thomas, 1967; Thrasher, 1927; Van Walters, 1923; see generally, Ryerson, 1978).

The position taken by the juvenile court has been one of guidance, structure, and treatment of the so called "wayward" youth. Ideally, its mission is benevolent and not punitive (Empey, 1979; Faust & Brantingham, 1974, 1979; Fox, 1970; Platt, 1977; Ryerson, 1978; Schlossman, 1977), with an emphasis on rehabilitation (Healy, 1915; Lou, 1927; Levine & Levine, 1970; Mennel, 1973; Ryerson, 1978; Schlosman, 1977; Platt, 1977). Each juvenile upon entering the juvenile

justice system progresses through a series of hearings and evaluations, i.e.,prearraignment evaluation; arraignment; disposition. The primary function of a disposition is to develop a treatment plan which would be tailored to the juvenile's specific needs (Mennel, 1973; Ryerson, 1978; Schlossman, 1977). For the juvenile court to accomplish its mission, other professionals must help the court with defining the problem, developing and implementing the plan, and selecting alternatives.

The traditional philosophy of the juvenile justice system has been to protect juveniles from the penalties associated with adult courts even though juveniles do not have complete claim to due process as usually afforded adult defendants (Ryerson, 1978). It has been argued that due process would impede the court's attempts to obtain treatment for juveniles (Ryerson, 1978). In this regard, from its earliest days, the juvenile court has been acting as a social welfare agency (Levine & Levine, 1970).

During the 1960s, serious dissatisfaction with the juvenile justice system developed (Allen, 1964; Antineau, 1961; Arnold, 1957; Beensterboer, 1960; Caldwell, 1961; Comment, 1966; Glueck, 1964; Handler, 1965; Lemert, 1967a; 1967b; Rosenheim, 1962; Yablonsky, 1967). Children were not only

denied critical elements of due process, but also failed to receive effective treatment (Tomkins, 1984). This state-of-affairs lead to major Supreme Court rulings.

From 1966 to 1984, several Supreme Court rulings resulted in basic constitutional protections for juveniles (Tomkins, 1984). Kent v. United States (1966), In re Gault (1967), In re Winship (1970), Ivan V. v. City of New York (1972), and Breed v. Jones (1975) provided constitutional protections for juveniles in transfer and adjudication hearings. In re Gault (1967) provided guarantees under the Bill of Rights to juveniles. The Supreme Court demanded that juvenile court proceedings "measure up to the essentials of due process and fair treatment" (Kent v. United States, 1966, p. 562), even though juveniles might not be fully protected under the constitution (McKeiver v. Pennsylvania, 1971; Schall v. Martin, 1984). In sum, the proceedings followed by the juvenile justice system must comply or "be compatible with the 'fundamental fairness' demanded by the Due Process Clause" of the 14th Amendment (Shall v. Martin, 1984, p. 4685).

Even with these important constitutional protections, a hallmark of the juvenile justice system is the discretionary nature of its decisions (Addams, 1925; Flicker, 1979; Glasser, 1979; Platt, 1977). Currently, discretion in decision-

making exists at all levels of the juvenile justice system (Barton, 1976; Davis, 1984; Flicker, 1979; Grisso & Conlin, 1984; Hufnagel & Davidson, 1974; Palmer & Lewis, 1980; Smith, Black, & Cambell, 1979, 1980; Smith, Black, & Weir, 1980). Along with the discretionary nature of its decisions, the juvenile justice system has focused on the offender rather than on the offense (Ryerson, 1978; Schlossman, 1977). That is, various personal and historical characteristics of the juvenile have become central in the judgmental or decisionmaking process (Tomkins, 1984). Various social and behavioral variables, academic performance, and family conditions are among the more important judgmental considerations. Most states require that the decisionmaker consider such characteristics when making decisions (Tomkins, 1983).

It might be expected that individual and family characteristics should add unique contributions to the variance in discretionary decisions in the juvenile justice system. Yet, according to Tomkins (1984), numerous studies have failed to demonstrate any relationship between offender characteristics and disposition decision (see generally Arnold, 1971; Baily & Peterson, 1981; Barton, 1976; Carter, 1979, 1980; Scarpetti & Stephenson, 1971; Terry, 1967; Thomas & Gage, 1977; Thornberry, 1973). However, Tomkins(1984)

points out that many of these investigations may have been insensitive or incorrect as to which offense/offender variables are best associated with disposition outcome. It is possible that the "forced-choice" types of decision dimensions used in disposition research are inadequate response measures.

Studies investigating the effects of demographic variables and disposition outcome have achieved mixed results. While no direct relationship with race has been found on dispositions in many studies (Bailey & Peterson, 1981; Carter, 1979; Cohen & Kluegel, 1978; Ferdinand & Lucherhand,1970; Horwitz & Wasserman, 1980; Mann, 1980; Phillips & Dinitz, 1982; Terry, 1967b), other studies have shown that minorities are more likely to receive harsher dispositions than non-minorities (Arnold, 1971; Cohn, 1963; Liska & Tausig, 1977; Thomas & Cage, 1977; Thornberry, 1963, 1979; Wolfgang, Feglio, & Sellin, 1972). In at least one instance, bias against white juveniles was noted (Feister & Courtless, 1972). Similarly, Cohn (1963) showed that probation officers were more likely to refer white juveniles for psychiatric examinations than non-whites. Horwitz & Wasserman, (1980) and Scarpitti & Stephenson, (1971) suggest that the influence of race is indirect, in that members

of minority groups are more likely to experience community problems, and be placed on probation for this reason. In addition, Scarpitti & Stephenson (1971) concluded that juvenile court judges sort cases according to "delinquency risk", primarily based on personal history and a variety of socio-economic conditions.

Contradictory results also have been reported between socio-economic status and disposition decisions. No relationship was reported by Arnold (1971), Bailey and Peterson (1981), Cohen and Kluegel (1978), Emerson (1969), Ferdinand and Luchterhand (1970), Horwitz and Wasserman (1980), while other investigations have found that lower-status and/or minority youths receive harsher dispositions than higher-status and white youths (Arnold, 1972; Cohn, 1963; Liska & Tausig, 1977; Thomas & Cage, 1977; Thornberry, 1973, 1979). Furthermore, major methodological problems among studies investigating race and socio-economic status have been noted. Many of these studies were shown to possess inadequate independent measures, lack proper controls, and make use of inappropriate statistical techniques (Hagan, 1974; Hirschi, 1975; Wellford, 1975).

Similarly, sex of juvenile has resulted in mixed findings. While Chused (1973) and Thomas & Cage (1977) reported that

females received more severe dispositions, Cohn (1963) found males received more severe dispositions. Still others found no sex effect (Bailey & Peterson, 1981; Carter, 1979; Horwitz & Wasserman, 1980; Phillips & Dinitz, 1982).

Results pertaining to age of the offender have achieved similar results. Carter (1979) found that older juveniles received more severe dispositions, while Bortner (1982) found younger juveniles were the ones to receive more severe dispositions.

In sum, no investigation has demonstrated a clear relationship between race, sex, age, or socio-economic status and type of disposition ordered.

As a result of the above-cited problems with the disposition decision literature, Grisso (1980, 1984) and Grisso, Tomkins, & Casey (1984) began to study juvenile court professionals' notions of the characteristics of juveniles that provide essential information for making various legal decisions. Grisso and his colleagues began by conducting semi-structured interviews with about 80 juvenile court professionals in 10 juvenile courts in different states. These professionals included judges, prosecutors, public defenders, intake and probation officers, and mental health professionals working full-time in juvenile courts. In the

interviews, the professionals were asked to describe the types of information about juveniles that were needed to make each of three types of decisions, i.e., adjudication, transfer, disposition.

The differences in language use among court workers produced nearly 1000 different words and phrases to describe juveniles and their families. Grisso and his colleagues then used frequency counts, and combined very similar words and phrases to reduce the list down to just under 100 descriptive terms. The majority of these terms referred to the juveniles' traits, behaviors, emotions, attitudes, as well as terms with which to describe the juveniles' family. Grisso also collected descriptive words and phrases from a comprehensive search of law review articles, social science studies, and appellate court opinions in all decision areas, but found that the prior interviews had provided all of the descriptors appearing in the literature and more.

The investigators then proceeded to reduce the 100 or so descriptive dimensions into representative information about juveniles and families that juvenile court professionals seemed to want to have, when making decisions in court cases. This final stage culminated in the National Case Survey of Juvenile Courts, a research project funded

by the National Institute of Mental Health. It involved over 1400 judges, lawyers, probation officers, and mental health professionals in about 130 juvenile courts nationally. Through the survey, they arrived empirically at nine character dimensions most useful as descriptors by juvenile court professionals to distinguish between juveniles. Each of the dimensions is formed by clusters of variables. The nine character dimensions appear to be an optimal domain of information needed by legal decisionmakers. Figure 1 lists the nine factors and their corresponding factor loadings.

