AN EVALUATION OF A DIFFERENTIAL CLASSIFICATION SYSTEM FOR YOUNG OFFENDERS

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ABSTRACT

The aim of the present study was to examine the application and utility of the Quay and Parsons (1971) differential classification system for the classification of young offenders, in a New Zealand sample. It was also proposed to examine the construct validity of this system, by relating its subcategories to various psychological dimensions. Sixty-five consecutive new admissions to the Manawatu Youth Institution were administered the Quay and Parsons (1971) classification system. Each subject also completed the Standard Progressive Matrices, the Peabody Picture Vocabulary Test-Revised, the Neuroticism Scale Questionnaire, the Machiavellianism Scale, a Role-taking task and the Rosenzweig Picture Frustration Study. Results on the above measures were mixed, with research based expectations being confirmed on some dimensions but not on others. Overall there were greater similarities between the three young offender subcategories, than there were differences between them. There was no strong support, therefore, for the construct validity of this system for a New Zealand sample. Social, cognitive and psychological characteristics of the sample as a whole were identified, however, and the relevance of these to possible treatment changes are discussed. On the basis of this study the incorporation of the Quay and Parsons (1971) system into existing classification procedures is not recommended without further refinement and research being conducted with it.

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INTRODUCTION

> "In many fields, progress and increased scientific understanding have frequently been closely associated with the scientists' ability to describe entities or events and classify them into categories. The ability to set apart discriminable entities and events is a necessary precursor to the establishment of relationships among entities and events, and between them and other variables. Progress has also followed the advances in techniques for the measuring of phenomena under study. Accurate quantification is a particularly important requisite for the scientific study of human behaviour" (Quay, 1979, p1).

This statement highlights the position of those who seek to classify and quantify aspects of human behaviour. It has created an impetus, particularly within the field of delinquency, to develop classification systems in order to enhance our understanding of this concept - from what causes it to how to treat it.

The field of delinquency research initially focused on the differences between delinquents and non-delinquents (Waldo and Dinitz, 1967; Wirt and Briggs, 1959; Hathaway and Monachisi, 1953). It has become clear, however, that delinquency is not a unitary concept (Glueck and Glueck, 1972, 1965; Quay, 1965; Yablonski, 1962) and the direction of research has changed towards the development of differential classification systems which identify homogeneous subgroups of delinquents (Gregory, 1974; Quay and Parsons, 1971; Warren, 1969). Differential classification systems have typically been derived from three sources: (a) theoretical analyses (b) clinical observation and (c) multivariate statistical techniques, with the third method appearing to be the most popular. Each of these will be examined more closely in the following section.

1.0 Sources of derivation for differential classification systems

1.1 Systems derived from theoretical analysis

Systems derived directly from theories of delinquency, whether they are sociological or psychological, treat delinquency as a unitary concept, and most of the research generated from them has concentrated on the differences between delinquents and non-delinquents.

Theories from which differential classification systems have developed, however, are more general in nature. For example, Caven and Ferdinand (1981) developed a typology from Lewins (1951) field theory which took a social psychological perspective. These investigators identified six delinquent types: cultural identifiers, manipulators, asocial aggressive, asocial passive, immature conformist, and neurotic delinquent. They suggest that these types can be further associated with particular offence categories.

Warren (1969) developed a similar classification system based on the developmental theory of Sullivan, Grant and Grant (1957). This theory postulates a series of stages within normal personality development, each of which is characterised by a particular way of viewing oneself and others. Warren (1969) postulates that delinquents are fixated at either the second or third stage, with some reaching the fourth stage. She describes these stages as interpersonal maturity levels, and within these levels she has identified nine subtypes. These interpersonal maturity levels and their subtypes are outlined in Table 1.

Table 1: Warrens interpersonal maturity levels and their associated subtypes (adapted from Quay, 1975; Warren, 1969).

Maturity Level (I)		Subtypes
I_2 Those primarily involved with demands that the world take care of them. They see others primarily as givers or withholders, and have no conception of interpresonal refinement beyond this.	(1)	Asocial, Aggressive (Aa) responds with active demands and open hostility when frustrated.
	(2)	Asocial, Passive (Ap) responds with whining, complaining and withdrawal when frustrated.
I_3 Those who still have social-perceptual deficiencies which lead to an underestimation of the differences among others, and between themselves and others. They make an effort to manipulate their environmentto bring about "giving" rather than "denying" responses.	(3)	Immature Conformist (Cfm) responds with immediate compliance to whoever seems to have the power at the moment
	(4)	Cultural Conformist (Cfc) responds with conformity to specific reference group, delinquent peers
	(5)	Manipulator (Mp) operates by attempting to undermine the power of authority figures and/or usurp the power role for himself.
I_4 Those who have internalized a set of standards by which they judge their own and other peoples behaviour. They can perceive a level of interpersonal interaction in which individuals have expectations of each other and can influence each other.	(6)	Neurotic, Acting Out (Na) responds to underlying guilt with attempts to 'outrun' or avoid conscious anxiety and condemnation of self.
	(7)	Neurotic Anxious (Nx) responds with symptoms of emotional disturbance to conflict produced by feelings of inadequacy and guilt.

(8) Situational Emotional Reaction (Se) responds to immediate family or personal crisis by acting out.

(9) Cultural Identifier (Ci) responds to identification with a deviant value system by living out his delinquent beliefs.

This is a particularly detailed system and has generated a substantial amount of research, in terms of its relevance to differential treatment (see Jesness, 1971).

Systems developed from strong theoretical bases (Warren, 1969) are not common, although they provide a generally sound basis for empirical research. Another area from which classification systems have been developed from is clinical observation. These are based on either a clinical-psychiatric classification or on offence type. Often, no attempts have been made at objective verification of such systems. They do, however, constitute one area of differential classification and therefore will be reviewed below.

1.2 Clinically derived classification systems

Two examples of psychiatric-clinically derived classification systems are those developed by Downe (1968) and Wardrop (1967). Downe (1968) examined 130 male delinquents and identified 5 different types: (1) reactive depression, (2) repeatedly rejected, (3) schizoid and latent psychotic, (4) organic disorder and (5) family-centred delinquency. The diagnostic validity and discrimatory power of this system is doubtful, however, for the following reasons. Firstly, no control group was included in the study therefore it is difficult to know whether these categories are exclusive to delinquency alone. Secondly, the majority of the sample fell into the diffuse category of family-centred delinquency, which suggests that this system is not sufficiently discriminating.

Wardrop (1967) also identified five types of delinquents: (1) organic, (2) grossly deprived delinquent (3) emotionally disturbed delinquent (neurotic and psychotic) (4) family problem delinquent (5) situational delinquent. This system too has its faults as there are no clear cut criteria provided, on which to assign delinquents to any of the subtypes. Furthermore the effectiveness of differential treatment based on the subtypes has not yet been demonstrated and this serves to reduce partially, the construct validity of this system. Other investigators have attempted to identify delinquent types in terms of offence severity or offence type (Hindelang and Weis, 1972; Hooke, 1970). These systems use offence categories such as (1) drugs-A (2) traffic-truancy (3) aggressiveness (4) theft (5) malicious destruction (6) drugs-B. These systems are of limited usefulness in terms of treatment because of the general nature of the categories. Crimes can be committed for many types of reasons, and do not have a one to one correspondence with offence type or personality characteristics, therefore predictions based on such categories are limited. The categories are dependent on the legal definition of delinquency, and are therefore not only culture specific but also time specific in the sense that legal definitions change over time. These systems do have some use in terms of management however, and for this reason cannot be totally disregarded.

Overall, clinically derived classification systems and those based on offence type tend to be of limited usefulness in terms of diagnosis and differential treatment. They have not been shown to be effective in these areas; in fact very little empirical research has been conducted with them. Their popularity appears to have receded in recent years, particularly since the advancement of sophisticated computing and statistical techniques, which has resulted in an increase in systems derived from multivariate statistical techniques. These systems will be reviewed below, with one, that developed by Quay and Parsons (1971), being examined in detail.

1.3 Classification systems derived from multivariate statistical methods

The development of sophisticated statistical procedures and computer programmes has provided an impetus for the development of classification systems utilizing multivariate statistical analysis. This method, however, has roots which stem back to the work of Hewitt and Jenkins (1946), who examined the case records of 500 children referred to a guidance clinic. They identified three clusters of related traits which they described as: (a) unsocialized aggressive behaviour syndrome, (b) socialized delinquency behaviour syndrome and(c) over-inhibited behaviour syndrome. This research cannot be considered to be definitive because only one third of the sample fell clearly into the three categories. It did, however, mark the beginning of this type of research and provided a base from which future research could be developed and refined.

Hewitt and Jenkins' (1946) system was based on one source of information.. for example, case history records; however, more recent systems are derived from three sources: case history data, behavioural observations and ratings, and self report inventories and multi-trait personality measures. Data from these sources is factor analysed and homogeneous factors which account for the majority of variance within the sample are identified. Quay (1979), while discussing the development of multi-variate statistical classification systems for both childhood disorders and also juvenile delinquency, identified four independent homogeneous factors which were reported frequently in such systems. These factors have been called: (a) conduct disorder (unsocialized-psychopathic), (b) personality disorder (disturbed-neurotic), (c) immaturity (inadequacy-immaturity) and (d) socialized deliquency (subcultural-socialized).

Initial studies of statistical means of classification focused on analysis of case history data, as for example, the Hewitt and Jenkins' (1946) study which has been previously

discussed. Quay (1964a, 1966) attempted to replicate and extend the work of Hewitt and Jenkins (1946). He examined the case history data of 237 ten to eighteen year old institutionalized delinquents using a 36 item checklist, which included the three traits identified by Hewitt and Jenkins (1946). Factor analysis of the results showed that three factors accounted for a high proportion of the variance in the samples. These were; (a) unsocialized-psychopathic, (b) neurotic-disturbed and (c) subcultural-socialized. These factors were similar to those of Hewitt and Jenkins (1946), and suggest that the analysis of case history data consistently produces the same traits. These studies however, suffer from the unreliability of data present in the case records, arising from insufficient content. That is, the case records may not include the kind of information necessary to complete the checklist, and therefore, the placing of individuals in categories based on such checklists may be difficult. Reliability could be improved however, if case history information was gained with the checklist items providing structure for its collection.

A second approach to multivariate statistical classification has involved the analysis of behavioural observation and ratings. Quay (1964b, 1966) factor analysed the behaviour rating checklists of institutionalized delinquents ranging in age between 11 and 18 years. The checklists were completed by those who had substantial contact with the subjects, such as cottage officers and teachers. Both studies revealed three major factors: (a) unsocialized-psychopathic, (b) neurotic-disturbed and (c) inadequacy-immaturity. The the rating scale used in these studies was first developed by Peterson (1961) and did not contain any items relevant to subcultural or gang delinquency, consequently this factor was not identified although it is clear, as Quay (1979) rightly suggests, that such a factor is commonly found. Three factors very similar to those found by Quay (1964b, 1966) with a delinquent sample have also been found in studies using behavioural checklists with public school students (Quay, Morse and Cutler , 1966; Quay and

Quay, 1965; Peterson 1961) and child guidance clinic clients (Patterson, 1964). Delinquent samples appear to have a higher level than these groups; that is, they score higher on each factor than do the other non-delinquent samples.

Used alone, behaviour rating scales, like case history checklists do not provide enough reliable information to classify individuals into specific groups. They provide information which is situation specific and as such may give a good indication of institutional adjustment, but not necessarily the adjustment of the delinquent to wider situations beyond the institution.

The third approach to multivariate statistical classification involves the factor analysis of responses to self report questionnaire. The items of these questionnaires have been shown to be related to delinquency, and in this respect they differ from systems developed from multi-trait personality inventories such as the MMPI. Quay and his associates have conducted much of the research concerning the development of self report questionnaire. (Quay and Peterson, 1967; Peterson, Quay and Tiffany, 1961; Peterson, Quay and Cameron, 1959). These studies have produced four factors: (a) unsocialized-psychopathic, (b) neurotic-disturbed, (c) subcultural-socialized (d) inadequate-immature. The first two factors have been consistently identified, but this is not true of the last two. Cross-culturally this is also the case. For instance, research with the Personal Opinion study, a self report questionnaire developed by Quay and Parsons (1971), with a large English sample of delinquents (Grayson (1977), and with an Australian sample (Marriot, Law and Perry, 1978), identified the unsocialized-psychopathic and neurotic-disturbed dimensions, but not the subcultural one.

As with the previous two methods, the use of self report questionnaire cannot reliably differentiate the personality dimensions of juvenile delinquency, nor allow the reliable

assignment of individuals to particular categories.

In response to this situation, Quay and Parsons (1971) developed a typology based on the combined use of case history data, a behavioural rating scale and a self report inventory. Of all the systems developed to differentially classify delinquents this typology is one of few which have been extensively researched, and also utilized in attempts to provide differential treatment for groups of delinquents. This typology will now be examined in more detail.

2.0 Quay and Parsons (1971) Differential Behavioural Classification of the Juvenile Offender.

This system utilizes the information from case history data, a behavioural rating scale and self report questionnaire, to arrive at a final typology. This information is gathered from each individual during a classification procedure and on the basis of this information the individual is placed in one of four categores: (a) unsocialized- psychopathic (conduct-disorder) - who are considered to be aggressive, hostile, defiant, interpersonally alienated, have a lack of regard for others, and to be impulsive; (b) neurotic-disturbed - who are anxious, socially withdrawn, worried and suffer subjective stress and guilt; (c) socialized-subcultural - who have a delinquent value system are peer oriented, able to achieve interpersonal closeness, but are defiant of adult authority, and (d) inadequate-immature -who are passive, dependent and have a tendency to daydream.

2.1 Behaviour problem checklist

As stated above, this battery uses three instruments. The first is a 55 item behaviour problem checklist which requires that the observer knows the individual well enough to make valid judgements with respect, to which of the items do or do not characterize his behaviour. It allows the individual to be rated on three dimensions: unsocialized-psychopathic, neurotic-disturbed and inadequate-immature. Quay and Parsons (1971) and Quay (1979) report inter-rater reliability correlations for each of the three dimensions which range from .90 to .25. Quay (1979) concluded

> "by and large, the inter-rater reliabilities of conduct disorder (unsocialized-psychopathic) and anxiety withdrawal (neurotic-disturbed) are adequate when the raters have adequate opportunity for observation. The immaturity dimension is generally rated with a lesser degree of agreement... As might be expected

> raters observing children in the same situation agree to a greater degree, than raters observing from different situational perspectives - a finding that reflects both the bias of raters observing from different perspectives and the situational elements in all three patterns of psychopathology"(p26).

Internal consistency reliabilities, based on a sample of one thousand male delinquents, reported in Quay and Parsons (1971), are high for the unsocialized-psychopathic and neurotic-disturbed dimensions (.89 and .83, respectively), while they are somewhat lower for the inadequate-immature dimension (.68). Further studies (Quay, 1979) have shown a similar level of reliability for the first two dimensions, but even lower reliabilities for the immature-inadequate dimension (eg .25). One possible reason for the unsatisfactory reliability ratings for this group is that there are only eight items which measure this dimension. Such small numbers create a major problem for the factor analytic identification of this dimension, with each item also having only an average factor loading of .34.

Overall, the reliability data for the behaviour problem checklist is satisfactory, particularly with regard to the unsocialized-psychopathic and neurotic-disturbed dimensions. Clearly, it could be improved for the inadequate-immature dimension.

2.2 Personal Opinion Study

The second instrument used in the Quay and Parsons (1971) system is the Personal Opinion Study (POS) which is a 100 item true/false questionnaire developed from previous factor analytic research conducted by Quay and his associates (Quay and Peterson,1964; Peterson, Quay and Tiffany, 1961; Quay, Peterson and Consalvi, 1960; Peterson, Quay and Cameron, 1959). It measures three dimensions; the unsocialized-psychopathic, neurotic-disturbed and

socialized-subcultural. Quay and Parsons (1971) report that test-retest reliability for this questionnaire, over a period of 90 days, yields correlations of .76 for neurotic-disturbed, .75 for unsocialized-psychopathic and .61 for socialized-subcultural. They conclude,

> "these values are about average for this type of instrument when stability is assessed on a delinquent sample" (Appendix C, p14).

Quay (1979) reports internal consistency reliabilities of .92, .87 and .62 for the neurotic-disturbed, unsocialized-psychopathic, and subcultural dimensions, respectively. Both types of reliability tests have indicated satisfactory correlations for all three dimensions, although those for the socialized-subcultural are somewhat lower than the other two.

2.3 Checklist for the Analysis of Life History Data

The third instrument used in the Quay and Parsons (1971) system is the Checklist for the Analysis of Case History Data. This a 36 item rating sheet which is completed from the case history material available. This checklist was developed through factor analysis of case history data of institutionalized male delinquents(Quay,1964b; Quay, 1966). It measures four dimensions: (a) neurotic-disturbed (b) unsocialized-psychopathic (c) inadequate-immature (d) socialized-subcultural. It can be completed by anyone who has access to the case history data; clearly, however, the validity of the final analysis is a function of the accuracy and completeness of the files. Quay and Parsons (1971) suggest that validity can be increased if information for the files is collected with the checklist items in mind. Quay (1975) reports that

> "only internal consistency reliabilities have been obtained; and these have ranged from a low of .23 for inadequate-immature to a high of .77 for unsocialized-psychopathic." (p386).

The three instruments can be used jointly, in an additive fashion to arrive at an overall dimension score. Quay and Parsons (1971) fully outline this process, which involves converting raw scores for each dimension on each instrument, to T scores, and then calculating a composite T score for each dimension. The highest composite T score identifies the category in which the individual should be placed. There is no reliability data for the use of the three instruments in combination, and this, along with the essentially arbitrary manner of finally assigning an individual to a particular category, suggests that this method should be used with caution.

In the above section, The Quay and Parsons (1971) classification system and the instruments used in it have been described. It has also dealt specifically with reliability research conducted on the instruments. The following section will focus on research which has been conducted into the validity of the Quay and Parsons (1971) system.

3.0 Research Related to Quay and Parsons (1971) Differential Classification System

Research related to the Quay and Parsons(1971) system can be broadly divided into two main areas; statistical validity research and construct validity research. Each of these areas will be dealt with separately.

3.1 Statistical Validity Research

The instrument primarily focused on by researchers has been the Personal Opinion Study (POS). Two of the major studies here have been conducted crossculturally,by Grayson (1977) in England and Marriott et al (1978) in Australia. Grayson (1977) administered the POS to 1026 young offenders, and factor analysis of this data showed the existence of two factors similar to the neurotic-disturbed and unsocialized-psychopatic dimensions of the Quay and Parsons (1971) system. It failed, however, to find support for the existence of the subcultural category.

In Australia, Marriot et al (1978), using a smaller sample which consisted of 230 school children with behavioural problems and 69 institutionalized young offenders, report that factor analysis revealed the presence of two factors similar to the neurotic-disturbed and unsocialized-psychopathic dimensions. Consistent with Grayson (1977) however, they failed to find a subcultural factor.

The failure of both of these studies to identify a subcultural factor is not surprising when one considers the subcultural differences which are likely to exist in different countries and that the items of the POS which measure this factor, although effective in the U.S.A., may not be appropriate for other countries. The most important aspect of both these studies is that, factorially, they were able to identify the existence of two factors similar to those described in the Quay and Parsons (1971) system.

Statistical validity research, although a major area, has been conducted on a limited basis due to the difficulties involved in its completion, such as the need for large sample sizes. There has, however, been a greater amount of research conducted to examine the construct validity of the Quay and Parsons (1971) system, and this will now be reviewed more fully.

3.2 Construct Validity Research

This type of research has generally involved the use of the POS or Behaviour Problem Checklist (BPC), either alone or in combination. These instruments are used to identify the different young offender groups, who are then given a variety of psychological measures, in order to determine if there are any meaningful differences between them. The results have been promising with differences found between the neurotic-disturbed (BC-2) and unsocialized-psychopathic (BC-3) groups in particular, on a number of psychological variables.

Based on Quay's (1965) theory that psychopathic personality represented pathological stimulus seeking, Orris (1969) hypothesised that psychopaths would be highly susceptible to boredom and therefore likely to exhibit a decrement in monitoring efficiency on a task requiring continuous attention, because of a tendency to look elsewhere for added stimulation. It was found that relative to neurotic and subcultural delinquents, the performance of the psychopathic individuals was in fact consistently poorer on this type of task. Following from this, Skrzypek (1969) attempted to show the relationship between anxiety and stimulation seeking. He conducted an experiment in which psychopathic and neurotic delinquents were subjected to perceptual isolation and arousal, and were given pre and post measures of novelty, complexity preference and anxiety. He hypothesised that the psychopathic delinquents would be relatively unaffected by the arousal condition, but would show significant increases in novelty and complexity

preference as a result of perceptual isolation, while the neurotic delinquents would react in the opposite way. He further suggested that the pre-test novelty and complexity scores would be significantly higher for the psychopathic than for the neurotic delinquent. The results showed that: (a) there was a significant negative correlation between novelty preference and anxiety level, and between complexity preference and anxiety level; (b) the psychopathic delinquents had significantly lower pre-test anxiety and signifi cantly higher novelty and complexity preference scores (c) after perceptual isolation psychopathic delinquents increased their complexity preference scores significantly, and (d) after arousal, psychopathic delinquents did not shift scores, while neurotics significantly increased anxiety scores and decreased complexity preference scores. These results clearly showed that physiolo gical arousal increased the anxiety level of the neurotic group but not that of the psychopathic group, and that preference for novel and complex stimuli is a function of anxiety level. It follows therefore, that psychopathic delinquents have lower initial levels of anxiety than neurotic delinquents, and are able to cope with higher levels of stress. They may, therefore, seek out situations which to others are anxiety provoking, in an attempt to raise their level of stimulation.

A further example of how situations, which are anxiety provoking for the neurotic group, do not affect the behaviour of the psychopathic group, was provided by Lueger (1980). He compared Quay and Parsons' (1971) three delinquent subtypes on behaviour on a task under conditions of high arousal and a control condition. He found that transgression behaviour (cheating) did not vary under the different arousal conditions for the psychopathic or subcultural groups, but that this was not the case for the neurotic group. Under the arousal condition, transgression behaviour increased for this group. In other words the behaviour of the psychopathic and subcultural groups was unaffected by the increase in anxiety while

that of the neurotic group was affected. Stewart (1972) found similar results in his study of the effects of social reinforcement on dependency and aggressive responses of the three subtypes. He found that the effects of frustration magnified differences in performance among subgroups, and concluded that frustration may have altered anxiety levels in the subjects, which resulted in differences in conditioning among subgroups. The neurotic delinquents were most affected by the increase in anxiety, followed by the subcultural and psychopathic delinquents respectively.

Support for Quay's (1965) theory was also found by Borkovec (1970) who compared the galvanic skin response of the three delinquent subgroups. He hypothesised that the psychopathic delinquents would have a significantly lower response than either of the other two groups, and this was confirmed by the results.

The research reviewed above offers some support for the Quay and Parsons (1971) categorisation, in that the group which they identify as psychopathic shows the characteristics which would be expected on theoretical grounds (Quay 1965). A further concept related to psychopathy which has been studied utilizing the Quay and Parsons (1971) system, is that of role-taking. Research in this area also serves to confirm the construct validity of the delinquent subcategories.

Mead (1934) considered role-taking to be a cognitive social developmental process in which differentiations are assumed to take place that make it possible to see oneself as a social object, to look upon oneself from the view of another person, and to evaluate oneself by the use of generally accepted standards established by a group or society. In an attempt to integrate Mead's (1934) proposals with the clincial descriptions of psychopathy, Gough (1948, 1960) postulated that defective role-taking was one of the core problems in psychopathy. Several studies have used the Quay and Parsons (1971) system to examine this point.

In examining the relationship between moral and cognitive development in the three delinquent subcategories, Jurkovic and Prentice (1977) administered a series of role-taking tasks, and found that the psychopathic delinquents, and to a lesser extent the neurotic delinquents were deficient in role-taking skills, when compared to subcultural delinquents and non-delinquents. In a similar study, Ellis (1982), looking at the relationship between empathy, which is a concept related to role-taking ability and antisocial behaviour, found that of the three delinquent subgroups, the neurotic subjects were the least empathetic, the psychopathic group were next and the subculturals the most empathetic. Both studies suggest that in the psychopathic group, identified by the use of the Quay and Parsons (1971) system, there is a role-taking deficiency. This also adds support to the suggestion that such a system can differentiate psychopathic individuals within a group of delinquents.

Weschler (1958) developed an indice based on his intelligence tests which was thought to identify those with psychopathic tendencies. It was proposed that those with psychopathic tendencies would have a higher performance IQ (PIQ) than verbal IQ (VIQ). Several studies have attempted to study this claim using "delinquency" as the criteria for psychopathy (Andrew 1982, 1977, 1974a, 1974b; Manne, Kandela and Rosenthall, 1962). Results of such studies have been mixed, possibly due to the broad definition used for psychopathy which has resulted from the use of non-delinquent control or comparison groups, rather than delinquent but non-psychopathic control groups. In other words these researchers have failed to recognize the diverse nature of the concept of delinquency.

Hecht and Jurkovic (1977) attempted to overcome such difficulties, including the possible confounding effects incarceration may have on intellectual abilities, by using the Quay and Parsons (1971) subcategories to examine the performance/verbal IQ difference. These investigators

found in their differentiated sample that, of the three groups, only the psychopathic group scored significantly higher on the performance scale than the verbal scale, on either the WISC or the WAIS. This study not only supported the Weschler indice of psychopathy, but also identified an area on which the three delinquent subcategories differed markedly.

The research reviewed above has generally had a strong theoretical basis. Some researchers however, have chosen to directly measure the differences between the three delinquent subcategories, via the use of standardized personality tests. For example, Genshaft (1980) administered the MMPI to a group of juvenile delinquents who had been classified according to the Quay and Parsons (1971) system. She found that the psychopathic and subcultural groups were more similar to each other, in terms of the personality characteristics measured, than either were to the neurotic group. The psychopathic and subcultural groups were both high scorers on the mania and psychopathic deviate scales, but showed low scores on the anxiety and depression scales. The neurotic group, on the other hand, scored highly on the schizophrenia and psychopathic deviate scales and showed feelings of worthlessness, unhappiness, social and personal alienation and struggles against family controls. The MMPI clearly identified a difference between the personality characteristics of the neurotic group and the other two groups.

The Quay and Parsons (1971) categories have also been examined in terms of their relationship to learning concepts. Using an operant approach, Moses, Ratliff and Ratliff (1979), investigated discrimination learning of delinquent boys as a function of reinforcement contingency and delinquent subtype. They found that the neurotic delinquents performed at a significantly higher level than did the psychopathic delinquents for verbal and token punishment, while the psychopathic delinquents performed at a significantly higher level than the neurotic delinquents

for verbal and token reward. These results suggest that punishment contingencies are effective with the neurotic group while reinforcement contingencies (i.e. rewards) are more effective with the psychopathic group. These results also suggest that differential treatment programmes may be suitable for the different subtypes. Quay and Levinson (1967, cited in Quay and Parson, 1971) found differences among the three groups in terms of institutional adjustment, which were most marked between the neurotic and psychopathic groups. Based on this information, Ingram, Gerrad, Quay and Levinson (1970) attempted to develop a differential treatment programme to improve institutional adjustment. They found that the psychopathic delinquents showed improvements in institutional adjustment, when compared to a group in the institution not receiving the special programme. Further research is needed in this area however, because in the above research neither of the other two subtypes received the special programme. It is not possible therefore, to draw conclusions about the differential effectiveness of such a programme, for the relationship of such treatment to the construct validity of the Quay and Parsons (1971) system.