Insert Figure 1 about here

There is considerable importance attached to the identification of a set of characteristics of juveniles and their families that are conceptually relevant for decisions related to legal standards at an applied level. However, equally as important is the question of whether or not these characteristics are indeed empirically related to judgments being made in juvenile court. Lamiell (1979, p. 81) identifies two central questions of interest to the social judgment theorist: "(1) How does the decisionmaker

use available cues in arriving at his/her judgment about an event? (2) How is the information which is available to the decisionmaker empirically related to the event about which judgments are being made?

In 1979, Lamiell responded to the lack of a general research strategy in juvenile justice decisionmaking research. Lamiell (1979, p. 92) suggested that it is possible that the negligible impact of discretion research to date is partly due to the imposition of normative research methodology onto a phenomenon which is --by definition-- nonnormative." Traditional research approaches have provided little insight into individual or group decisionmaking behavior. Lamiell argued that social judgment theory would allow an idiographic, as well as a nomothetic understanding of discretionary decisionmaking.

The analysis of variance (ANOVA) model of studying judgment analyzes the individual judgments of the decisionmaker, and permits evaluation of subject similarity. This model addresses Lamiell's methodological concern as well as providing insight into the first of his two questions. The use of the ANOVA model is new to the study of juvenile justice decisionmaking, but not new to the study of judgment.

Hoffman, Slovic, and Rorer (1968) demonstrated the use

of an ANOVA model in studying clinical judgment: "If judgment stimuli (cues) are regarded as categorical treatment factors rather than continuous random variables, and if the judgments made to the cues are considered as dependent variables, then the elegant inferential and descriptive capabilities of the ANOVA technique can be applied to the study of judgment. The application is simple and direct: one prepares multi-dimensional judgmental analysis stimuli by constructing all possible combinations (patterns) of the cue levels in a completely crossed factorial design. Such a set of patterns is of necessity orthogonal in the cue dimension" (p. 340).

The ANOVA model has been used to analyze judgments with radiologists (Hoffman, Slovic, & Rorer, 1968), and with clinical psychologists (Millimet & Greenberg, 1973). Although most researchers examining disposition decisions have used multiple regression techniques, Goldberg (1968) points out that the fixed-effects model analysis of variance and multiple regression techniques are alternative formations of the general linear model. With some reformations, and attention to some restrictions, the analysis of variance technique can be used to study the judgment process.

The limitations or restrictions on the use of the ANOVA

model in judgment research are: (a) the cues must be treated as categorical rather than continuous variables; and (b) the cues must be orthogonal. When considering the stimulus cues (juvenile dimensions) formulated by Grisso et al. (1984), the cues can be considered categorical and orthogonal. However, the nine factor dimensions would result in a prohibitively large number of treatment combinations. Fortunately, Grisso (1985) found that four pairs of the nine factors indicated in Figure 1, had sufficiently high intercorrelations (>.30) to warrant their combination: (1) Degree of motivation to accept intervention & Degree of behavioral compliance [Factors 1 & 8 (-.35)]; (2) Degree of motivation to accept intervention & Participation in school or work settings [Factors 1 & 9 (-.34)]; (3) Family's caring and resource capability & Family's socialization [Factors 5 & 7 (-.38)]; (4) Degree of behavioral compliance & Participation in school or work settings [Factors 8 & 9 (.32)].

Because of the intercorrelations, it is possible to collapse factors 5 & 7, and 1 & 8. Combining eight of the nine factors intuitively and creating a new set of factors appears to be the most realistic approach to the judgmental process. The new factors are listed in Figure 2.

Insert Figure 2 about here

Every attempt should be made to select the highest loading variables in composing the stimulus configurations. However, several high loading variables may be eliminated because they may be sufficiently implausible and might cast doubt upon the meaningfulness of the case vignette to be used in the present study. Similarly, Hoffman et al. (1968) eliminated several variables in their investigation for very much the same reason.

The procedure to be used in these experiments is the same as outlined by Millimet & Greenberg (1973). A group of subjects is given a set of all possible combinations of cues (judgmental stimuli) varying only in terms of their presence or absence. Each subject is required to render a judgment along a designated disposition dimension for each configuration of cues. Twenty-four of the 64 case vignettes containing the cue configurations are repeated so that a second judgment may be made. When the judgment task is completed, intrajudge correlations (stability of judgment- that is, test-retest reliability) and interjudge correlations (agreement of judgment- that is, interrater reliability)

are determined for the group of subjects. A separate ANOVA is then performed on each subjects' ratings (where each rating represents a numerical value along the disposition dimension), and the significant main effects and interaction effects are noted. A significant main effect implies that a subject's responses to that judgmental cue varied systematically with the presence or absence of that cue. A statistically significant interaction implies that the subject was responding to particular patterns of cue configurations.

It is important to recognize that statistically significant effects (main or interaction) do not necessarily account for a large portion of the total variance of the subjects' ratings. An estimate of the importance that the subject places on a cue or cue configuration, relative to other cues or cue configurations is determined by the omega-square (ω^2) index of association, or an estimate of the magnitude of treatment effects (Kirk, 1982).

A factor analysis of the interjudge correlations permits the identification of subjects who are using similar judgmental strategies. A re-examination of the omega-square values associated with the cluster of subjects defining each factor may then provide some understanding

of the differences in cue utilization (juvenile dimension preference) indictative of the subject sample.

The ANOVA model is used not for the sole purpose of calculating tests of significance, but rather because of its potential for describing both linear and nonlinear aspects of the judgment process (Hoffman et al., 1969). Test-retest calculations are not used only for the purposes of investigating judgmental consistancy, but to allow for an estimate of within-cell error for the F-tests. The ANOVA structural model is best discribed as an efficient procedure which permits the researcher to maximize the amount of information gathered from a small number of subjects.

In the two experiments which follow, an ANOVA structural model is applied to a problem of juvenile disposition decisions. A set of six juvenile characteristics will be employed in both experiments. All participating subjects in Experiment 1 are either juvenile court or county court judges from various counties in Nebraska. In Experiment 2, all subjects are state probation officers from Douglas County, Nebraska.

Experiment 1

Method

Subjects. Eight Judges specifically chosen by the Chief Justice of The Nebraska Supreme Court participated in this study: two Juvenile Court Judges (subjects 1 and 2) and six County Court Judges who have juvenile responsibilities (subjects 3-8). All participants had several years of experience in their current positions (range= 5½ years to 21 years). With the exception of one subject, all exceeded 10 years on the bench. Percent of juvenile cases seen per year ranged from 15% to 100%. The actual number of cases seen per year ranged from 61 to 500. The subject sample reflected a geographic mix from the state, with some tendency toward better representation from more populated areas.

Materials and Procedure. The six juvenile dimensions believed to be associated with disposition decisions were considered in this study. The presence or absence of the six dimensions completed a 2x2x2x2x2x2 factorial arrangement and resulted in 64 combinations (cue configurations) which were presented in a random sequence to each subject. Hypothetical case vignettes were prepared which included the presence or absence of a particular dimension.

Each subject was required to make one judgment per vignette on a rating scale at the bottom of the vignette, ranging from 1 (no intervention required, go home and work it out) to 10 (child placed outside the home to a secure facility). All subjects were permitted to complete the task at their leisure and were given the latitude to use whatever resources or strategies necessary to render a satisfactory judgment. After the subject completed the packet of 88 judgments, he/she mailed it to the researcher. Figure 3 contains a sample vignette.

Insert Figure 3 about here

Results

Table 1 shows the means, standard deviations, intrajudge (test-retest reliabilities), and interjudge correlations (interrater reliabilities) for the judgments of the eight subjects.

Insert Table 1 about here

The test-retest reliabilities ranged from .78 to .91, with an average coefficient of .86. Twenty-two of the 28 interjudge coefficients were .50 or more, while only one coefficient fell below .40. The interrater correlations indicate that satisfactory judgmental agreement was established among the subjects. In other words, the coefficients obtained indicate that the subjects viewed the informational cues in much the same way.

A separate ANOVA was performed on each subject's judgments to determine differences in cue utilization. The 64 cue configurations reduced to six main effects (representing the separate judgmental dimensions) and 57 interaction effects (representing two or more judgmental dimensions in combination). The results of the F-tests are presented in Table 2.

Insert Table 2 about here

A frequency count of the number of statistically significant effects ($p<.05$) is presented in Table 3. These data strongly indicate that the largest amount of variation was accounted for by the six judgmental factors. Two subjects were characterized by the presence of all

six significant main effects, two subjects by five significant main effects, three subjects by four significant main effects, and one subject by two main effects. Only the judgments of Subject 3 were characterized by a relatively high number of significant interactional effects (26 out of a possible 57). It should be noted that one would expect three interaction effects to be significant by chance alone.

Insert Table 3 about here

Table 4 shows the six judgmental factors and their combinations that were statistically significant ($p<.05$) for two or more subjects. All eight subjects made use of the Family Life and Mental Disability factors in their judgments. The factors of Motivation and Prior Contact were used by seven subjects. The factors of Delinquent Peer Influence and Strength of Character were used by four and three subjects, respectively.

Insert Table 4 about here

Interestingly, Mental Disability appears as one of the variables in all but one interaction effect.