3.3 Summary

In Summary, research on the construct validity of the Quay and Parsons (1971) instruments is generally promising. Meaningful differences have been demonstrated between the three behavioural categories on a variety of psychologically relevant variables. These differences are particularly marked between the neurotic-disturbed and unsocialized-psychopathic groups. The unsocialized-psychopathic group have been found to show lower role-taking ability, lower anxiety and galvanic response levels, different patterns of scores on the MMPI and a greater performance/verbal IQ difference on the WAIS than the neurotic group. AS Quay (1979) states,

> "One criterion for the evaluation of the meaningfulness of a set of psychological or behav-

> ioural categories is the nature of relationships of these categories to other relevant, personal and social characteristics. The establishment of such relationships is necessary to get beyond the rather narrow confines of the originally postulated set of categories or subtypes" (p381).

There are many possible relationships between the categories and different variables, some have been outlined above and still others are yet to be discovered.

4.0 Research related to other psychological variables and Quay and Parsons (1971) Behaviour Categories

The research reviewed in the previous section directly relates to the Quay and Parsons (1971) classification system. There is further research however, which does not directly utilize the Quay and Parsons (1971) instruments, but examines the relationship between individuals who would be considered to be representative of the subcategories and various psychological variables. There has been a considerable amount of research on: (a) those considered to be very similar to the neurotic-disturbed group, and (b) those considered to have characteristics similar to those of the unsocialized-psychopathic group. This research seems to be relevant to the present study. For example, research related to machiavellianism, aggression and the performance/verbal IQ difference, will be examined in more detail.

4.1 Machiavellianism

Christie and Geis (1970) consider that traditionally the "machiavellian" is someone who views, and manipulates others for his own purpose. They believed that there are four important characteristics which would characterize a "machiavellian". These are : (a) a relative lack of affect in interpersonal relationships. In order to successfully manipulate another person, it seemed necessary to view them as objects to be manipulated rather than individuals with whom one has empathy. The greater the emotional involvement with others the greater is the likelihood of identifying with their point of view. Once this occurs it becomes more difficult to use psychological leverage to influence others to do things they may not want to do; (b) a lack of concern for conventional morality. The basic premise that Christie and Geis (1970) present here is that those who manipulate have a utilitarian rather than a moral view of their interactions with others; (c) a lack of gross psychopathology. Christie and Geis (1970)

stated,

> "the manipulator was hypothesised as taking an instrumentalist or rational view of others. Such a person would make errors in evaluating other individuals and the situation if his emotional needs seriously distorted his perceptions. Presumably, most neurotics and psychotics also show deficiencies in reality testing and by and large, fail in crucial ways in relating to others". (p27)

(d) Low ideological commitment. In other words, manipulators should be more involved in tactics for achieving personal ends rather than in an inflexible striving for an ultimate idealistic goal.

There is considerable research data to show that those who score high on the Machiavellian scale are more successful in social exchange situations (Christie and Geis, 1970b; Christie, Gergen and Marlowe, 1970). High machiavellians who lie are believed more readily than low machiavellians who lie (Geis and Moon, 1981). High machiavellians are more accurate in assessing others and in the sizing up of situations than low machiavellians.

Widom (1977), in developing a methodology for studying non-institutionalized psychopaths, suggested that psychopaths may be seen as skilled social manipulators. On the basis of clinical descriptions, this appears to be a reasonable assumption. Cleckley (1964) described 16 characteristics that distinguish the psychopath from others;

> "superficial charm and good intelligence, absence of delusions and other signs of irrational thinking, absence of 'nervousness' or other psychoneurotic manifestations, unreliability, untruthfulness and insincerity, lack of remorse or shame, inadequately motivated anti-social behaviour, poor judgement and failure to learn by experience, pathologic egocentricity and incapacity for love, general

> poverty in major affective reactions, specific loss of insight, unresponsiveness in general interpersonal relations, fantastic and uninviting behaviour with drink and sometimes without, suicide rarely carried out, sex life impersonal, trivial and poorly integrated and failure to follow any life plan" (pp362-363).

Similar descriptions are used by Robins (1966), and McCord and McCord (1964) who describe the psychopath as an asocial, aggressive, highly impulsive person, who feels little or no guilt and is unable to form lasting bonds of affection with other human beings. Such descriptions are consistent with the criteria outlined by Christie and Geis (1970) to define those who are skilful at manipulating others for their own purposes. For example, a relative lack of affect in interpersonal relationships, a lack of concern for conventional morality, a lack of gross psychopathology and low ideological commitment. This suggests that it would be reasonable to predict that psychopaths would score higher on the Machiavellianism scale than 'normal' individuals.

Widom (1977) in fact examined this point with a group of non-institutionalized psychopaths. She found, surprisingly, that there were no significant differences on the Machiavellianism Scale between her sample and unspecified normal reference groups. The fact that the control group was an unspecified group as reported by Christie and Geis (1970), suggests an explanation for this. It is possible that it was not a truly representative sample of the general population, and may have been biased towards psychopathy. For instance, it is known that university students score consistently higher on the psychopathic-deviate scale of the MMPI, and if the majority of controls were university students, then factors which influence their high scores on the psychopathic deviate scale may also influence their scores on the Machiavellianism Scale. It is possible, therefore that the Machiavellianism Scale will differentiate between psychopaths and other groups, but may not have done so in Widom's (1977) study because of an inappropriate and poorly defined comparison group.

In the present study an institutionalized sample of psychopathic delinquents was used and the comparison samples were composed of a group of neurotic delinquents and a group of subcultural delinquents. Conceptually, neurotics and psychopaths are very different groups, with neurotics generally being defined as submissive, nonassertive individuals, while psychopaths are considered to be more domineering and assertive. This leads to the prediction that, in the present study, the group of psychopathic delinquents would score higher on the Machiavellianism Scale than either the neurotic or subcultural delinquents.

4.2 Performance IQ greater than verbal IQ as an indice of psychopathy

There is a substantial amount of research which has been conducted with this variable. The results have been mixed with some confirming this relationship (Andrew 1982, 1977, 1974a, 1974b; Manne, Kandel and Rosenthal, 1962; Clark, 1949) while others have not (Saccuzzo and Lewandowski, 1976; Weins, Malarazzo and Gaver, 1956; Thurston and Claden,1954). A possible explanation for such discrepancies may lie in the varied nature of the definition of psychopathy used in the different research methodologies. For example Andrew (1982, 1977, 1974a, 1974b) used the broad category of delinquency to define her sample, while others have used very specific criteria (Weins et al, 1956). This study used sex offences as the only criterion of psychopathy. Neither of these studies allows for an accurate identification of the psychopath, and therefore a certain amount of confounding of the research is inevitable.

Hecht and Jurkovic (1977) have conducted research using Quay and Parsons (1971) categories in order to clearly define and identify those with psychopathic tendencies. They found strong support for the performance/verbal IQ difference in the psychopathic group. There have been some attempts to go beyond the descriptive nature of this index to postulate possible causal factors. For instance, it has been

suggested by Shallice and Warrington (1974), that processing of verbal materials tends to be associated with the left cerebral hemisphere, while processing of non-verbal material tends to be associated withthe right cerebral hemisphere. This relationship has been investigated in a delinquent population by Fitzhugh (1973) and Flor-Henry (1978), who have suggested that there appears to be a lack of left hemisphere dominance for language and a right hemisphere superiority in this group. Andrew (1977)related this left-right hemisphere imbalance to the better performance IQ (right hemisphere) than verbal IQ (left hemisphere) in delinquents. She further showed that this factor is related to their poor reading skill which is mediated by the left hemisphere (Andrew, 1981). Such research suggests the Weschler performance/verbal IQ difference is a reflection of the delinquents supperior ability to process non-verbal information, relative to their ability to process verbal information. If this is correct, then such a difference would be expected to not only appear between the performance and verbal scales of one individual test, but also between two different tests of verbal and non-verbal intelligence. This possibility has not to date been tested but is examined in the present study.

4.3 Aggression

Factor analytic studies conducted by McGurk, McEwan and Graham (1981) and McGurk, McEwan and McGurk (1983)with almost 500 young offenders, using the 16 personality factor questionnaire (16 PF) and the hostility and direction of hostility questionnaire, identified two types of young offenders. These were conceptually similar to the neurotic-disturbed and unsocialized-psychopathic categories of Quay and Parsons (1971). The neurotic-disturbed types displayed a high level of general hostility and were very self critical. Their agression was intrapunitive in nature; that is, it was directed inward towards themselves. The unsocialized-psychopathic type, on the other hand, were assertive, expedient and suspicious. They were high on acted out hostility and extrapunitive aggression; in other words, they directed their anger outwards and towards others

in the environment. This research clearly indicates a difference between the two groups in terms of the direction of aggression.

Similar research, observing the direction of aggression in delinquents versus non-delinquents has been conducted using the Rosenzweig Picture Frustration Study. Kaswan, Wasman and Freedman (1960) found that prison inmates tended to more extrapunitive and less intrapunitive and impunitive on this measure. Two studies conducted with delinquent girls (Sivanandam, 1971; Vane, 1954 cited in Rosenzweig, 1978) found that compared to non-delinquents, they exhibited lower extrapunitive and group conformity scores and higher intrapunitive and impunitive scores. It is, of course, possible that this pattern was the result of sex rather than delinquency per se. Norman and Kleinfeld (1958) found no significant differences between the scores on the Rosenzweig Picture Frustration Study (RPFS), of 20 delinquent Spanish American males and 22 non-delinquent subjects. These results were later supported in another study by Swickard and Spilka (1962). In this study methodological controls were introduced to minimise the possibility of false 'good' responding. Pareek (1964) studied a sample of 20 young delinquents (i.e. under 13 years of) using the Indian adaptation of the children's version of the RPFS, and found that when their scores were compared to a group of non-delinquent children, there were no significant differences in either direction or type of aggression, but that overall these subjects showed significantly lower Group Conformity rating scores than the normal group.

The majority of these research studies suggest that scores on the RPFS do not definitively differentiate between delinquents and non-delinquents. All of these studies, however, have used delinquent versus non-delinquent comparis ons without recognition of either the problems involved in the definition of the term delinquency, or that it is a heterogeneous concept. It is possible that lack of recognition of these issues may serve to conceal some of the subtle

differences in RPFS scores of different delinquent types as well as those between non-delinquent subjects. Rosenzweig (1978) argues that the basis of a delinquent non-delinquent difference in RPFS scores in Western culture (in social, if not in legal terms) is that the delinquent is one who displays a higher level of hostility, than that found in the population generally. It is of course possible that this is an over-generalization and may only be the case for some delinquents.

Research which directly examines the relationship between the neurotic and psychopathic subtypes is limited; that which does exist suggests that both groups are aggressive in nature, but the direction of their agression may differ (McGurk et al, 1983; McGurk et al, 1981). Research utilizing the RPFS suggests that aggression may not be a function of delinquency per se, but that further examination is needed of the relationship between delinquent sub-groups and the type and direction of aggression characteristics of these groups.

5.0 The Present Study

The main purpose of the present study was to examine the application and utility of the Quay and Parsons (1971) differential classification system for the young offender, for a New Zealand sample. It was also proposed to examine the construct validity of the above system by relating the behavioural sub-categories to psychological dimensions with the use of various personality and cognitive measures.

All new inmates who entered the Manawatu Youth Institution over a five-month period were included in the study. This institution is situated approximately 10 miles from Palmerston North and caters for a maximum of 130 inmates, aged between 15 and 23. It is a minimum security institution, with an emphasis on rehabilitation through work, counselling and community parole programmes.

The institution is also used as an assessment centre for young offenders. Those who are considered likely to benefit from the programmes available are retained, while those who are considered unsuitable are transferred to other youth institutions. Each new inmate spends one week in an induction programme, during which time he is introduced to the facilities available and interviewed by prison authorities, education staff and counselling and welfare staff. At the end of this week, the inmates are classified, and if they are to stay at the institution, an individual programme is developed for them.

It was proposed in the present study to administer the Quay and Parsons (1971) system to each new inmate so that the sample could be divided into the three subgroups outlined below:

BC-2 (Neurotic-Disturbed) - who are anxious, socially withdrawn, worried and suffer subjective stress and guilt.

BC-3 (Unsocialized-Psychopathic) - who are aggressive, impulsive, hostile, interpersonally alienated and have a lack of regard for others.

- BC-4 (Socialized-Subcultural) - who are peer oriented, able to achieve interpersonal closeness, and defiant of adult authority.

On the basis of theoretical and research evidence, a number of personality variables were chosen, and the relationship of these variables to Quay and Parsons (1971) subgroups was examined. They were : anxiety, tendermindedness submissiveness, depression, overall neuroticism, machiavellianism, role-taking ability, verbal and non-verbal intelligence, and aggressiveness.

The Neuroticism Scale Questionaire (NSQ) was chosen as one measure because it includes a number of the personality variables noted above, takes little time to administer and has been used previously with young offender samples. It provides an overall measure of neuroticism and has four sub-scales which provide measures of anxiety, tender-mindedness, submissiveness and depression. There has been little research which has directly measured the relationship between these variables and the three young offender subgroups. However, that which is available with regard to anxiety (Leugar, 1980; Stewart, 1972; Orris, 1969; Skrzypek, 1969), together with Genshafts research with the MMPI, suggests that the three subgroups would show meaningful differences on these variables. Specifically, these studies suggest that the BC-2 group would be more anxious, depressed, tender-minded, submissive and neurotic than either of the other two groups.

It was decided to administer the Machiavellianism Scale (Mach IV) which is a measure of manipulative interpersonal tendencies, because it was considered likely to discriminate between the BC-3 group and the other two groups. Conceptually the BC-2 and BC-3 groups are postulated to be very different, with the BC-2 group members described as submissive and non assertive, and the BC-3 group members as domineering and assertive. This suggests the BC-3 group will have higher scores on the Mach IV scale than the BC-2 group. Widom's (1977) research does not support this relationship, although

methodological problems in his study may account for this. Other research (for example, Geis and Moon, 1981, Christie and Geis, 1970b; Christie, Gergen and Marlowe, 1970) supports the view that those with BC-3 group characteristics score higher on the Mach IV scale, than those with BC-2 group characteristics. On this basis it was considered likely that the BC-3 group would have higher scores on this scale than the BC-2 group. No prediction was made for the BC-4 group on this measure because of the culturally specific nature of this group, and the lack of any research directly related to it on this variable.

An adaptation of a role-taking task, used by Chandler (1973) to successfully differentiate between delinquent and non-delinquent groups, was included in the present study. The research by Ellis (1982) and Jurkovic and Prentice (1977) suggests that the BC-3 group have less ability than the other two groups to take the role of another person, or to accurately view a situation from another person's perspective. It was decided to examine this relationship further with the use of a different measure of role-taking ability adapted from Chandler (1973).

The research studies noted in the literature review strongly support the view that performance/verbal IQ differences are related to BC-3 type characteristics. Hecht and Jurkovic (1977) found that the difference between scores on the verbal and performance scales of the WISC and WAIS for the BC-3 group was higher than for either of the other two groups. All previous research has utilized sub-scales from either the WISC or the WAIS to examine this relationship. In the present study, however, two separate measures were used. These were the Peabody Picture Vocabulary Test-Revised (PPVT-R) and the Standard Progressive Matrices (SPM). Both are reasonably brief to administer, and their scores have been found to correlate highly with scores on the verbal and performance sections of the Weschler measures respectively (Kendall and Little, 1977). On the basis of the literature review it was considered that the verbal/non-verbal IQ differ-

ence, observed with the Weschler measures for all groups, would be mirrored when two different tests were used. It was also considered, based on Hecht and Jurkovic's (1977) research, that the BC-3 group would show the highest difference of the three groups.

A measure of aggression, the Rosenzweig Picture Frustration Study (RPFS), was included in the present study. It measures both direction and type of aggression and has been used in previous research in attempts to differentiate between offenders and non-offenders, (Pareek, 1964; Kaswan, Wasman and Friedman, 1960; Norman and Klienfeld, 1958). The results of these studies, however, have not been definitive.

Previous research on aggression in young offenders suggests that both the BC-2 and BC-3 groups are aggressive but that the direction of their aggression differs. (McGurk, McEwan and McGurk, 1983; McGurk, McEwan and Graham, 1981). In addition, research conducted on the relationship between anxiety and subgroup (Stewart, 1972; Skrzypek, 1969) suggests that the type of response to a frustrating situation will also differ between groups. For example high arousal of the BC-2 group has been found to reduce their problem solving responses. The RPFS measures both extrapunitive and intrapunitive aggression and it is expected that scores on these dimensions will differentiate between the BC-2 and BC-3 groups. On the basis of previous research (McGurk et al, 1983; McGurk et al, 1981) it seems likely that the BC-2 group will be self critical and hostile towards themselves directing their aggression inward (that is intrapunitive), while the BC-3 group will be hostile towards others directing their aggression outward (that is, extrapunitive). It is also likely that the type of reaction to frustration shown by the BC-2 group will be less oriented towards problem solving than that of the BC-3 group, because of their higher levels of arousal (Stewart, 1972; Skrzypek, 1969). No predictions on these measures were made for the BC-4 group due to the instability of this category across cultures, and the lack of specific research conducted with a New Zealand sample.

Previous research (eg Orris, 1969; Skrzypek, 1969) has shown that the BC-2 group has a higher anxiety level than the BC-3 group and that this has a detrimental effect on their performance on various tasks. Their problem-solving ability is affected by their high arousal and they perform more poorly than the BC-3 group. Therefore it is considered likely that in a frustrating situation, the BC-2 group will be less likely to give a response oriented towards problem solving, and is expected to score lower on the N-P (Need-persistence) scale of the RPFS than the BC-3 group. No predictions are made for the BC-4 group on these measures because of its cross-cultural instability and the lack of research directly related to it.

5.1 Summary

On the basis of research studies reviewed in this and previous sections (Genshaft, 1980; Leugar, 1980; Stewart, 1972; Orris, 1969; Skrzypek, 1969), the BC-2 group is expected to score higher on the Depression, Tendermindedness, Submissiveness and Anxiety sub-scales of the NSQ than either the BC-3 or BC-4 groups. As a function of these sub-scales scores, the overall Neuroticism score is also expected to be higher for this group than for either of the other groups.

All groups are expected to have a marked discrepancy between scores on measures of non-verbal (SPM) and verbal (PPVT-R) IQ, with non-verbal scores being the greater. Based on Hecht and Jurkovic's (1977) research, the BC-3 group is expected to have the highest discrepancy between scores on these two measures. The BC-3 group is also expected to have higher scores on the Mach IV Scale than the BC-2 group, and to show less role-taking ability (higher egocentrism scores) than either the BC-2 or BC-4 groups.

The personality dimensions proposed by Quay and Parsons (1971), which are characteristic of each of the three groups included in their typology of young offenders, suggest that although all groups are likely to show similar levels of response on the E-D (Ego-defense) scale of the RPFS due to their current or chronic alienation from societal norms, the BC-2 group will show higher intrapunitive scores than the BC-3 group. Intrapunitive responses are defined in the clinical literature as characteristic of those with high levels of guilt and depression (Davison and Neale, 1978). Quay and Parsons (1971) postulate a tendency to guilt and depression as major personality dimensions of those included in the BC-2 group. On the other hand, the BC-3 group who have been categorised as deficient in interpersonal empathy and role-taking ability, are likely to show high extrapunitive scores in comparison with the BC-2 group.

METHOD

6.1 Subjects and Sampling

The sample was derived from 68 consecutive new admissions to the institution, between October 1983 and March 1984. All subjects were males aged between 15 and 23 years with a mean age of 18.57 years. They all participated on a voluntary basis. Thirty-eight of the subjects were of Maori origin, 27 were European and 3 were Pacific Islanders. The length of their custodial sentences ranged from 2 months to 3 years, with the majority of sentences being in the 2 month-1 year range. Three subjects were deleted from the original sample: one refused to participate further after completing the first session, and two subjects were confined to their cells after the first session and were unavailable for further testing. The remaining 65 subjects completed the study.

6.2 Pilot Study

A Pilot study was conducted with 6 new inmates to establish:

a) A suitable order of presentation for the tests in session 2.

b) The understanding of the test material by the inmates.

c) The suitability of the semi-structured interview.

The results from this study indicated that presenting the tests in session two in the following order, Personal Opinion Study, Neuroticism Scale Questionnaire,Machiavellianism Scale and Rosenzweig Picture Frustration Study, was the most suitable for maintaining inmate motivation and minimizing fatigue. This order allowed for the longest test to be given first, with the next test being shorter and so on, and finishing with a task which was considered enjoyable. It became evident that the inmate population contained a number of remedial readers who had difficulty understanding and reading some of the words in the Neuroticism Scale Questionnaire(NSQ). In order to partially overcome this difficulty

it was decided to read the NSQ aloud to the inmates. It was found that this procedure enhanced the understanding of the words, by encouraging the inmates to question any words they did not understand. They did not do this when they were given the test to read alone.

The semi-structured interview was not changed for the main study, as it provided suitable information for the completion of the Checklist for the Analysis of Life History Data (CALH) such as relationships at home, at school and at work, and also, general lifestyle. These areas are measured in the CALH, but this information was not necessarily available in the institution's files.

6.3 MATERIALS

The Quay and Parsons (1971) Classification Procedure for Young Offenders This procedure consists of three measuring instruments, for a full description the reader is referred to the introduction.

1. Personal Opinion Study (POS) A one hundred item true-false questionnaire measuring delinquent attitudes, beliefs, feelings and behaviour. It can be taken by anyone whose reading ability is near that of an 11 to 12 year old, or it can be administered orally to non-readers. Some of The wording in the questionnaire was changed in order to make it more readily understandable to New Zealand subjects. The words changed were: item 4 "folks" to parents, item 8 "stores" to shops, item 9 "grades" to marks, item 50 "played hooky" to wagged, item 57 "high school" to college, item 61 "cutting up" to playing up, and item 96 "report card" to school report.

2. Checklist for the Analysis of Life History Data (CALH) This is a 36 item checklist which can be completed by anyone with access to institutional files. A brief interview structured around the items of the CALH, was used to supplement the data on the subjects files (See Appendix A for a copy of the semi-structured interview.)

3. The Correctional Adjustment Checklist (CACL) (See Appendix A for the rationale for using the CACL instead of the Behaviour Problem Checklist.) The CACL is a 63 item checklist of adjustment behaviours related to four offender subcategories, inadequate-immature (BC-1), neurotic-disturbed (BC-2), unsocialized-psychopathic (BC-3) and manipulative (BC-5). As with the Behaviour Problem Checklist, the CACL, does not measure the socialized-subcultural subcategory (BC-4). This checklist was shortened by removing the 11 items of the inadequate-immature scale, a dimension which was not directly related to the present study. This was done in an attempt to enhance the cooperation of the prison officers who completed the checklist by keeping the extra time required to complete it to a minimum.

The Neuroticism Scale Questionnaire (NSQ) This measures neurotic trends in the normal or abnormal, adult and young adult population. It gives an overall neuroticism score derived from the scores on the following bipolar dimensions. 1) Tender-mindedness vs Toughmindednes 2) Depressiveness vs Cheerfulness 3) Submissivenes vs Dominance 4) Anxiety vs Calm Relaxation.

A small departure from the standard administration procedure was introduced in the present study. Each question was read aloud and then answered by the subject on the standard answer form. The manual states that

> "The NSQ is readily intelligible to reading or education levels down to sixth or seventh grade" (Schaier and Cattell,1961, p8).

Results from the pilot study however, suggested that the sample was likely to contain a proportion of retarded readers who have poor comprehension abilities. This change in procedure was considered essential in order to ensure that all subjects understood the questions asked, thereby reducing the likelihood that questions were answered on a random basis by subjects with low levels of reading ability.

Peabody Picture Vocabulary Test- Revised (PPVT-R) is a standardised test which is designed primarily to measure

a subject's vocabulary for standard American english. It also permits estimates to be made of a subject's IQ. This test was administered and scored according to the manual (Dunn and Dunn 1981). The recent publication of this test has not permitted a significant accumulation of direct validity research, however its similarity to the PPVT and its median correlation of .70 with this first edition permits interim evaluations of the PPVT-R to be made, based on previous PPVT research (Anastasi 1982). Scores on the PPVT have been shown to be highly correlated with the verbal sections on the Weschler measures, (Kendall and Little, 1977) which suggests the PPVT-R would give a reasonable estimate of an individuals verbal IQ.

Standard Progressive Matrices (SPM) A standardized non-verbal IQ test. This was administered by Educational staff at the institution, using the standard untimed procedure as outlined in the Manual (Raven, 1958)

Role-Taking Task This was based on the procedure developed by Flavell, Botkin, Fry, Wright and Jarvis (1968) which is described by Chandler (1973) as follows. The task

> "consisted of a single cartoon sequence which subjects were asked to describe first from their own point of view and then from the perspective of a coexperimenter who was shown only an abbreviated version of the same stimulus materials. In this way Flavell and his colleagues were able to put their subjects in possession of relevant, but highly privileged information which was explicitly unavailable to the less well informed bystander whose perspective they sought to occupy. Any intrusion of this privileged information into the account given as a description of the perspective of the only partially informed coexperimenter was taken as evidence of an egocentric failure in social role taking." (p327)

In the present study, three, seven card cartoon sequences were used. One was from the original Flavell et al (1968)

study and the other two were developed by the present experimenter, based on the same criteria as the original. The themes of the two sequences developed by the experimenter were considered to be more relevant to the age group included in the sample, than those developed by Flavell et al (1968) for younger age groups.

The content of the first set of seven cards was as follows. 1) a boy walking down the road waving a stick 2) he is confronted by a vicious dog 3) scared, he drops his stick and turns and runs 4) he runs toward an apple tree 5) he climbsthe tree to escape the dog 6) he watchesfrom the top of the tree as the dog departs 7) he sits down in the tree and starts eating the apples. (For examples of stimulus cards and the content of story sets 2 and 3 see Appendix A.)

The procedure used for this task, differed from that used by Flavell et al (1968) in that a coexperimenter was not used. Instead, the subjects were asked to imagine that they had a friend standing outside the interview room and when the abbreviated version of the sequence was presented, to imagine what this friend would say when they saw it. Flavell et al's (1968) 4 category system was used to score the stories. (See Appendix A for the scoring criteria for each category)

Machiavellianism Scale (Mach IV) is a 20 item measure of manipulative tendencies developed by Christie and Geis (1970). These authors contend that a high scorer on this scale would be an individual who shows cool detachment in interpersonal relationships and who looks for the most rational strategy to advance his/her own interests. These subjects would not necessarily display any symptoms of major psychopathology. The items of the scale were derived from the writings of Machiavelli and also include statements which are congruent with his philosophy. In order to control for acquiescence a number of the items have been reversed. One item, "The biggest difference between most criminals and other people is that the criminals are stupid enough

to get caught", was removed from the scale. It was felt that such an item might cause antagonism in the subjects and reduce the validity of responses to this and other items on the scale. Scoring procedures were adjusted accordingly, such that the lowest possible score was 38 and the highest possible score was 152.