Table 5 shows the omega-square values ($\omega^2 \geq .05$) for the six main effects and sum of all interaction effects for each subject.

Insert Table 5 about here

The variation associated with the main effects of the six factors accounted for most of the total variation in the judgments. Even though Subject 3 was characterized by a moderate number of significant interaction effects, none of the interaction effects accounted for a mentionable omega-square value. It is clear that the main effects of Mental Disability and Family Life accounted for much of the total judgmental variation.

In order to determine the nature of the differences among the eight subjects, a factor analysis of the interjudge correlations noted in Table 1 was performed. A principal-components analysis (Jennrich & Sampson, 1966) with varimax rotation to simple structure resulted in two factors. The results of the analysis are shown in Table 6.

Insert Table 6 about here

Factor I is marked most closely by the judgments of Subject 8; Factor II is marked by the judgments of Subject 2. It should be noted that six out of the eight subjects are characterized by significant loadings on both factors.

Table 7 shows the three primary groupings of subjects defined by the factor analysis and the omega-square values reflecting the importance each subject placed on the six individual factors.

Insert Table 7 about here

Factor I. As Subject 2 was the only subject in the sample to load exclusively on Factor II and not on Factor I, it appears that Factor I is best defined in terms of the importance placed on the dimensions other than those which are distinctive of Subject 2. Therefore, the meaning of Factor I is a composite of the factors of Motivation, Prior Contact, and Delinquent Peer Influence.

Factor II. Because Subject 8 was the only subject who failed to exhibit a significant loading on Factor II, and

the only subject with an omega-square value less than .05 for the main effect of Mental Disability, it would appear that Factor II is best defined by the importance assigned to Mental Disability.

All subjects exhibited significant omega-square values on the variable of Family Life. Consequently, Family Life becomes a factor, one that is universally used by all the subjects in their judgmental strategy. Similarly, with one minor exception, the variable of Strength of Character, was virtually not used.

Experiment 2

Method

Subjects. Twenty Nebraska State Juvenile Probation Officers participated in this study. All officers were functionally attached to the Separate Juvenile Court of Douglas County, Nebraska, which includes the greater Omaha metroplitian area. Unlike the judges in Experiment 1, these subjects work in the same geographic area, and share an administrative structure. As probation officers, these subjects only supervise juvenile cases, and supervise an average of 125 cases per year each. The length of employment of these subjects ranged from 2 months to 15 years.

Materials and Procedure. The six juvenile dimensions

used in Experiment 1, and believed to be associated with disposition decisions, were considered in this study. The presence or absence of the six dimensions completed the 2x2x2x2x2 factorial arrangement and resulted in 64 combinations (cue configurations) which were presented in the same random sequence to each subject. The hypothetical case vignette which prefaced each sequence of presence or absence of the six dimensions was modified slightly from the one used in Experiment 1. Because a probation officer submits disposition recommendations to the judge, and it is the judge who makes the final disposition decision, the vignette provided in Experiment 2 requested the officer to make decision recommendations. A hypothetical case vignette is shown in Figure 4.

Insert Figure 4 about here

As in Experiment 1, each subject was required to make one judgment per vignette on a rating scale at the bottom of the vignette, ranging from 1 (no intervention required, go home and work it out) to 10 (child placed outside the home to a secure facility). The other conditions as outlined in Experiment 1 were also afforded these subjects: complete the task at leisure and use whatever resources or strategies

necessary to render a satisfactory judgment. After the subject completed the packet of 88 judgments, he/she turned it in to his/her supervisor.

Results

Tables 8 and 9 show the means, standard deviations, intrajudge (test-retest reliabilities) and interjudge correlations (interrater reliabilities) for the judgments of the 20 subjects.

Insert Tables 8 and 9 about here

The test-retest reliabilities ranged from .28 to .99 with an average coefficient of .75. 174 of the 190 interjudge coefficients were .50 or more, while only 2 coefficients fell below .40. It must be noted that 12 of the 15 coefficients that fell below .50 came from the two subjects that had the lowest test-retest reliabilities (Subjects 17 and 19). Based upon the test-retest reliability coefficients, Subject 19, and to a lessor extent Subject 17, could have been eliminated from further discussion. However, because of the applied nature of this investigation both subjects data remained, as their individual and combined contributions had little impact on the group.

A separate ANOVA was performed on each subject's responses resulting in one for each of the juvenile dimensions; 15 two-way interactions, 20 three-way interactions, 15 four-way interactions, six five-way interactions, and one six-way interaction (representing the six juvenile dimensions in combination). The results of the F-tests are presented in Table 10.

Insert Table 10 about here

Table 11 presents a frequency count of the number of statistically significant main effects and interactions for each subject ($p<.05$). All but one subject can be described by a predominance of significant main effects for three or more characteristics.

Insert Table 11 about here

Four subjects were characterized by the presence of all six significant main effects, eight subjects by five significant main effects, five subjects by four significant main effects, two subjects by three significant main effects, and one subject by two main effects. Only the

judgments of Subject 16 were characterized by a high number of significant interaction effects (27 out of 57).

Table 12 shows the individual characteristics and combinations of characteristics that were statistically significant ($p<.05$) for two or more subjects. Each of the individual characteristics was considered relevant by eleven or more subjects.

Insert Table 12 about here

Prior Contact was considered relevant by all 20 subjects. Mental Disability was relevant for 19 subjects; Family Life relevant for 18 subjects; Delinquent Peer Influence was relevant for 15 subjects; and both Motivation and Strength of Character were found to be relevant for 11 subjects.

If Subject 16 had not participated, 9 out of 10 interaction effects would not have taken place. The two factor interaction effect Mental Disability x Family Life was found relevant by five subjects. Nine of the 10 interaction effects contain the characteristic Mental Disability or Family Life, or both.

The values of the omega-square index of association ($\omega^2 \geq .05$) for the statistically significant ($p < .05$) main effects and for the sum of all interaction effects for each subject are presented in Table 13.

Insert Table 13 about here

Inspection of this table reveals that for subjects whose judgment strategy includes some interactional component, the largest main effect, on the average, accounted for 84% more variance than did the sum of all the subjects' interaction effects. In other words, the subjects' responses could be replicated by using a simple additive model combining only the six juvenile dimensions and completely ignoring the contribution of the interactions.

The above analysis, as in Experiment 1, indicates that there was substantial, but not unanimous agreement among the subjects, either with regard to disposition recommendation (Table 8) or with regard to the importance of the six juvenile dimensions (Table 13). In order to determine the nature of these differences among the 20 subjects, a factor analysis of the interjudge agreement correlations in Table 9 was performed.

Once again, a principal-components factor analysis (Jennrich and Sampson, 1966), with varimax rotation to simple structure was employed. The results of this analysis are shown in Table 14.

Insert Table 14 about here

Factor I. Three fairly distinct factors emerged. Factor I is defined most clearly by Subjects 17 and 20. Neither subject had omega-square values greater than .05 for the main effect Family Life. Of the 18 subjects remaining, 17 had maximum loadings on this factor. In addition, the remaining 17 subjects showed relatively high omega-square values for the characteristic Family Life. Therefore, Factor I is identified as the emphasis placed on Family Life.

Factor II. The second factor is established most clearly by Subjects 8, 17, and 18. These subjects do not have sufficient omega-square values for the characteristic Prior Contact. With few minor exceptions, the remaining subjects have high loadings on this factor, thus defining this as the emphasis placed on Prior Contact.

Factor III. The third factor can be established either

by Subject 17, as this subject failed to load on any of the other factors in the factor analysis, and where the only omega-square value to reach significance was for Mental Disability, or by the characteristics of Subject 1, 10, 15, and to a lessor extent Subjects 12, 5, and 9. In any case, Factor III is best identified as the emphasis placed on Mental Disability.

Thus, three different types of probation officer judgments have been identified in this study. The differences between judgments result from differences in the way the probation officers interpret and use the various juvenile characteristics in a dispositional setting. The ANOVA technique makes it possible to decipher the nature of these differences.

In Table 15 the data from Table 11 have been rearranged so as to place in adjacent columns those probation officers who are most similar to one another in their characteristic (cue) utilization.

Insert Table 15 about here

The differences in characteristic use was determined by inspection. Officers 8 and 18, who loaded, in an inverse fashion, most highly on Factors I and III, relied identically

on Mental Disability and differed marginally in their reliance on Family Life. Similarly, Officer 20, who loaded heavily on Factors II and III, relied strongly on Mental Disability (identical to Officers 8 and 18), however not only disregarded Family Life, but utilized Prior Contact and Motivation in a supportive fashion. Officer 17, on the other hand, who loaded exclusively on Factor III relied only on Mental Disability and disregarded all other characteristics. Officers 1, 5, 9, 10, 12, 15, who loaded most heavily on Factors I and II, demonstrated consistent reliance on Prior Contact and Family Life (one exception) and differential utilization of Delinquent Peer Influence and Motivation. The remaining officers who loaded on all three factors relied heavily on Mental Disability, Family Life, and Prior Contact, used Delinquent Peer Influence and to a lessor extent Motivation as supportive information. It should be noted that Strength of Character was essentially disregarded by this subject pool.