Rosenzweig Picture Frustration Study - Adult Form (RPFS)

This test measures patterns of response to everyday stress. It consists of a series of 24 cartoon-like pictures. Each item depicts two persons who are involved in a mildly frustrating situation. The words spoken by one of them are given and the subjects' task is to write in the empty space above the other, the first response which enters his mind. The RPFS was administered and scored using the standardized procedures as outlined in the manual (Rosenzweig, Fleming and Clark, 1947). (For a full description of the RPFS see Appendix A.)

6.4 Procedure

Each new inmate was initially interviewed by three senior prison staff who informed him of the present research, and that the present experimenter would appreciate seeing him later in the week for approximately 2 hours. They were informed that participation was voluntary and that a refusal to participate would not affect classification decisions which would be made about them the following week.

Each inmate was then seen for two 1 hour sessions. The first involved the inmate being seen individually, and the second, which was conducted the following day, involved all the new inmates for that particular week being seen as a group. With a maximum of ten being seen in any one week. The content of each session was as follows.

Session 1 Each subject was given an introduction by the present experimenter, explaining the research project and

reassuring the inmate that all information he gave would be confidential and would not affect any classification decisions made about him. This was followed by the brief semi-structured interview. Following this the Peabody Picture Vocabulary Test-Revised was administered and finally the three Role taking tasks were given. Responses to the Role taking tasks were tape recorded with permission of each subject and later transcribed verbatim. In order to control for any possible bias due to the order of administration of the Role taking tasks, the order of presentation was varied on a random basis. (See Appendix A for instructions for the administration of the Role taking tasks). The entire length of session 1 was approximately 1 hour.

Session 2 This involved the administration of the Personal Opinion Study, Neuroticism Scale Questionnaire, Machiavellianism Scale and Rosenzweig Picture Frustration Study. The pilot study indicated that this order of administration was the most suitable for alleviating possible fatigue and frustration.

All subjects were encouraged to ask for help if they found words they did not understand. If it had been indicated during session 1 that a subject had reading difficulties, then all the questionnaires were read aloud to the subjects. This was done to save embarrassment of the subjects concerned. In such instances the subjects were told that all questionnaires would be read aloud, and they were free to keep up with the present researchers reading pace, or to go ahead at their own pace if they wished. Each questionnaire was completed by all subjects before the next questionnaire was started. The entire length of session 2 was approximately 1 hour.

The Correctional Adjustment Checklist (CACL) and the Checklist of the Analysis of Life History Data (CALH) were also completed during classification week. The Correctional Adjustment Checklist was completed at the end of induction week by the Prison Officer on Duty. All Prison Officers who completed it had had opportunities to interact and observe, the inmates they were rating, during the classification period.

The Checklist for the Analysis of Life History Data was completed by the present experimenter, between sessions 1 and 2, utilizing interview information and the institutions files.

RESULTS

7.0 Institutional Data

The Quay and Parsons (1971) classification inventory was administered to 65 subjects. It was decided to develop normative data for New Zealand subjects in view of the high representation of Maori and Pacific Island inmates in penal institutions and the wide cultural and ethnic differences between United State's groups and the present sample. On this basis it was considered that the original norms for differential classification would be inappropriate, particularly in relation to data derived from life history records and the Correctional Adjustment Checklist.

Conversion tables were developed from data obtained from the 65 subjects in the sample on the three instruments comprising the inventory. (See Appendix B for procedure and conversion tables for the New Zealand sample). Subjects were placed in one of the three behaviour categories on the basis of the highest Composite T-score obtained. Subject characteristics for each behaviour category are shown in Table 2.

TABLE 2
Subject characteristics for each of Quay and Parsons (1971) Behaviour Categories

	Classification Category			
Characteristics	BC-2	BC-3	BC-4	Total
Maoris	5	11	21	37
Europeans	12	7	6	25
Pacific Islanders	1	0	2	3
Mean Age	19.27	19.16	17.75	-

As can be in table 2 the largest proportion of Europeans was found in the BC-2 group (66%), while the largest proportion of Maoris and Pacific Islanders was in the BC-4 group (79%). There was approximately a one and half year difference in the mean age of the BC-4 group and the other two groups.

The number of new admissions in each of Quay's categories who were retained at or transferred from Manawatu Youth Institution can be seen in Table 3.

TABLE 3
New admissions retained or transferred from M.Y.I. in each of Quay's categories

	Classification Category			
	BC-2	BC-3	BC-4	Total
Retained	16	3	24	43
Transferred	2	15	5	22
Total	18	18	29	65

Chi-square analysis indicated that overall there are significant differences between the groups in the numbers of inmates transferred as a function of classification on Quay's inventory, $\chi^2(2, N = 65) = 27.49$, $P < .0001$.

Camparison between the BC-2 (neurotic-disturbed) and BC-3 (unsocialised-psychopathic) groups by chi-square analysis (with correction for continuity) showed that there was a significantly higher probability for inmates in the BC-3 category to be transferred from M.Y.I. than for those in the BC-2 category, χ^2 (1, $N = 36$) = 16.05, $P < .001$.

Similar results were obtained for chi square comparisons between those in the BC-3 and BC-4 (socialised-subcultural categories. There was a very much higher probability that those classified as socialised-subcultural would be retained at M.Y.I. than for those classified as unsocialised-psychopathic, $\chi^2(1, N = 47) = 17.54$, $P < .001$. (See Appendix B for contingency tables for all Chi-square calculations) These results suggest that current institutional selection processes seem to endorse Quay and Parsons (1971) classification system, particularly in relation to the BC-3 (unsocialized-psychopathic) group.

7.1 The Neuroticism Scale Questionnaire - N.S.Q.

Levels of tendermindedness, depression, anxiety, submissiveness and overall neuroticism were measured on the N.S.Q. Scores on the N.S.Q. are presented as a form of standard score using a ten-point scale. Stens 5 and 6, the middle scores represent central personality characteristics with no extreme durations. Mean scores, in stens, on the N.S.Q. for the three groups can be seen in Table 4.

TABLE 4
Mean sten scores on four sub-scales and overall N. scores on the N.S.Q. for inmates classified into Quay's categories

	Classification Category		
Subscale	BC-2	BC-3	BC-4
Tendermindedness	5.22	5.11	5.20
Depression	4.44	3.33	3.62
Anxiety	7.44	7.05	7.89
Submissiveness	5.89	5.50	5.38
Total N.S.Q.	6.00	5.22	5.72

Table 4 shows that for all groups mean scores on tenderminedness, submissiveness and neuroticism fall within or just below the average range. Scores on the anxiety scale are above the average range and those for depression well below it.

One way analysis of variance and planned comparisons between groups for each N.S.Q. subscale together with the overall neuroticism scale were completed (See Appendix B, Tables B-12 and B-13 for means, and F-statistic for each of these scales; values for planned comparisons are also included). No significant differences between groups were found on any of these variables. Planned comparisons between groups also failed to reach significance.

In view of the high levels of response on the anxiety scale the data were further analysed to establish the extent to which these scores contributed to the overall neuroticism score. The mean anxiety score for each group was compared with a mean composite score derived from the mean scores of the other three subscales (i.e. depression, submissiveness and tendermindedness).

A 3 x 2 (group x test) mixed design with a repeated measure on the test was used in this analysis. Results are shown in Table 5.

TABLE 5
Mean anxiety and composite subscale scores from the N.S.Q. for three groups of inmates classified into Quay's categories

	Classification Category		
Scale	BC-2	BC-3	BC-4
Anxiety	7.44	7.11	7.89
Composite	5.18	4.64	4.75

As indicated in Table 5 scores for all groups were higher on the anxiety scale than they were on the composite scale. The highest discrepancy between scores on the two measures was obtained by the BC-4(socialised-subcultural) group.

The two way analysis of variance revealed a significant main effect for test $F\ (1,62) = 115.79, p < .001$. No interaction effects were found between groups and test. (see Appendix B for summary table).

This analysis suggests that for all groups the overall neuroticism score is inflated by the anxiety subscale of this test. With the anxiety component partialled out, the composite scores shown in Table 5 indicate the contribution of the other three subscale scores to the overall neuroticism score.

7.2 Discrepancy Between Measures of Verbal and Nonverbal Ability

Scores from the Peabody Picture Vocabulary Test Revised (P.P.V.T.-R) were compared with those obtained on the Standard Progressive Matrices (SPM). As both of these tests are standardised with the same mean and the same standard deviation direct comparison of scores is possible. Results obtained are shown in Table 6.

TABLE 6
Standard scores on the P.P.V.T.-R and S.P.M. for inmates classified into Quay's categories

	Classification Category		
Test	BC-2	BC-3	BC-4
Standard Progressive Matrices	106.8	99.2	101.9
P.P.V.T.-R.	81.8	81.2	75.8
Discrepancy Score	25	18	26.1

Scores obtained on the Standard Progressive Matrices test are higher for all groups than scores for the PPVT-R. The data were analysed using 3 x 2 (group by test) mixed design with a repeated measure on test, (Keppel, 1973, p.433 - 442). (For summary table see Appendix B). No significant interaction effects were found on this analysis. This result does not confirm the expectation that the BC-3 group would show the highest discrepancy between scores on these two tests.

A signifcant main effect for test was found F (1,62) = 211.98, $p < .001$. This confirms the prediction made in section 5.1 that all groups would show a discrepancy between scores from measures of verbal and nonverbal ability with scores on the nonverbal measure being the greater.

7.3 Role-Taking Measure

Individuals were classified as egocentric or non-egocentric on the following basis. A score of 4 or less indicated that either no, or at most one egocentric error was coded across the three tasks included in the role-taking measure. Subjects receiving a score of 4 or less were categorised as non-egocentric; those with scores of 5 or more were categorised as egocentric. Interrater reliabilities computed on a sample of 20 randomly selected test protocols indicated a high level (r = .95) of interrater agreement. Results from this classification can be seen in Table 7.

TABLE 7
Number of subjects classified as egocentric or non-egocentric in each of Quay's categories

	Classification Category			
	BC-2	BC-3	BC-4	Total
Egocentric	8	14	17	29
Non-egocentric	10	4	12	26
Total	18	18	29	65

As these data are nominal a single - sample Chi-square test of independence was used for the analysis. (Walker and Lev, 1969, pp272 - 287)

The results shown in Table 7 indicate that overall 60% of the sample was defined as egocentric. A breakdown by category revealed that 44% of the BC-2 group, 77% of the BC-3 group and 59% of the BC-4 group were defined as egocentric. Although these results were in the predicted direction Chi-square analysis did not reach significance. (See Appendix B for Chi-square calculation).

7.4 Machiavellianism

Mean scores for each of the three groups on this measure can be seen in Table 8.

TABLE 8
Mean scores on the Machiavellianism Scale for inmates classified into Quay's categories

	Classification Category		
Test	BC-2	BC-3	BC-4
Mach IV	90.6	96.3	89.5

Table 8 shows that scores on the Machiavellianism scale were highest for the BC-3 group and lowest for the BC-4 group. One way analysis of variance revealed no significant differences between the groups. A planned comparison (Keppel, 1973) between scores on the measure for the BC-3 and BC-4 groups showed that this difference is significant $F(2,62) = 4.45$, $p < .05$. Planned comparison between BC-2 and BC-4 groups did not reach significance. (See Appendix B, Table B-12 and Table B-13 for means and F-statistic for one way analysis of variance and planned comparisons.)

7.5 Rosenzweig Picture Frustration Study

Direction and type of aggression were measured on the Rosenzweig Picture Frustration Study (R.P.F.S.). Results from four scales from this measure for the three groups of subjects are shown in Table 9.

TABLE 9
Mean scores on four R.P.F.S. scales for inmates classified into Quay's categories

	Classification Category		
Scale	BC-2	BC-3	BC-4
E-D (ego defence)	61.94	65.44	58.41
N-P (need persistence)	24.72	26.17	24.17
I (intropunitive)	19.11	16.39	21.03
E (extrapunitive)	61.94	65.44	58.41

One way analyses-of-variance and planned comparisons between groups for each R.P.F.S. scale were completed. (Appendix B Tables B-12 and B-13 show means, and F-statistic for each R.P.F.S. subtest; values for planned comparisons are also included.)

Table 9 shows that the three groups of subjects gave very similar levels of response on the E-D (ego-defence) scale. No significant effects were found on either one way analysis of variance or planned comparisons. In an earlier section 5.1 it was predicted that current or chronic alienation from the general society is likely to result in a high level of ego-defensiveness for all inmate groups. This prediction is given some support by this result.

No significant differences between groups were found on the three other scales of the R.P.F.S. included in this analysis. (i.e. N-P (need-persistence), I (intropunitive) and E (extrapunitive) scales). Planned comparisons on these scales also failed to reach significance.

In view of the extensive literature reporting a central role for problems with aggression in the etiology of youthful offending, data from the extrapunitive and intropunitive scales were further analysed. A 3 x 2 (group by test) mixed design was used with a repeated measure on the test. Scores for all groups were higher on the extrapunitive dimension than they were on the intropunitive dimension. This analysis showed a significant main effect for test. F (1,66) = 189.4, $p < .001$. No interaction effects were found between groups and tests. (See Appendix B for summary table)

DISCUSSION

Two major purposes of the present study were to assess the construct validity of the Quay and Parson's (1971) classification system and to evaluate its suitability for the differential classification of young offenders in a New Zealand institutional setting. The results on a variety of measures used to evaluate the construct validity of the instrument present a mixed picture, with confirmation of research based expectations on some dimensions but not on others. Overall, greater similarities were found between the three groups comprising the sample than were differences between them. The results revealed personal, social and cognitive characteristics common to the whole sample. These will be discussed below, followed by a detailed analysis of the results for each group in terms of the construct validity of postulated group characteristics. Finally an evaluation of the suitability of the Quay and Parson's (1971) differential classifaction system for use in New Zealand youth institutions will be made.

8.0 Characteristics of the whole sample

Mean scores for all groups on the submissiveness, sensitivity and neuroticism scales of the Neuroticism Scale Questionnaire fell within or just below the average range. Mean scores for depression were well below the normal range, and those on the anxiety scale were above it. The high anxiety score was, to some extent, expected for the neurotic disturbed group but not for the other two groups.

One possible explanation for this high level of anxiety across all groups sampled, is that individuals were tested during their first week at the institution and prior to decisions being made regarding their final placement. The high scores may be a result of the stress and uncertainty of such a situation, and an indication of situational anxiety in response to this. In order to test this hypothesis at least for the unsocialized-psychopathic and socialized-subcultural groups, it would be necessary to further test these groups after they had been in the institution for some time.

It was predicted that all three groups would have a higher non-verbal than verbal IQ score. The results indicate that there was a significant difference between measures of these abilities for all groups. This result clearly supports the research by Andrew (1974a, 1974b), who found similar results for her sample of delinquents.

Andrew (1981) suggested that this difference was related to a left/right hemisphere imbalance, with delinquents having a lack of left hemisphere dominance for language, and a right hemisphere superiority. There is no strong evidence to suggest that this imbalance actually exists however, except for Andrew's (1981) circular argument that relates the non-verbal/verbal IQ difference to poor reading skills, which are mediated by the left hemisphere, and then concludes that poor reading skills are a consequence of a lack of left hemisphere dominance for language.

The results of the present study indicate that the sample shows clear deficits in verbal skills, and that this cannot be attributed to low general intelligence, in view of the fact that most subjects scored within the normal range on the Standard Progressive Matrices. It is questionable, however, whether this verbal deficit, as Andrew (1981) suggests, can be attributed to lack of left hemisphere dominance for language. Verbal deficits in the present sample are equally likely to be due to the poor educational backgrounds of many of the subjects. It is possible, however, that these deficits do contribute, in some degree, to anti-social behaviour. A lack of verbal skills in an essentially verbal society can create frustration in attempts at expressing oneself and lead to alternative ways of dealing with such frustration.

In order to demonstrate that this non-verbal/verbal difference is related to a left/right hemisphere imbalance, would not only require neurological evidence, which Andrew (1981) did not include in her study, but also the use of a matched sample of non-delinquents to control for the possible influences of educational opportunities and experience on verbal deficiences.

As a whole the inmate group shows a higher proportion of egocentric individuals than was found in a group of normal ten year olds by Leahy and Huard (1976). This suggests that the development of role-taking skills for many delinquents is retarded. In the present study, although the proportion of those classified egocentric was not significantly different from the proportion classified as non-egocentric, there is some support for Chandler's (1973) research, which indicated that delinquent subjects were more egocentric than non-delinquent subjects matched on age and other variables.

As with deficits in verbal skills, it is possible that deficits in role-taking ability are also contributing factors to anti-social behaviour. An inability to appreciate the effects of ones behaviour on others, serves to facilitate insensitive

behaviour either directly or indirectly. A high level of egocentrism also implies a high level of self centredness and a concentration on ones own needs to the exclusion of the needs of others. This too is likely to lead to a lack of consideration of the consequences of one's own actions, and possibly to anti-social behaviour.

All groups in the sample scored higher on the extrapunitiveness scale of the Rosenzweig Picture Frustration Study (RPFS) than on the intrapunitiveness scale, indicating that the dominant response of the subjects to frustration, was to project anger outward. The three groups in the sample also scored at a similar level on the ego defense scale which suggests that the behaviour of all groups appears to be motivated by a desire to protect their egos and self respect, to the extent that they will act in an aggressive manner to do so. The motivation for ego defense, however, is likely to differ between the groups. For instance, the neurotic-disturbed group are more likely to have low self esteem and be motivated to protect their awareness of this in an aggressive way. Agee (1979) argues that these individuals may often act aggressively, to confirm their own self-concept of worthlessness, by acting in ways that either hurt themselves or push other people away. The unsocialized-psychopathic group, on the other hand, are likely to appear tough and in control of their lives, on the surface at least. The externalization of blame is a vital defense for this facade, because the self-image of these subjects is in reality very low, and sudden realization of this would bring about overwhelming anxiety (Agee, 1979). The socialized-subcultural group may act agressively in order to confirm their solidarity with their subcultures, which in many instances have values counter to those of the institution. That is, aggression for this group may indicate conformity to group norms, and maintenance of the self-image through identity with and acceptance by their subgroup.

The overall RPFS results give a clear indication of the response patterns of the sample as a whole. The dominant

style is one of aggression directed outward to the environment, in an attempt to obtain respect or to maintain an acceptable self-image. This style does not appear to be directed at constructive solutions to problems but more towards a destructive style, based on lack of consideration of the needs of others, and inadequate attention to the consequences of actions.

This finding may have implications for treatment programmes, because such a style suggests that the individual is ultimately getting his needs met in ways which are likely to be considered as socially unacceptable and which are very likely to have negative consequences for him. In this respect, possible alternate ways of dealing with the world and frustration could be taught through assertiveness training groups and primarily by dealing with the verbal and role-taking deficits which are clearly obvious in this population.

9.0 Construct validity of postulated group characteristics

Quay and Parsons (1971) postulated the existence of three behaviour categories BC-2 (neurotic-disturbed), BC-3 (unsocialized-psychopathic) and BC-4 (socialized-subcultural). If these groups are homogeneous and independent then it could be anticipated that they would show meaningful differences on a variety of psychological measures.

Neuroticism Scale Questionnaire

It was expected that the neurotic-disturbed group would have a higher level of neurotic characteristics such as depression, tendermindedness, submissiveness, anxiety and overall neuroticism, than either of the other two groups. The results of the present study however, indicated that there were no significant differences between the three groups on any of these variables. This is in direct contrast with results from previous research (for example Genshaft, 1980; Leugar, 1980; Stewart, 1972; Orris, 1969; Skrzypek, 1969), which suggested that the neurotic-disturbed group would display a higher degree of neurotic characteristics than either the unsocialized-psychopathic or socialized-subcultural groups. Although the direction of the results was in the predicted direction with the neurotic-disturbed group displaying a higher degree of neurotic characteristics, differences between the groups on these dimensions were not significant.

This finding can possibly be explained by the composition of the experimental groups. The Quay and Parsons (1971) scoring criteria were used, and under this system a young offender is classified according to his highest final composite T-score. In a number of cases this resulted in little difference between the highest final composite T-score and the next highest. This procedure resulted in the arbitrary classification, into groups, of some subjects who did not clearly fall into one particular category. That is, the Quay and Parsons' (1971) scoring system does not fully

account for those who exhibit a similar degree of the characteristics of two or more of the three groups. In such cases it is not possible to state equivocally which characteristics are central to the behaviour of the individual. The essentially arbitrary nature of assigning indviduals to groups, in the cases where final composite T-scores are similar, serves to reduce the homogeneity of the groups, as was demonstrated in the present study.

Some researchers, Hecht and Jurkovic (1977), Chandler (1973) have used different and more rigid criteria than those used by Quay and Parsons (1971). These were, that the highest final composite score should be over 50 and at least 15 points higher than the next highest final composite T-score. This procedure allows for the divisions between the three groups to be clearly defined, and removes some of the difficulties in interpretation which results when the final T-scores for two or more of the three groups are similar. It also enables the major characteristics of group members to be those which define that group. For instance, in the neurotic-disturbed group, under these criteria, the major contributing characteristics are those which define neuroticism. By using such criteria, although having to exclude some subjects, these researchers were able to identify meaningful and significant differences between the three groups on a number of variables. It is possible, in the case of the present study, that if such strict criteria had been used differences between the groups on the NSQ, may have been more clearly evident.

Very few studies have used the Quay and Parsons (1971) system in its entirity; most have either used the Personal Opinion Study or the Behaviour Problem Checklist, to place individuals in the behaviour categories. It is possible that the use of either of these instruments alone has actually served to increase the independence of the three behaviour categories, in comparison to use of the full classification system. The reported reliability data for these instruments separately, as noted by Quay (1979), is high. The combination of these

instruments, as outlined by Quay and Parsons (1971), coupled with the essentially arbitrary manner of assigning an individual to a particular category may, however, serve to reduce the discriminatory power demonstrated for the individual instruments.

Comparison of the mean anxiety score, with a mean composite score, revealed that for all groups the anxiety score was higher than the composite score, and the highest discrepancy was found for the socialized-subcultural group. The discrepancy between these measures for all groups was significant, which indicates that the overall neuroticism score was inflated by the high scores on the anxiety subscale.

The composite score with the anxiety component partialled out, approximates the contribution, that the other three subscales make to the overall neuroticism score. These scores are consistent with the theoretical and research based expectations for the unsocialized-psychopathic and socialized-subcultural groups; these groups are not expected to show neurotic characteristics. The results for the neurotic-disturbed group did not conform to theoretical expectations, however as their composite scores fell within the average range for neuroticism when the anxiety scores were partialled out. It is possible that young offenders, when compared to the general population, are not neurotic in terms of the way this concept is defined, on the NSQ. When groups of young offenders are compared, and therefore the effects of incarceration controlled for, however, one group (i.e. the neurotic-disturbed) exhibits a higher level of neurotic tendences than the other two groups. Normative data presented in the NSQ manual (Scheier and Cattell, 1961) for both "sociopaths" and juvenile delinquents, shows that the overall neuroticism scores for these groups are not significantly different from those found in the general population. There is no normative data for a group similar to the neurotic-disturbed, however these norms do suggest that overall, juvenile delinquents are no more neurotic, as this concept is defined in the NSQ, than the general population.

Black and Taylor (1979) in a review of New Zealand and Australian research, examining the relationship between extraversion and neuroticism concluded that on the whole criminals do not in general show high neuroticism scores. There is some evidence, however, Taylor (1968), that New Zealand delinquent boys scored higher on anxiety as measured by Cattells 16PF, than normals. Black and Taylor (1979) argue that neuroticism as defined by Eysenck (1947) can be measured adequately by the use of anxiety scales. Essentially they point out that high anxiety scores are indicative of high neuroticism as defined by Eysenck (1947). This highlights an important factor, that is, the definition of neuroticism as a concept is dependent on the measure used to define it. It is possible that the definition of neuroticism based on the NSQ, does not adequately tap the neurotic trends defined by Quay and Parsons (1971) as descriptive of the neurotic-disturbed group. A measure such as Eysencks EPI (Eysenck and Eysenck, 1964), may possibly be more suitable. Black and Taylor (1979) do state, however, that based on their review, the questionnaire measurement of extraversion, introversion and neuroticism has limited usefulness in differentiating between types of offenders. The results from the NSQ would tend to support this claim, and it may be more suitable to use structured clinical interviews to evaluate these concepts in a delinquent population.

Non-verbal/verbal IQ difference

Based on the research of Hecht and Jurkovic (1977) it was predicted that the unsocialized-psychopathic group would have the largest non-verbal/verbal IQ difference of the three groups. These researchers used Quay and Parsons (1971) system to clearly identify a group with psychopathic tendencies, and their results supported Weschlers (1958) contention that a higher performance IQ than verbal IQ was an indice of psychopathy. That is, the unsocialized-psychopathic group in their sample had a significantly higher performance/verbal IQ difference than either of the other two groups.

In the present study the non-verbal/verbal IQ difference for the socialized-subcultural group was the largest of the three groups, but the difference between groups was not significant. To some extent this difference may be a function of poor educational opportunities, which are likely to be associated with the strong ethnic composition of this group. Such poor opportunities are likely to have contributed markedly to the low verbal IQ scores of this group.

The unsocialized-psychopathic group had the lowest non-verbal/verbal IQ difference. The definition of psychopathy used in the present study is more specific than those used in most previous research. For example Andrew (1982, 1977, 1974a, 1974b), Manne, Kandela and Rosenthall (1962) all used the broader definition of delinquency to define their "psychopathic" samples. It is not as clearly defined, however, as that used by Hecht and Jurkovic (1977), who used more stringent scoring criteria to define psychopathy than those which were used in the present study (Quay and Parsons, 1971). It is possible that this contributed to the difference in results from Hecht and Jurkovics (1977) research and those found in the present study.

There was also a methodological difference in the present study, which used two different measures of verbal and non-verbal IQ. All previous research has used the verbal and performance scales of either the WAIS or the WISC. In essence therefore, this research was exploratory, and the results are not consistent with previous research (for example, Hecht and Jurkovic, 1977), A clearer picture of the results may be found if further research focuses on refinement of both the Quay and Parsons (1971) scoring procedure, and the IQ measures used.

Role-Taking Ability

No significant differences were found between the role-taking scores of any of the three groups, although results were in

the expected direction. That is, a greater proportion of the unsocialized-psychopathic group were unable to take the role of the other in social interaction, than were either of the other two groups. The high proportion of the unsocialized-psychopathic subjects classified as egocentric, is clearly related to the Quay and Parsons (1971) description of this group as being interpersonally alienated and as having little understanding of or respect for the rights of others. It is also consistent with the research by Ellis (1982) and Jurkovic and Prentice (1977) which found that of the three groups, the unsocialized-psychopathic group was the most egocentric.

In the present study the neurotic-disturbed group was the only one which contained a greater proportion of non-egocentric than egocentric individuals. This may be indicative of the hypothesised sensitivity of this group to the reactions and feelings of other individuals.

As stated earlier (section 8.1) there was a higher proportion of egocentric subjects in the whole sample than was found in a group of normal ten year olds by Leahy and Huard (1976). It seems likely therefore, that all groups could benefit from learning to improve their role-taking skills, as it has been suggested by Chandler (1973) that this is possible. In the light of the higher proportion of egocentric individuals in the unsocialized-psychopathic and socialized-subcultural groups, however, it would probably be more beneficial to initially focus on these groups, rather than on the neurotic-disturbed group.

The results on this dimension are not entirely clear however, and further research examining the specific interpersonal strategies which are related to the lack of role-taking ability, and the relationship of these to the categories suggested by Quay and Parsons (1971), may further enhance the effectiveness of rehabilitation programmes.