General Discussion

The similarities in the high test-retest reliabilities of the present study and the high reliabilities noted by Millimet & Greenberg, (1973) is noteworthy. Unlike the Hoffman et al.(1968) study, where low test-retest

reliabilities were obtained, the Millimet & Greenberg, (1973) study and the present study were purposely designed to reflect the kind and form of information usually presented to the subject in his/her line of work. As pointed out by Millimet & Greenberg (1973): "Increasing the number of properties composing each sign (three properties composed each sign) should reduce the interjudge and intrajudge correlations when the intrasign properties themselves are uncorrelated, but should increase the correlations when there is a positive correlation among the properties" (p. 194). In the present investigation, as in the Millimet & Greenberg (1973) study, increasing the number of positively related properties of the juvenile dimensions enhanced the meaning and clarity of the signs position along the decision dimension.

Because the juvenile dimensions were orthogonally arranged, the average judgment for each judge and probation officer was expected to be 5.0. The actual judgments for the judges ranged from 4.5 to 6.5 with an overall average of 5.5; and 4.5 to 7.9 with an overall average of 5.9 for the probation officers. In other words, both judges and probation officers were characterized by a propensity to render a judgment falling at the " child placed outside the

home" pole of the decision dimension.

In explaining this finding, one must realize the limited treatment options available to juvenile court judges and probation officers. Although the decision dimension used in these investigations involved 10 decision points, 10 treatment options neatly arranged from a least restrictive to the most restrictive alternative are rarely available in any community. If the information cues used in these investigations are similar to those actually presented to judges and probation officers, then treatment availability would most likely play some part in the judgment strategy. By default, these professionals may have a restrictive propensity in their approach to juveniles. This may indeed speak more to the lack of treatment alternatives which in turn inhibits less restrictive placement decisions.

The results of the individual ANOVAs confirm previous findings (see Goldberg, 1968; Hammond & Summers, 1965; Millimet & Greenberg, 1973) that a linear model accounts for the variability of the judges' and probation officers' responses. Only Judge 3 and Probation Officer 16 could be described as making use of a configural pattern of characteristics. However, even the interaction effects

of these respondents accounted for only a very small proportion of the total predictable variance of their responses. In other words, a linear model would be adequate for reproducing the responses of Judge 3 and Officer 16 with little error. As Hoffman et al. (1968) pointed out: "For interactive effects to account for a substantial portion of the total predictable variance, reversals would have to be the rule, rather than the exception. This seems highly unlikely. . . What is more likely is that certain patterns augment or attenuate the importance of particular signs without reversing the implication" (p. 347).

This is what occured in both Experiment 1 with the judges and Experiment 2 with the probation officers. In Experiment 1 and Experiment 2 all but one significant interaction noted for at least two subjects, had either the dimension of Family Life or Mental Disability as one of the variables.

Clearly the results of Experiment 1 reflect the considerable importance the judges placed on the characteristics of Family Life and Mental Disability. Judge 8 was the only subject who failed to use the dimension of Mental Disability. On the other hand, the dimension of Strength of Character was virtually ignored by the sample of judges.

Thus this juvenile dimension can be viewed as not making any contribution to the judgmental process. While the characteristic of Motivation approached mentionable importance, Prior Contact made a moderate contribution to judgment.

A somewhat different profile developed in Experiment 2. Although the importance the probation officers placed on the characteristic of Family Life, Mental Disability, and Strength of Character was virtually the same as the judges in Experiment 1, some group differences did appear. For the probation officers, Delinquent Peer Influence made a moderate contribution, as did to a lessor extent, the characteristic of Motivation. This relationship was just the opposite for the judges. However, the most significant group difference was in the use of the dimension of Prior Contact, which made a considerable contribution to the judgmental process for the 20 probation officers. Even with the unequal sample sizes, it certainly appears that the two samples used the six juvenile dimensions in much the same way.

Generally, the majority of the judgments in both samples were based upon the characteristic of Family Life, Mental Disability, and to a lessor extent, Prior Contact. Clearly, Family Life and Mental Disability were the strongest factors.

It would appear that only five of the six juvenile variables used in the present study contributed to judgmental activity among the court judges and probation officers. Strength of Character served no useful purpose. The only factors with any type of generality seem to be the characteristics of Family Life and Mental Disability. There is no indication that the judges and probation officers are dealing with different judgmental policies. Each group appears to be using a common language system in which they place the same importance on the same juvenile dimensions.

The results have a few implications for psychologists, social workers, therapists, or anyone who provides information to the court for purposes of disposition decisions. Under some circumstances, reporting professionals may find themselves working with a client or family without the benefit of well maintained treatment records. In these cases, where one is hard pressed to come up with comprehensive information, simply focusing on the variables associated with the clients' family life and mental disability would be sufficient in allowing the judge or probation officer to be comfortable with the information to render a decision. On the other hand, if a comprehensive report was delivered;

one that provided a great variety of information, judges and probation officers would be sensitive to information regarding family life and mental disability, and use the other information in a supportive fashion. In this situation one must be careful to provide consistent information compatable with the major factors, or risk placing the decisionmaker in some type of conflict. In addition, if information regarding family life and mental disability is absent from all information provided, it will likely cause the judge to feel less comfortable and confident in the judgment which he/she is asked to make. In short, assessments or court reports should emphasize information pertaining to family life and mental disability, in order to allow proceedings of the court to continue at a reasonable pace. This is not to imply that these factors are sufficient to insure the accuracy of the judgment. All that is being accounted for within this investigation is the way in which judges and probation officers make decisions in relation to the information provided to them.

Clearly from the information provided by this investigation, a child who experiences severe mental disability and belongs within a dysfunctional family will most

likely receive the most restrictive placement/treatment option available to the court. This does not address the question of appropriateness of treatment option. The assumption of making such a decision is that the most restrictive placement is the best (or best of the worst) situation to treat the child/family. Unfortunately, the applied areas of psychology and psychiatry do not have any evidence to support such an assumption.

It is interesting to note that information pertaining to family life and mental disability are areas traditionally studied by psychology, psychiatry, and social work. Judges and probation officers typically do not receive formal training in these areas. The question then becomes: "Do judges rely on the two factors because those are the two areas that are consistantly reported?"

As a result of this investigation, several hypotheses suitable for further study can be developed, and tested. Among those would be to vary the input (the case vignette cues) and predict minimal judgmental conflict and length of time to render a decision when information presented to judges and probation officers includes Family Life and Mental Disability, and greater conflict and extended time and concern about decisions if the information with regard to these variables was not available.

References

Addams, J. (Ed.). (1925). The child, the clinic and the court. New York: New Republic.

Aichorn, A. (1935). Wayward Youth. New York: Viking.

Allen, F. A. (1964). The borderland of criminal justice: Essays in law and crinimology. Chicago: University of Chicago Press.

Antineau, C. J. (1961). Constitutional rights in juvenile courts. Cornell Law Quarterly, 46, 387-415.

Arnold, M. (1957). Juvenile justice in transition. UCLA Law Review, 14, 1144-1158.

Bailey, W. C., & Peterson, R. D. (1981). Legal versus extra-legal determinants of juvenile court dispositions. Juvenile and Family Court Journal, 32, 41-59.

Barton, W. H. (1976). Discretionary decision-making in juvenile justice. Crime and Delinquency, 22, 470-480.

Beemsterboer, M. J. (1960). The juvenile court-benevolence in the Star Chamber. The Journal of Criminal Law, Criminology and Police Science, 50, 464-475.

Bortner, M. A. (1982). Inside a juvenile court: The tarnished ideal of individualized justice. New York: New York Press.

Burleigh, E. N., & Harris, F. K. (1923). The delinquent girl. New York: New York School of Social Work.

Caldwell, R. G. (1961). The juvenile court: Its development and some major problems. Journal of Criminal Law, Criminology and Police Science, 51, 493-511.

Carter, T. J. (1979). Juvenile court dispositions: A comparison of status and nonstatus offenders. Criminology, 17, 341-359.

Chused, R. H. (1973). The juvenile court process: A study of three New Jersey counties. Rutgers Law Review, 26, 488-615.

Cicourel, A. V. (1968). The social organization of juvenile justice. New York: Wiley.

Cohen, J. (1977). Statistical power analysis for the behavioral sciences (rev. ed.) New York: Academic Press.

Cohen, L. E., & Kluegel, J. R. (1978). Determinants of juvenile court dispositions: ascriptive and achieved factors in two metropolitan courts. American Sociological Review, 43, 162-176.

Cohn, Y. (1963). Criteria for the probation officer's recommendations to the juvenile court judge. Crime and Delinquency, 9, 262-275.

Comment. (1966). Criminal offenders in the juvenile court: More brickbats and another proposal. University of Pennsylvania Law Review, 114, 1171-1220.

Cooley, E. J. (1927). Probation and delinquency. New York: Thomas Nelson.