Machiavellianism Scale

Of the three groups the unsocialized-psychopathic group had the highest scores on the machiavellianism scale. Scores for this group were significantly higher than those for the socialized-subcultural group, who were the lowest scorers. It was expected, on the basis of previous research, that the unsocialized-psychopathic group would have higher scores on this scale. This result is consistent with descriptions of the unsocialized-psychopathic group as showing a lack of affect in interpersonal relationships, and a lack of concern for conventional morality (Robins, 1966; Cleckley, 1964; McCord and McCord, 1964).

The high score on the machiavellianism scale shown by this group in relation to other groups may be a function of the interaction of their relative lack of verbal and role-taking skills, with other personality variables. The two other groups in the sample also showed a generally low level of verbal and role-taking skills, and this may predispose them to also use manipulative strategies in interpersonal interactions, given the lack of more adequate coping skills available to them. The relative lack of empathy or concern for others demonstrated by the unsocialized-psychopathic group would suggest that they are more likely to use such strategies, and be more consistent in their use, than either of the other two groups.

In a practical sense this result suggests that treatment programmes for individuals classified as unsocialized-psychopathic could focus on modifying manipulative strategies, or channelling these into socially appropriate outlets. For instance, the research conducted by Christie and Geis (1970), as reported in the introduction, suggests that individuals who have high scores on the machiavellianism scale are likely to be more successful than low scorers in social exchange situations. It may be possible therefore, to redirect some unsocialized-psychopathic individuals into situations where their manipulative skills can be used in a "socially acceptable" way, such as into sales occupations.

The socialized-subcultural group had the lowest scores of the three groups, on the machiavellianism scale. Very little is known about the characteristics of this group in New Zealand, but it is possible that this lower score is a function of their differential use of manipulative strategies in comparison to the more general manipulative orientation postulated for psychopathic subjects (Cleckley, 1964). According to Quay and Parsons (1971) the socialized-subcultural group is very peer oriented, and within their own subcultural group (Kelsey and Young, 1982), it is likely that a more empathic style of interaction is used. When interacting with groups with very different value systems, however, they may initially experience difficulty in coping and this may result in the use of manipulative strategies. This point, however, needs further examination, with research focusing on the more specific nature of styles of interpersonal interaction used by individuals in this group in relation to particular environmental settings.

Rosenzweig Picture Frustration Study

It was expected that reactions to frustration would differ between the neurotic-disturbed and unsocialized-psychopathic groups, with the neurotic-disturbed subjects projecting their anger inward more frequently than the unsocialized-psychopathic group. The unsocialized-psychopathic group members on the other hand, were expected to project their anger outward more than the neurotic-disturbed group.

There were no significant differences between groups on either the intrapunitiveness scale (direction of anger inward) or the extrapunitiveness scale (direction of anger outward). The results are in the predicted direction however, with the neurotic-disturbed group scoring higher than the unsocialized-psychopathic group on the intrapunitiveness scale, and the unsocialized-psychopathic group scoring higher than the neurotic-disturbed group on the extrapunitiveness scale. These results are consistent with the results for the NSQ in the present study which showed that the neurotic-disturbed

group was not significantly more neurotic than the unsocialized-psychopathic group. The low level of neurotic trends found in the delinquent sample suggests that an intrapunitive style of reaction to frustration is not likely to be used by these subjects, as such a style is dependent on the interaction between certain neurotic trends (e.g. submissiveness) and the frustrating situation.

The higher level of anxiety expected for the neurotic-disturbed group has been demonstrated by Orris (1969) and Skrzypek (1969). Their findings suggest that relative to the unsocialized-psychopathic group, the neurotic-disturbed group would be more inhibited in the use of active problem solving strategies as measured by the need persistence scale of the RPFS. The neurotic-disturbed group did in fact have lower scores on this scale than the unsocialized-psychopathic group, but the difference was not significant. This result suggests that neither group is oriented towards active problem solving behaviour, and it also suggests that anxiety may be a contributing factor to this, in view of the high levels of anxiety found in all groups in the present study. This point needs further clarification however, and the administration of the RPFS after the inmates have been in prison for some time, and are able to adequately adjust to their new environment, would give some indication of the relative influence of anxiety on problem solving behaviour.

9.1 Summary of construct validity results

The results of the present study do not clearly support the construct validity of the Quay and Parsons (1971) classification system. Although it was possible to divide the sample into the three groups in terms of Quay and Parsons (1971) criteria, there were no clear differences between the groups on measures of a number of psychological variables.

Contrary to previous research, (Genshaft, 1980; Leugar,1980; Stewart, 1972; Orris, 1969; Skrzypek, 1969) the neurotic-disturbed group did not show significantly more neurotic

trends as measured by the NSQ, than either of the other two groups.

The non-verbal/verbal IQ difference was expected to be greatest for the unsocialized-psychopathic group (Hecht and Jurkovic, 1977), but this was not the case in the present study. The socialized-subcultural group had the largest difference, which may be a function of a deflated verbal IQ score resulting from cultural bias of the test used and the educational opportunities available to these subjects in the community.

A low ability, relative to the other two groups, to take the role of another has been considered as a central characteristic of the unsocialized-psychopathic group. Although this group contained the highest percentage of those defined as egocentric, differences from the other two groups did not reach significance.

Use of manipulative strategies has also been considered to be a defining characteristic of the unsocialized-psychopathic group. There was a clear difference between the socialized-subcultural and unsocialized-psychopathic groups scores on the machiavellianism scale, with the unsocialized-psychopathic group showing higher scores as predicted. This characteristic coupled with an overall deficit in verbal skills and role-taking ability seems likely to contribute to anti-social, acting out behaviour.

Finally there were no clear differences between the groups on the RPFS scales. All groups scored highly on the extrapunitive scale and low on the intrapunitive scale.

The lack of clear between group differences has several possible explanations:

a) The scoring system used served to create an overlap of subject characteristics across the groups and to reduce their independence. This overlap makes it difficult to

clearly identify those characteristics which are influential in each groups' behaviour. It is also doubtful that such individuals should be classified into a particular group and then attributed the characteristics of that group, when such characteristics are not clearly dominant in their behaviour. For research purposes the criteria for placement into particular groups clearly need to be made more stringent, than those outlined by Quay and Parsons (1971). The use of such a procedure in an applied setting would serve to reduce the usefulness of the system for general classification, however, as there would be a number of inmates who would not clearly fit into any of the three groups.

b) The unique nature of the New Zealand sample may also have blurred the characteristics considered definitive for each of the groups. The concept of delinquency is defined by legal, social and cultural characteristics and to this extent it is also time specific. It is possible that although the items from the three Quay and Parsons (1971) instruments allow the sample to be divided into three groups, the original description of the defining characteristics of these groups may not be appropriate for a New Zealand sample. The socialized-subcultural group presents a good example of this. This category, in particular, has been shown to vary across cultures (Marriot et al, 1978; Grayson, 1977). There has been very little research conducted with it generally, and none specifically in New Zealand. The present study therefore, was mainly exploratory in nature with regard to the socialized-subcultural group.

Results for this group were closer to those for the unsocialized-psychopathic group on the machiavellianism, role-taking and depression dimensions, but closer to the neurotic-disturbed group on the IQ, neurotic and direction and type of aggression dimensions. On the basis of the present research the overall characteristics of the socialized-subcultural group seem to

be high initial anxiety, a differential use of manipulative strategies and aggression directed outwards towards the environment in an attempt to maintain self respect. Verbal deficits are clearly evident and these may be a function of poor educational opportunities, related to the strong ethnic nature of the group. The composition of this group is suggestive of strong peer orientation and influence as it contained a high proportion of both Maori and gang oriented individuals. The ethnic gangs have a strong counterculture, combined with a rigid hierarchical structure and stringent norms (Kelsey and Young,1982; New Zealand Committee on Gangs, 1981; Report of the Polynesian Youth Forum, 1972). Conformity to gang norms is expected of those who identify with them and value them, and this conformity leads to acceptance and a strong peer orientation. The majority of the socialized-subcultural subjects are retained at the Manawatu Youth Institution. It is possible that the strong counterculture and peer pressure to conform to this, may serve to negate some of the rehabilitative activities of the institution, particularly if these conflict with group norms and value systems.

c) The third possibility which may have influenced the results was the verbal nature of the measures used in the research. It is evident from the results that the sample showed serious deficits in verbal skills. Despite efforts made by the present researcher to overcome these difficulties, it is possible that some of the measures used, for example the NSQ and the machiavellianism scale were to some extent, inappropriate in view of the limited verbal ability of the subjects sampled. Future research could examine this point further by utilizing other standardized personality measures, or possibly clinical interviews by experienced clinicians, in order to determine the major characteristics of subjects in each of the three groups.

10.0 The suitability of Quay and Parsons (1971) classification system for use in New Zealand institutions

The is no evidence from the present study that the Quay and Parsons (1971) classification system can add substantially to the classification system already in use in the Manawatu Youth Institution. The results do suggest however, the possibility of changes in treatment procedures, such as more emphasis being placed on improving the verbal deficits of the sample as a whole, and assertiveness training coupled with training in increasing role-taking abilities.

Previous research suggests that those with characteristics similar to those of the unsocialized-psychopathic group are very difficult to treat, because of their underlying guilt, anxiety and depression (Vaïll ant, 1975). This author considers that such underlying characteristics need to be dealt with for treatment to be successful. It is evident, however, that that when these feelings are exposed, or a close relationship developed which would facilitate the exposure of these feelings, the psychopathic individual tends to remove himself from therapy and reverts to old coping mechanisms in order to supress such feelings. Vaïll ant (1971) suggests that one way of treating such individuals, in order to facilitate personality change, is to provide concentrated psychotherapy in a secure environment for a period of up to two years.

The use of long term intensive therapy is also supported by Wade, Morton, Lind and Ferris (1977); Stratton (1975); Eyeberg and Johnson (1974) and Patterson (1974), who used both diversion and family intervention techniques intensely with young offenders, and found this to be more successful than a less intense approach. Such treatment is not provided nor appropriate for the short stay inmates at the Manawatu Youth Institution.

It is apparent from the retained/transferred dimension of the present study that there are some characteristics

of the unsocialized-psychopathic group which are discernible by staff in informal assessment interviews. Such individuals are not only difficult to treat in the sense that Valliant (1975) describes, but also appear to be unresponsive to conventional prison rehabilitation programmes, such as those provided by the Manawatu Youth Institution. Accordingly the majority of this group are transferred to other institutions, but unfortunately are not likely to receive suitable treatment there either.

11.0 General Summary

The results of the present study offer only limited support for the construct validity of the Quay and Parsons (1971) classification system. There were no clear and meaningful differences between the three groups on the psychological variables used, except for the difference between scores for the unsocialized-psychopathic group and socialized-subcultural group on the machiavellianism scale. Many of the differences were in the predicted direction, but the essentially arbitrary nature of assigning inmates to groups, to some extent served to reduce the clarity of these results. The scoring procedure of the Quay and Parsons (1971) system reduces the homogeneity of the groups. The use of more stringent scoring criteria would overcome this problem for research purposes, but would do little to enhance the practical use of the system.

The unique nature of the New Zealand sample may have contributed to some of the inconsistencies found in the present study in comparison with previous research. The Quay and Parsons (1971) system was designed and standardized for an American sample, and although some statistical validity data has been found crossculturally (Marriot et al, 1978; Grayson, 1977) support for the existence of the Quay and Parsons (1971) categories outside of the USA is not strong. Personal and behavioural characteristics of New Zealand young offenders may well differ, at least to some extent, from those found to be characteristic of United States normative samples. Future research could usefully examine groups of young offenders within New Zealand, in order to further clarify and define their descriptive characteristics.

The results of the present study are limited in terms of the information they provide concerning between group differences. In a practical sense, however, the research results provide some useful information with regards to the sample as a whole.

All three groups had higher anxiety levels than would be expected in a majority of the general population. The fact that the inmate interviews were conducted during the first week of admission and prior to classification may have affected this result. This is a period of uncertainty and adjustment for the new inmate, and suggests that the high level of anxiety, may be a function of the situation rather than of inherent personality traits. It is possible that institutional procedures could be modified in an attempt to reduce this.

In addition to the verbal deficits noted earlier, a high proportion of the sample were found to be deficient in role-taking skills, when compared to a group of "normal" ten year olds (Leahy and Huard, 1976). Coupled with this the present study indicated that the dominant response to frustration by the subjects sampled, is likely to be the direction of anger outward towards the environment in a destructive rather than a constructive way. While it cannot be conclusively stated that the combination of these three factors serves to cause or contribute to anti-social behaviour, there is quite a lot of support from the literature (e.g. Chandler, 1973) to suggest that this is likely. This suggestion needs further examination, however, with the use of appropriate, matched control groups, to account for the influences of poor educational and social factors.

Finally, the results of the present study do not strongly support the introduction of the Quay and Parsons (1971) system, into the existing classification system in the near future. The results are not conclusive, and it is clear that without further research, the advantages of using such a system in conjunction with present procedures would be outweighed by the extra time and effort required to utilize it.

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APPENDIX A

Supplement to Method Section

1. Format of Semi-structured interview

2. Rationale for using Correctional Adjustment Checklist (CACL) instead of the Behaviour Problem Checklist (BPCL)

3. Instructions for the administration of the role-taking task.

4. Content of role-taking story sets 2 and 3.

5. Examples of role-taking story sets stimulus cards.

6. Scoring criteria for role-taking tasks.

7. Description of the Rosenzweig Picture Frustration Study.

1 Semi structured interview

1. Tell me a little about yourself? How old are you, where do you come from etc?

2. How did you come to be at this institution?

3. (If in for burglary, theft, car conversion etc) - Did you commit the offences with friends or by yourself?
(If not in for burglary etc) - Have you done any burglaries, theft etc? - if yes -
Did you commit them with friends or by yourself?