Davis, S. M. (1984). Rights of juveniles: The juvenile justice system (2nd. ed.). New York Clark Boardman.

Emerson, R. M. (1969). Judging delinquents: Context and process in juvenile court. Chicago: Aldine.

Empey, L. T. (Ed.). (1979). Juvenile justice: The progressive legacy and current reforms. Charlottesville, VA.: University Press of Virginia.

Faust, F. L., & Brantingham, P. J. (Ed.). (1974). Juvenile justice philosophy: Readings, cases and comments. St. Paul, MN: West.

Faust, F. L., & Brantingham, P. J. (Eds.). (1979). Juvenile justice philosophy: Readings, cases and comments (2nd ed.). St Paul, MN: West.

Ferdinand, T., & Luchterhand, E. (1970). Inner-city youth, the police, juvenile court, and justice. Social Problems, 17, 510-527.

Ferster, E., & Courtless, T. (1972). Pre-dispositional data, role of counsel and decisions in a juvenile court. Law and Society Review, 7, 195-222.

Flicker, B. (1979). Discretionary law for juveniles. In L. E. Abt & I. R. Stuart (Eds.)., Social psychology and discretionary law (pp, 289-315). New York: Van Nostrand Reinhold.

Fox, S. (1970). Juvenile justice reform: An historical perspective. Stanford Law Review, 22, 1187-1239.

Glaser, G. V. (1976). Discretion in juvenile justice. In L. E. Abt & I. R. Stuart (Eds.)., Social psychology and discretionary law (pp. 316-326). New York: Van Nostrand Reinhold.

Glueck, S., & Glueck, E. T. (1930). 500 criminal careers. New York: Knopf.

Glueck, S., & Glueck, E. T. (1934a). Five hundred delinquent women. New York: Knopf.

Glueck, S., & Glueck, E. T. (1934b). One thousand juvenile delinquents: Their treatment by court and clinic. Cambridge, MA: Harvard University Press.

Glueck, S., & Glueck, E. T. (1950). Unraveling juvenile delinquency. New York: The Commonwealth Fund.

Goldberg, L. R. (1968). Simple models or simple process? American Psychologist, 23, 483-496.

Grisso, T. (1985). Personal communication, May 29.

Grisso, T. (1984). Forensic assessment in juvenile and family cases: the state of the art. Keynote invited address, Summer Institute on Mental Health Law. University of Nebraska- Lincoln, Lincoln, Nebraska, June 1, 1984.

Grisso, T., & Conlin, M. (1984). Procedural issues in the juvenile justice system. In N. D. Reppucci, L. A. Weithorn, E. P. Mulvey, & J. Monahan (Eds.)., Children, mental health and the law (pp. 171-193). Beverly Hills, CA: Sage.

Grisso, T., Tomkins, A., & Casey, P. (1984, March). National case survey of juvenile courts.[Results]. (Available from the Psychology-Law Research Center, Department of Psychology, St. Louis University, 221 North Grand Boulevard, St, Louis, Missouri 63103).

Hagan, J. (1974). The labeling perspective, the delinquent, and the police. Canadian Journal of Criminology and Corrections, 14, 150-165.

Hall, G. S. (1904). Adolescence: Its psychology and its relations to physiology, anthropology, sociology, sex, crime, religion, and education (Vols. 1-2). New York: D. Appleton.

Hall, G. S. (1906). Youth: Its education, regimen, and hygiene. New York: D. Appleton.

Handler, J. F. (1965). The juvenile court and the adversary system: problems of function and form. Wisconsin Law Review, 1965, 7-51

Healy, W. (1915). The individual delinquent. Boston: Little, Brown.

Hirschi, T. (1975). labeling theory and juvenile delinquency: An assessment of the evidence. In W. Grove (Ed.). The labeling of deviance evaluating a perspective. New York: Wiley.

Hoffman, P. J., Slovic, P., & Rorer, L. G. (1968). An analysis-of-variance model for the assessment of configural cue utilization in clinical judgment. Psychological Bulletin, 69, 338-349.

Horwitz, A., E Wasserman, M. (1980). Formal rationality, substantive justice, and discrimination: A study of a juvenile court. Law and Human Behavior, 4, 103-105.

Hufnagel, L. M., & Davidson, J. P. (1974). Children in Need: Observations of practices of the Denver juvenile court. Denver Law Journal, 51, 337-415.

Jennrich, R. I., & Sampson, P. F. (1966). Rotation for simple loadings. Psychometrika, 31, 313-323.

Kirk, R. E. (1982). Experimental design (2nd ed.). Belmont, CA: Brooks/Cole.

Lamiell, J. t. (1979). Discretion in juvenile justice: A framework for systematic study. Criminal Justice and Behavior, 6, 76-101.

Lamert, E. M. (1967a). Juvenile justice-quest and reality. Transaction, 4, (July) 30-40.

Lemert, E. M. (1967b). Legislating change in the juvenile court. Wisconsin Law Review, 1967, 421-448.

Levine, M., & Levine, A. (1970). A social history of helping services: Clinic, court, school, and community. New York: Appleton-Century-Crofts.

Liska, A. E., & Tausig, M. (1979). Theoretical implications of social class and racial differentials in legal decisionmaking for juveniles. The Sociological Quarterly, 20, 197-207.

Lou, H. H. (1927). Juvenile courts in the United States. Chapel Hill, NC: University of North Carolina Press.

Mennel, R. M. (1973). Thorns and thistles: Juvenile delinquents in the United States, 1825-1940. Hanover,NH: University Press of New England.

Mann, C. (1980). Courtroom observations of extra-legal factors in the juvenile court dispositions of runaway boys: Afield study. Juvenile and Family Court Journal, 31 (4), 43-52.

Millimet, R. C., & Greenberg, R. P. (1973). Use of analysis-of-variance technique for investigating the differential diagnosis of organic versus functional involvement of symptoms. Journal of Consulting and Clinical Psychology, 40, 188-195.

Palmer, T. B., & Lewis, R. V. (1980). A differentiated approach to juvenile diversion. Journal of Research in Crime and Delinquency, 17, 209-229.

Platt, A. M. (1977). The child savers: The invention of delinquency (2nd ed.). Chicago: University of Chicago Press.

Puffer, J. A. (1912). The boy and his gang. Cambridge, MA: Houghton Miffin.

Phillips, C. D., & Dinitz, S. (1982). Labelling and juvenile court dispositions: Official responses to a cohort of violent juveniles. The Sociological Quarterly, 23, 267-276.

Rogers, C. L. (1939). The clinical treatment of the problem child. Cambridge, MA: Riverside Press.

Rosenheim, M. K. (Ed.). (1962). Justice for the child: The juvenile court in transition. New York: Free Press of Glencoe.

Ryerson, E. (1978). The best laid plans: America's juvenile court experiment. New York: Hill and Wang.

Scarpitte, F. R., & Stephenson, R. M. (1971). Juvenile court dispositions: Factors in the decision-making process. Crime and Delinquency, 17, 142-151.

Schlossman, S. L. (1977). Love and the American delinquent: The theory and practice of "progressive" juvenile justice, 1825-1920. Chicago: University of Chicago Press.

Shaw, C. R. (1929). Delinquency areas. Chicago: University of Chicago Press.

Shaw, C. R. (1930). The jack-roller: A delinquent boy's own story. Chicago: University of Chicago Press.

Shaw, C. R., & McKay, H. D. (1931). Social factors in juvenile delinquency. Washington, D. C.: U. S. Printing Office.

Smith, C. P., Black, T. E., & Cambell, F. R. (1980). A national assessment of case disposition and classification in the juvenile justice system: Inconsistent labeling. Vol. III. Results of a survey. Washington, D. C.: U. S. Printing Office.

Smith, C. P., Black, T. E., & Weir, A. W. (1980). A national assessment of case dispositions and classification in the juvenile justice system: Inconsistent labeling. Vol. II. Results of a survey. Washington, D. C.: Government Printing Office.

Terry, R. M. (1967). Discrimination in the handling of juvenile offenders by social control agencies. Journal of Research in Crime and Delinquency, 4, 218-230.

Thomas, C. W., & Cage, R. J. (1977). The effect of social characteristics on juvenile court dispositions. The Sociological Quarterly, 18, 237-252.

Thomas, W. I. (1967). The unadjusted girl. New York: Harper & Row.

Thornberry, T. P. (1973). Race, socioeconomic status and sentencing in the juvenile justice system. Journal of Criminal Law and Criminology, 64, 90-98.

Thornberry, T. P. (1969). Sentencing disparities in the juvenile justice system. Journal of Criminal Law and Criminology, 70, 164-171.

Thrasher, F. M. (1927). The gang: A study of 1313 gangs in Chicago. Chicago: University of Chicago Press.

Tomkins, A. J., Casey, P., & Grisso, T. (1983). The value of Empirically-derived variables for explaining juvenile justice decisions. Unpublished manuscript, Department of Psychology, St Louis University, St. Louis, Missouri.

Tomkins, A. J. (1984). A study of postadjudication disposition decisions using the framework of social judgement theory. Unpublished doctoral dissertation, St. Louis University, St. Louis.

Van Walters, M. (1979). The socialization of juvenile court procedures. In F. L. Faust & P. J. Brantingham (Eds.)., Juvenile justice philosophy: Readings, cases and comments 2nd ed., pp. 162-170). St. Paul, MN: West.

Wellford, C. (1975). Labeling theory and criminology: An assessment. Social Problems, 22, 332-345.

Yablonsky, L. (1967). The role of law and social science in the juvenile court. Columbia Law Review, 67, 281-341.

Legal References

Breed v. Jones. 421 U. S. 519 (1975)

In re Gault. 387 U. S. 1 (1967)

In re Winship. 397 U. S. 358 (1970)

Ivan v. City of New York. 407 U. S. 203 (1972)

Kent v. United States. 383 U. S. 541 (1966)

McKeiver v. Pennsylvania. 403 U. S. 528 (1971)

Schall v. Martin. 52 U. S. L. W. 4681 (1984)

Figure 1. Nine character dimensions developed by Grisso et al. (1984).

Factors and variables	Factor Loadings
Factor 1: Degree of motivation to accept intervention.	
motivation to change	.735
sense of guilt	.679
respect for the court	.644
receptiveness/responsiveness to adult assistance	.639
potential for change	.625
respect for authority	.580
insight into problems	.547
acceptance of decisions made by court workers	.538
hardcore criminal personality	.485
motivation for academic or work progress	.479
Factor 2: Degree of self-reliance and autonomy.	
sophistication	.631
mature	.611
adult like	.560
independence	.547

Figure 1. (continued)

Factors and variables	Factor Loadings
Factor 2: (continued)	
cool, composed	.506
streetwise	.502
Factor 3: Prior contact with juvenile justice system.	
frequency of past referrals for serious misdemeanors or felonies	.888
frequency of past referrals to court	.881
frequency of past delinquency adjudications	.875
frequency of past police contacts	.801
frequency of past contacts with rehabilitation programs	.650
frequency of past referrals for violent offences	.617
frequency of past commitments to state programs for delinquent youth	.555
hardcore criminal personality	.553
frequency of past contacts with community non-health programs	.499

Figure 1. (continued)

Factors and Variables	Factor Loadings
Factor 4: Presence of serious mental disorder.	
mental illness	.820
past suicide attempts	.675
emotional disturbance	.638
psychosis	.619
past self-distructive behaviors	.615
frequency of contacts with psychiatrictreatment	.566
Factor 5: Family's caring and resource capability.	
family's acceptance of juvenile	.772
family's acceptance of custody	.673
amount of daily contact with parent or guardian	.641
family members' communication with each other	.639
family's ability to cope	.638
family's ability to supervise	.597
respect for parents' authority	.580
family's cooperation with court assistance	.578

Figure 1. (continued)

Factors and Variables	Factor Loadings
Factor 6: Susceptibility to delinquent peer influence.	
frequent associations with delinquent peers	.769
susceptibility to peer influence	.642
frequency of associations with older juvneiles	.578
frequency of gang associations	.498
Factor 7: Family's socialization.	
history of family violence	.723
family chaos and disorganization	.685
family involved in crime	.577
family's ability to cope	.538
family's cooperation with court assistance	.513
quality of family members' communication with each other	.488
Factor 8: Degree of behavioral compliance.	
conduct in court settings	.697
past conduct in court or probation contacts	.656

Figure 1. (continued)

Factors and Variables	Factor Loading
Factor 8: (continued)	
acceptance of decisions made by court workers	.609
respect for the court	.557
respect for authority	.521
receptiveness/responsiveness to adult assistance	.507
aggression and hostility	.466
Factor 9: Participation in school or work setting.	
school attendance	.783
academic functioning	.770
motivation for academic or work progress	.728
school misconduct	.574
use of free time	.549
motivation to change behavior	.483
family's ability to supervise	.473
receptiveness/responsiveness to adult assistance	.466
respect for the court	.457

Figure 2. Modified factors used in the present study.

1. Motivation to Accept Intervention in School, Court, and other Adult Settings. This represents the combination of Grisso's factors: 1 & 8. The variables associated with this factor and chosen for this experiment include: unfavorable school attendance and poor academic performance; lack of respect for the court; lack of receptiveness and responsiveness to adult assistance.

2. Prior Contact with Juvenile Justice System. This is Grisso's factor 3. The variables associated with this factor and chosen for this experiment include: high frequency of past referrals to court; high frequency of past contacts with rehabilitation programs; high frequency of past police contacts.

3. Presence of Serious Mental Disorder. This is Grisso's factor 4. The variables associated with this factor and chosen for this experiment include: history of mental illness; past suicide attempts; present signs of emotional disturbance.

4. Family Life. This represents the combination of Grisso's factors: 5 & 7. The variables associated with this factor and chosen for this experiment include: history of family violence; history of family chaos and disorganization; limited parental acceptance of juvenile.

Figure 2. (continued)

5. Delinquent Peer Influence. This is Grisso's factor 6. The variables associated with this factor and chosen for this experiment include: history of association with delinquent peers and older juveniles; history of susceptability to gang membership.

6. Strength of Character. This represents Grisso's factor 2. The variables associated with this factor and chosen for this experiment in narrative form include: a psychological profile indicates the juvenile to be unsophisticated, immature, and dependent.

Figure 3. Hypothetical case vignette used for Experiment 1.

On June 11th, 1985, a petition was filed on a twelve-year-old white male alleging Count 1 of said child being wayward or habitually disobedient, Is uncontrolled by parent, guardian, or custodian, to wit: a) said child ran away from the parents' home for one (1) week, beginning May 1, 1985, and returning May 8. At the arraignment hearing held on June 21, 1985, the juvenile admitted to the charges, and was found to be a child within the meaning of R.S.N. § 43-247 (3b). The child is before you today for purposes of disposition. All reports to the court indicate the presence or absence of the following conditions:

1. The child has unfavorable school attendance and poor academic performance; Lacks respect for the court; Is not receptive or responsive to adult assistance.	present ☑	absent ☐
2. The child has past referrals to the court; Has past contacts with rehabilitation programs; Has past police contacts.	present ☑	absent ☐
3. The child has a history of mental illness; Has attempted suicide on at least one occasion; Present signs of emotional disturbance.	present ☐	absent ☑
4. The family has a history of violence; Is disorganized and chaotic; Parents are not interested in the child.	present ☑	absent ☐
5. The child has a history of associating with delinquent peers or older juveniles; Is susceptable to peer influence and gang membership.	present ☐	absent ☑
6. A psychological profile indicates that this child is unsophisticated; Immature and Dependent.	present ☐	absent ☑

On the basis of the above information, please rate the type of intervention indicated, from a least restrictive to most restrictive perspective.

1	2	3	4	5	6	7	8	9	10
no intervention required								child placed outside the home	

Table 1.

Means, Standard Deviations, Interjudge/Intrajudge Correlations for the Eight Judges.

JUDGE	1	2	3	4	5	6	7	8	Mean	SD
1	(.78)								5.87	1.38
2	.41	(.83)							5.03	2.57
3	.50	.42	(.90)						4.98	1.54
4	.75	.53	.58	(.91)					4.50	1.53
5	.56	.48	.62	.58	(.83)				5.53	2.32
6	.75	.50	.63	.73	.60	(.88)			5.31	1.82
7	.69	.47	.63	.67	.82	.69	(.87)		6.51	2.01
8	.67	.28	.57	.48	.74	.60	.79	(.88)	6.29	2.79

Note: Interjudge correlations based on 64 cases. Number in parentheses are the intrajudge correlations between the two administrations of the 24 repeated cases (test-retest reliabilities).

Table 2.

F-test results for Main Effects and their Magnitude of Treatment Effect (ω^2).

	Source	F (cal)	ω^2
S 1:	Motivation	4.97*	.022
	Prior Contact	22.46**	.122
	Mental Disability	41.12**	.229
	Family Life	37.62**	.208
	Delinquent Peers	NS	
	Strength	4.97*	.022
S 2:	Motivation	NS	
	Prior Contact	NS	
	Mental Disability	11.06**	.047
	Family Life	61.11**	.286
	Delinquent Peers	NS	
	Strength	NS	
S 3:	Motivation	60.51**	.118
	Prior Contact	26.24**	.05
	Mental Disability	54.75**	.107
	Family Life	34.58**	.067
	Delinquent Peers	10.40**	.018
	Strength	26.24**	.05
S 4:	Motivation	13.13**	.036
	Prior Contact	6.43*	.016
	Mental Disability	134.45**	.398
	Family Life	110.42**	.326
	Delinquent Peers	NS	
	Strength	NS	
S 5:	Motivation	22.55**	.096
	Prior Contact	10.89**	.03
	Mental Disability	19.08**	.081
	Family Life	28.29**	.122
	Delinquent Peers	NS	
	Strength	NS	

* $p<.05$

** $p<.01$

Table 2. (continued)

	Source	F (cal)	(ω^2)
S6:	Motivation	9.0**	.024
	Prior Contact	10.89**	.03
	Mental Disability	92.21**	.218
	Family Life	104.10**	.315
	Delinquent Peers	7.29*	.019
	Strength	NS	
S7:	Motivation	24.28**	.073
	Prior Contact	86.2**	.264
	Mental Disability	33.47**	.10
	Family Life	81.27**	.25
	Delinquent Peers	17.39**	.05
	Strength	NS	
S8:	Motivation	44.61**	.115
	Prior Contact	138.5**	.363
	Mental Disability	17.09**	.042
	Family Life	44.61**	.115
	Delinquent Peers	41.82**	.107
	Strength	7.76**	.025

* $p<.05$

** $p<.01$

Table 3.

Number of Statistically Significant Main Effects and Interactions for Each Judge.

Source of Variation	Total # of Possible Effects For Each Judge	1	2	3	4	5	6	7	8	Sum	M
Main Effects	6	5	2	6	4	4	5	5	6	37	4.6
2-Way Interactions	15	0	1	7	1	2	3	1	0	15	1.9
3-Way Interactions	20	0	2	9	0	0	0	0	1	12	1.5
4-way Interactions	15	0	2	8	0	1	0	1	0	12	1.5
5-way Interactions	6	0	1	2	0	0	0	0	0	3	.4
6-way Interaction	1	0	0	0	0	0	0	0	0	0	0
Total Interactions	57	0	6	26	1	3	3	2	1	42	5.3

Note: Cell entries are the number of effects that are significant at $p<.05$, as determined by F-Tests made on the analysis of each Judge.

* Total interactions ≤ 3 can be expected by chance.

Table 4. Conditions and Condition Combinations (interactions) Used by at Least Two Judges to a Statistically Significant Degree.

Condition Combination	Number of Judges Using the Condition
Motivation	7
Prior Contact	7
Mental Disability	8
Family Life	8
Delinquent Peers	4
Strength of Character	3
Mental Disability x Family Life	2
Mental Disability x Delinquent Peers	2
Mental Disability x Strength of Character	3
Motivation x Prior Contact x Delinquent Peers	2
Prior Contact x Mental Disability x Family Life	2

Table 5. Values of $\omega^2 > .05$ for Main Effects and Sum of All Interactions.

Effect	Subject							
	1	2	3	4	5	6	7	8
Motivation	.02	*	.12	.04	.10	.02	.07	.12
Prior Contact	.12	*	.05	.02	.03	.03	.26	.36
Mental Disability	.23	.05	.11	.40	.08	.22	.10	.04
Family Life	.22	.29	.07	.33	.12	.32	.25	.12
Delinquent Peers	*	*	*	*	*	.02	.05	.11
Strength	.02	*	.05	*	*	*	*	*
Sum of All Interactions	*	.20	.35	.03	.07	.12	.03	.01

* Trace Variation

Table 6. Principal-Components Factor Analysis with Varimax Rotation of the Interjudge Correlation Coefficients.

Subject	I	II
1	.65	.52
2	--	.87
3	.63	.43
4	.48	.73
5	.81	.31
6	.59	.63
7	.84	.38
8	.93	--
Proportion of Total Variance	.45	.30

Note: Loadings <.30 Omitted

Table 7. Values of $\omega^2 > .05$ for Eight Judges Grouped on the Basis of Factor Loadings >.30.

	Judges and Factors							
	8	2	1	3	4	5	6	7
	I	II	I-II					
Condition								
Motivation	.12			.12		.10		.07
Prior Contact	.36		.12	.05				.26
Mental Disability		.05	.23	.11	.40	.08	.22	.10
Family Life	.12	.29	.21	.07	.33	.12	.32	.25
Delinquent Peers	.11							.05
Strength				.05				

Figure 4. Hypothetical case vignette used for Experiment 2.

On June 11th, 1985, a petition was filed on a twelve-year-old white male alleging Count 1 of said child being wayward or habitually disobedient, Is uncontrolled by parent, guardian, or custodian, to wit: a) said child ran away from the parents' home for one (1) week, beginning May 1, 1985, and returning May 8. At the arraignment hearing held on June 21, 1985, the juvenile admitted to the charges, and was found to be a child within the meaning of R.S.N. § 43-247 (3b). The child is before you today for purposes of disposition recommendations. All reports submitted to the court indicate the presence or absence of the following conditions:

1. The child has unfavorable school attendance and poor academic performance; Lacks respect for the court; Is not receptive or responsive to adult assistance. present [✓] absent [ ]

2. The child has past referrals to the court; Has past contacts with rehabilitation programs; Has past police contacts. present [✓] absent [ ]

3. The child has a history of mental illness; Has attempted suicide on at least one occasion; Present signs of emotional disturbance. present [ ] absent [✓]

4. The family has a history of violence; Is disorganized and chaotic; Parents are not interested in the child. present [✓] absent [ ]

5. The child has a history of associating with delinquent peers or older juveniles; Is susceptable to peer influence and gang membership. present [ ] absent [✓]

6. A psychological profile indicates that this child is unsophisticated; Immature and Dependent. present [ ] absent [✓]

On the basis of the above information, please rate the type of intervention indicated, from a least restrictive to most restrictive perspective.

1	2	3	4	5	6	7	8	9	10
no intervention required								child placed outside the home	

Table 8. Means, and Standard Deviations of the 20 Officers.

Officer	Mean Judgment	SD
1	5.33	2.67
2	4.56	1.52
3	5.36	2.68
4	5.41	2.16
5	5.73	1.84
6	6.69	2.92
7	7.47	1.73
8	7.84	2.48
9	5.19	1.49
10	6.06	1.60
11	7.80	.88
12	4.48	1.69
13	4.92	2.34
14	7.01	3.04
15	5.62	2.09
16	5.51	2.19
17	5.06	2.39
18	6.20	2.22
19	5.33	1.83
20	7.11	2.68

Based on 64 cases.

Table 9. Interjudge/Intrajudge Correlations for the 20 Probation Officers.

Officer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	(.85)																			
2	.59	(.71)																		
3	.69	.74	(.87)																	
4	.58	.68	.62	(.77)																
5	.59	.69	.73	.67	(.71)															
6	.72	.72	.80	.61	.66	(.84)														
7	.73	.66	.68	.77	.67	.70	(.81)													
8	.52	.80	.71	.63	.64	.70	.69	(.86)												
9	.64	.69	.76	.67	.72	.77	.72	.70	(.61)											
10	.66	.68	.67	.66	.76	.79	.77	.69	.80	(.87)										
11	.66	.65	.66	.56	.50	.62	.70	.58	.58	.66	(.59)									
12	.67	.68	.67	.76	.65	.60	.72	.54	.66	.61	.58	(.72)								
13	.68	.69	.75	.63	.74	.78	.63	.68	.72	.77	.56	.62	(.72)							
14	.59	.56	.66	.60	.60	.70	.63	.67	.57	.70	.60	.49	.67	(.84)						
15	.67	.57	.71	.68	.71	.71	.75	.61	.82	.74	.57	.62	.63	.62	(.72)					
16	.53	.77	.76	.72	.65	.70	.71	.83	.71	.59	.63	.64	.62	.67	.64	(.99)				
17	.33	.51	.48	.46	.37	.41	.43	.62	.46	.35	.44	.42	.47	.41	.40	.54	(.48)			
18	.52	.76	.74	.62	.71	.82	.69	.90	.77	.75	.57	.56	.79	.68	.67	.84	.57	(.94)		
19	.64	.74	.69	.58	.71	.66	.64	.68	.60	.61	.48	.61	.68	.57	.60	.64	.41	.69	(.28)	
20	.60	.70	.64	.71	.54	.56	.71	.74	.53	.56	.62	.61	.55	.68	.45	.78	.58	.64	.53	(.72)

Note: Interjudge correlations based on 64 cases. Number in parentheses are the intrajudge correlations between the two administrations of the 24 repeated cases (test-retest reliabilities).

Table 10.

F-tests results for Main Effects and their Magnitude of Treatment Effect (ω^2).

	Source	F (cal)	(ω^2)
S1:	Motivation	52.6**	.184
	Prior Contact	61.12**	.215
	Mental Disability	NS	
	Family Life	61.12**	.215
	Delinquent Peers	10.61**	.035
	Strength	7.46*	.027
S2:	Motivation	14.28**	.051
	Prior Contact	6.38*	.02
	Mental Disability	83.43**	.321
	Family Life	39.68**	.15
	Delinquent Peers	16.76**	.061
	Strength	25.39**	.095
S3:	Motivation	6.42*	.016
	Prior Contact	22.71**	.067
	Mental Disability	60.95**	.186
	Family Life	122.13**	.376
	Delinquent Peers	15.64**	.045
	Strength	11.19**	.031
S4:	Motivation	NS	
	Prior Contact	36.82**	.215
	Mental Disability	30.78**	.179
	Family Life	13.25**	.073
	Delinquent Peers	20.32**	.116
	Strength	4.32*	.02
S5:	Motivation	NS	
	Prior Contact	10.43**	.063
	Mental Disability	15.92**	.10
	Family Life	39.31**	.256
	Delinquent Peers	10.43**	.063
	Strength	5.19*	.028

* $p<.05$

** $p<.01$

Table 10. (continued)

	Source	F (cal)	(ω^2)
S6:	Motivation	7.06*	.028
	Prior Contact	13.62**	.059
	Mental Disability	15.89**	.07
	Family Life	109.93**	.513
	Delinquent Peers	10.55**	.045
	Strength	NS	
S7:	Motivation	46.61**	.144
	Prior Contact	75.50**	.236
	Mental Disability	38.52**	.119
	Family Life	34.76**	.107
	Delinquent Peers	34.76**	.107
	Strength	NS	
S8:	Motivation	NS	
	Prior Contact	7.59*	.031
	Mental Disability	80.17**	.37
	Family Life	40.58**	.18
	Delinquent Peers	NS	
	Strength	4.26*	.015
S9:	Motivation	NS	
	Prior Contact	10.84**	.075
	Mental Disability	13.92**	.098
	Family Life	37.77**	.281
	Delinquent Peers	12.33**	.086
	Strength	NS	
S10:	Motivation	19.48**	.049
	Prior Contact	39.09**	.102
	Mental Disability	22.86**	.058
	Family Life	121.75**	.325
	Delinquent Peers	65.47**	.174
	Strength	NS	
S11:	Motivation	15.87**	.109
	Prior Contact	19.04**	.133
	Mental Disability	12.99**	.087
	Family Life	12.99**	.087
	Delinquent Peers	8.10**	.052
	Strength	NS	

* $p<.05$

** $p<.01$

Table 10. (continued)

	Source	F (cal)	(ω^2)
S12:	Motivation	8.55**	.042
	Prior Contact	32.97**	.181
	Mental Disability	16.07**	.085
	Family Life	8.55**	.042
	Delinquent Peers	21.70**	.119
	Strength	12.78**	.066
S13:	Motivation	NS	
	Prior Contact	9.68**	.052
	Mental Disability	10.69**	.059
	Family Life	70.16**	.421
	Delinquent Peers	8.71**	.047
	Strength	6.11*	.031
S14:	Motivation	NS	
	Prior Contact	46.98**	.217
	Mental Disability	26.61**	.121
	Family Life	52.97**	.245
	Delinquent Peers	NS	
	Strength	NS	
S15:	Motivation	NS	
	Prior Contact	32.75**	.191
	Mental Disability	8.18**	.043
	Family Life	51.17**	.302
	Delinquent Peers	10.36**	.056
	Strength	NS	
S16:	Motivation	96.11**	.026
	Prior Contact	401.34**	.113
	Mental Disability	1927.50**	.544
	Family Life	510.35**	.144
	Delinquent Peers	52.50**	.014
	Strength	96.11**	.026
S17:	Motivation	NS	
	Prior Contact	5.37*	.036
	Mental Disability	35.07**	.285
	Family Life	NS	
	Delinquent Peers	NS	
	Strength	NS	

* $p<.05$

** $p<.01$

Table 10. (continued)

	Source	F (cal)	(ω^2)
S18:	Motivation	12.20**	.016
	Prior Contact	17.89**	.024
	Mental Disability	255.98**	.365
	Family Life	255.98**	.365
	Delinquent Peers	9.77**	.012
	Strength	NS	
S19:	Motivation	NS	
	Prior Contact	4.54*	.036
	Mental Disability	10.94**	.101
	Family Life	18.82**	.182
	Delinquent Peers	NS	
	Strength	4.54*	.036
S20:	Motivation	8.72**	.055
	Prior Contact	19.91**	.135
	Mental Disability	52.23**	.366
	Family Life	NS	
	Delinquent Peers	NS	
	Strength	NS	

* $p<.05$

** $p<.01$

Table 11.

Number of Statistically Significant Main Effects and Interactions for Each Officer.

SOURCE OF VARIATION	TOTAL NUMBER OF POSSIBLE EFFECTS FOR EACH OFFICER	OFFICER																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MAIN EFFECTS	6	5	6	6	5	5	5	5	4	4	5	4	6	5	3	4	6	2	5	4	3
2-WAY INTERACTIONS	15	0	0	3	0	0	0	1	1	0	2	0	0	0	1	0	8	0	1	0	1
3-WAY INTERACTIONS	20	2	1	0	1	0	0	0	0	0	1	0	0	0	1	0	8	1	0	0	0
4-WAY INTERACTIONS	15	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	6	0	0	0	0
5-WAY INTERACTIONS	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
6-WAY INTERACTION	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
TOTAL INTERACTIONS	57	3	1	4	1	1	0	1	1	0	4	0	0	0	2	1	27	1	1	0	0

	SUM	MEAN
MAIN EFFECTS	92	4.6
2-WAY INTERACTIONS	18	.9
3-WAY INTERACTIONS	15	.75
4-WAY INTERACTIONS	9	.45
5-WAY INTERACTIONS	5	.25
6-WAY INTERACTION	2	.1

Note: Cell entries are the number of effects that are significant at $p \leq .05$, as determined by F-tests made on the analysis of each Officer.

Table 12.

Condition and Condition Combinations (interactions) used by at Least Two Officers to a Statistically Significant Degree.

Condition Combination	Number of Officers Using the Condition
Motivation	11
Prior Contact	20
Mental Disability	19
Family Life	18
Delinquent Peers	15
Strength of Character	11
Prior x Mental Disability	2
Prior x Family Life	2
Prior x Delinquent Peers	2
Mental Disability x Family Life	5
Motivation x Prior x Family Life	2
Motivation x Mental Disability x Family Life	2
Motivation x Prior x Family Life x Delinquent Peers	2
Prior x Family Life x Delinquent Peers x Strength	2
Motivation x Prior x Mental Disability x Family Life x Delinquent Peers	2
Motivation x Prior x Mental Disability x Family Life x Delinquent Peers x Strenght	2

Table 13.

Values of $\omega^2 \geq .05$ for Main Effects and Sum of All Interactions.

Effect	Officer									
	1	2	3	4	5	6	7	8	9	10
Motivation	.18	.05	*	*	*	*	.14	*	*	.05
Prior Contact	.22	*	.07	.22	.06	.06	.24	*	.08	.10
Mental Disability	*	.32	.17	.18	.10	.07	.12	.37	.10	.06
Family Life	.22	.15	.38	.07	.26	.51	.11	.18	.28	.33
Delinquent Peers	*	.06	.05	.17	.06	.05	.11	*	.09	.17
Strength	*	.10	*	*	*	*	*	*	*	*
Sum of All Interactions	.04	.02	.05	.02	.02	*	.02	.06	*	.06

Effect	Officer									
	11	12	13	14	15	16	17	18	19	20
Motivation	.11	*	*	*	*	*	*	*	*	.06
Prior Contact	.13	.18	.05	.22	.19	.11	*	*	*	.14
Mental Disability	.09	.09	.06	.12	*	.54	.29	.37	.10	.37
Family Life	.09	*	.42	.25	.30	.14	*	.36	.18	*
Delinquent Peers	.05	.12	.05	*	.06	*	*	*	*	*
Strength	*	*	*	*	*	*	*	*	*	*
Sum of All Interactions	*	*	*	.09	.02	.10	.04	.04	.12	.02

* Trace Variation.

Table 14.

Principal-Components Factor Analysis with Varimax Rotation of the Interjudge Correlation Coefficients.

Officer	I	II	III
8	.56	--	.72
18	.71	--	.60
2	.53	.38	.56
3	.65	.42	.40
4	.37	.66	.39
6	.77	.35	.30
7	.46	.70	.32
11	.32	.65	.35
13	.74	.32	.31
14	.54	.38	.41
16	.45	.37	.70
19	.64	.32	.35
1	.49	.71	--
5	.73	.35	--
9	.74	.39	--
10	.76	.43	--
12	.36	.73	--
15	.69	.48	--
20	--	.57	.70
17	--	--	.79
Proportion of Total Variance	.33	.22	.20

Note: Loadings < .30 Omitted.

Table 15.

Values of $\omega^2 \geq .05$ for 20 Officers Grouped on the Basis of Factor Loadings $\geq .30$.

Condition	Officers and Factors																					
	I-III		I-II-III										I-II						II III	III
	8	18	2	3	4	6	7	11	13	14	16	19	1	5	9	10	12	15	20	17
Motivation			.05				.14	.11					.18			.05			.06	
Prior Contact				.07	.22	.06	.24	.13	.05	.22	.11		.22	.06	.08	.10	.18	.19	.14	
Mental Dis.	.37	.37	.32	.17	.18	.07	.12	.09	.06	.12	.54	.10		.10	.10	.06	.09		.37	.29
Family Life	.18	.36	.15	.38	.07	.51	.11	.09	.42	.25	.14	.18	.22	.26	.28	.33		.30		
Delinquent			.06	.05	.17	.05	.11	.05	.05					.06	.09	.17	.12	.06		
Strength			.10														.07			

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