4. Do you belong to a gang or have you belonged to a gang in the past?

5. Have you had any fights? if yes - Have you ever started any fights?

6. Tell me about your family?

7. Did you ever run away from home? How often?

8. Tell me about your time at school?

9. Did you wagg school? How often?

10. Tell me about the jobs you have had? How did you get on with your workmates?

11. On the "outside" what sort of things did you do for fun? e.g. social life, sport etc.

2 Rationale for using the CACL instead of the Behaviour Problem Checklist (BPCL)

The behaviour Problem Checklist, from the Quay and Parsons (1971) classification system was not considered to be appropriate for use in the present study. It contained many items which were not appropriate to either the age group under study, or the institution in which they were confined. It would not have been possible for the prison officers completing this checklist to make valid judgments on many of the behaviours described, such as, "stays out late at night," because there was no opportunity within the institution for such behaviours to be exhibited. For these reasons it was decided to use Quays (1971) Correctional Adjustment Checklist for adult male offenders, which unlike the BPCL, is designed specifically for use in the correctional setting.

This change required that the overall Behaviour Category for each inmate was calculated using norms from the present sample and not the norms provided by Quay and Parsons (1971). T scores calculated for the local sample, however, were very similar to those given by Quay and Parsons (1971). (See Appendix B)

3 Instruction for role-taking task

1. For the seven card sequence which is presented first, the cards are placed in front of the subject in the correct order. The experimenter says "When these cards are put together in this order they tell a story I want you to tell me the story these 7 cards make, starting from here." (Experimenter points to the first card in the sequence). When the subject completes the 7 card sequence the experimenter says. "O.K. now I'm going to take 3 cards away.

(For set 1, remove cards 2,3,5
For set 2, remove cards 1,2,6
For set 3, remove cards 2,4,5)

"I want you to imagine you have a friend standing outside, and that he comes in and sits down where you are. What I want you to do is tell me the story that he would tell if he saw these four cards in this order, starting here" (experimenter points to first card in the four card sequence)

2. Inquiry phase

a) for set 1 ask
1. Why did the boy climb the tree?
2. pointing to card 6 say: What is the dog doing in this picture?

b) for set 2
1. pointing to card 7 say: Where did this broken beer bottle come from?
2. pointing to the driver in card 7 say: How does he feel?

c) for set 3
1. pointing to card 6 say: Why is the man paying for the meal and not the woman?

It may not be necessary to use the inquiry phase for all subjects, because the questions may be answered in the initial narrative from the 4 card sequence.

4 Role-taking story sets 2 and 3

Set 2. Card 1. Young men at a bottle store putting beer into the boot of their car.

Card 2. The young men driving down the road in the car, drinking.

Card 3. A motorcycle travelling down the road.

Card 4. The motor cycle and the car approaching an intersection.

Card 5. They collide at the intersection.

Card 6. The motorcyclist is put into an ambulance.

Card 7. A traffic officer is talking to the driver of the car.

Set 3. Card 1 A male is talking to a female on the street.

Card 2. The male gives the female some money.

Card 3. They walk off down the street together.

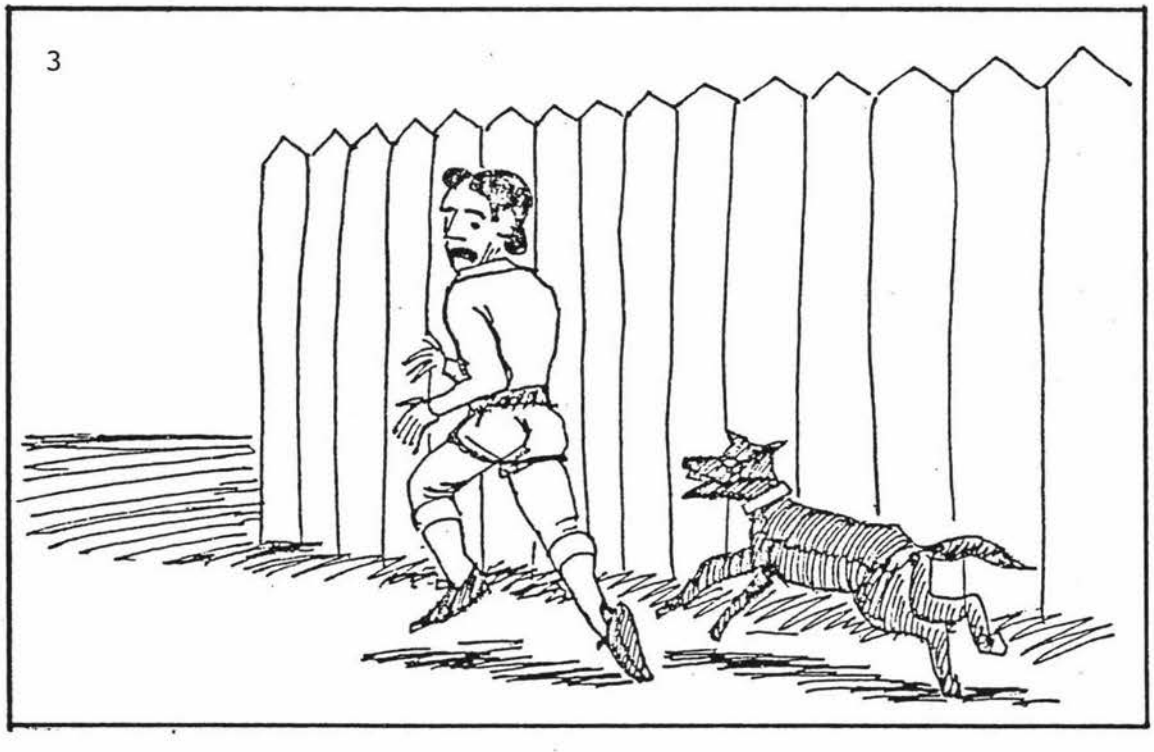
Card 4. They go into a motel

Card 5. The couple leave the motel.

Card 6. They are sitting down together in a coffee shop.

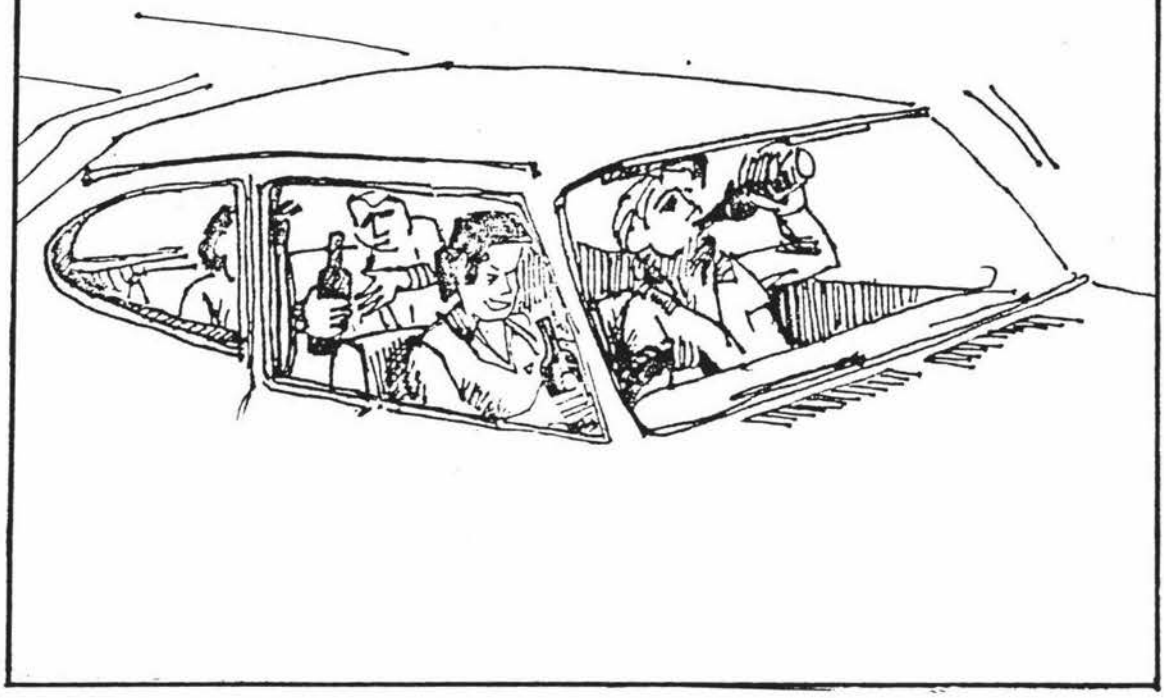
Card 7. They leave the coffee shop and go their separate ways.

5 Examples of role-taking story sets stimulus cards. Set 1

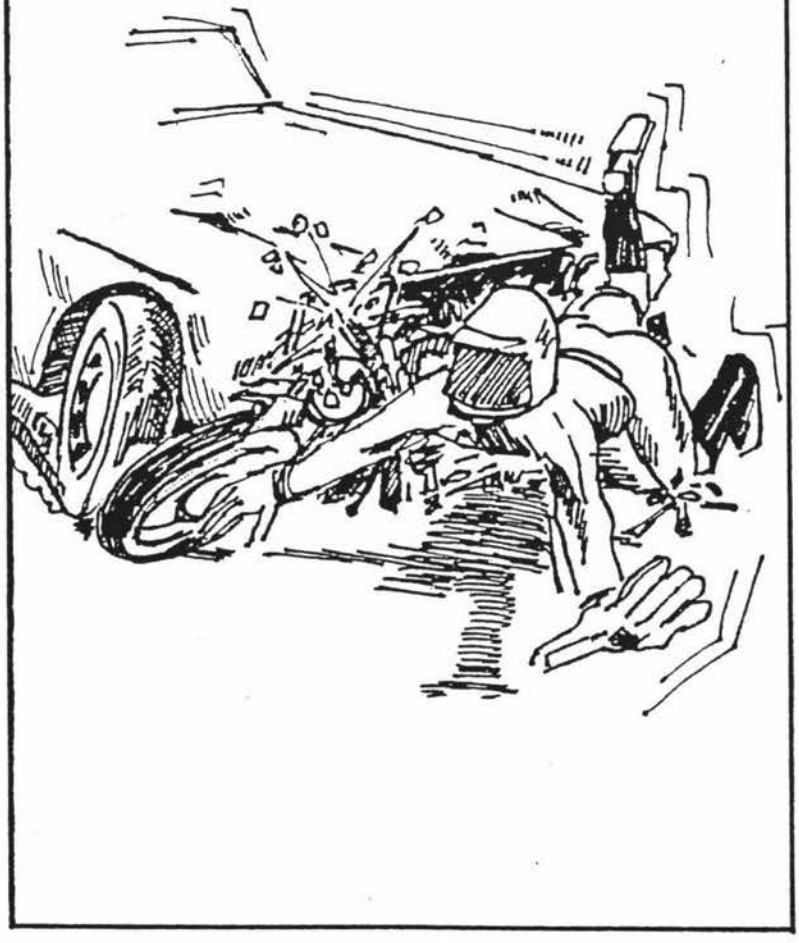


Set 2.

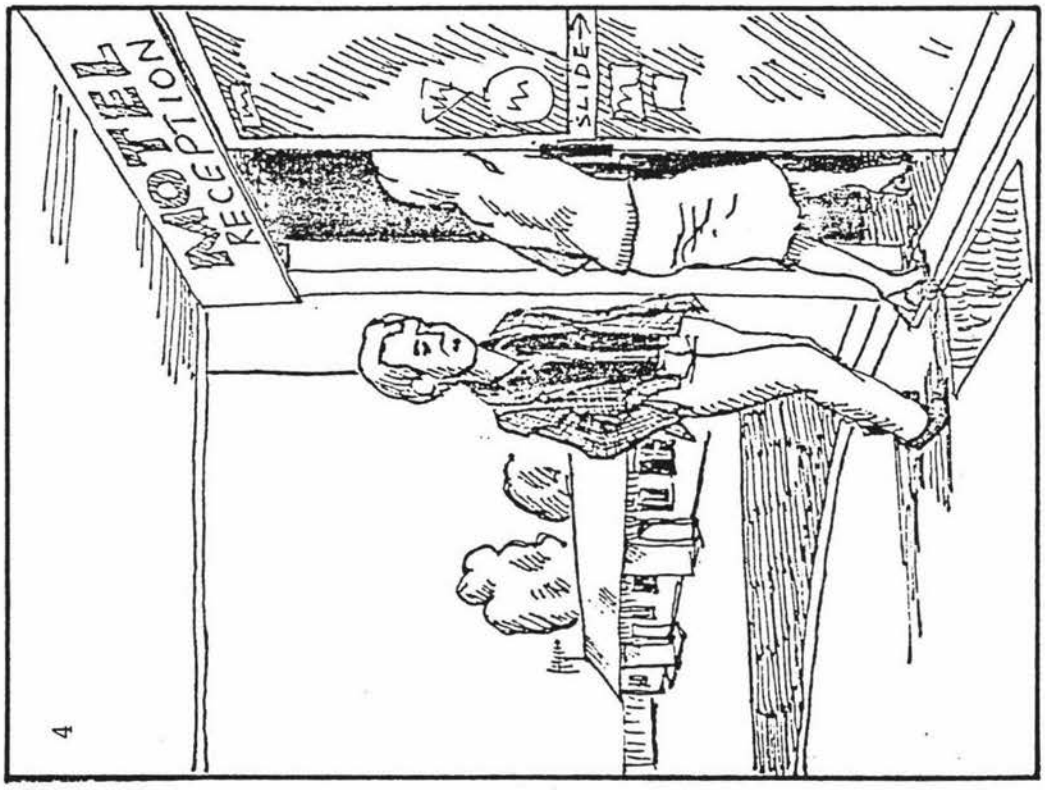
2

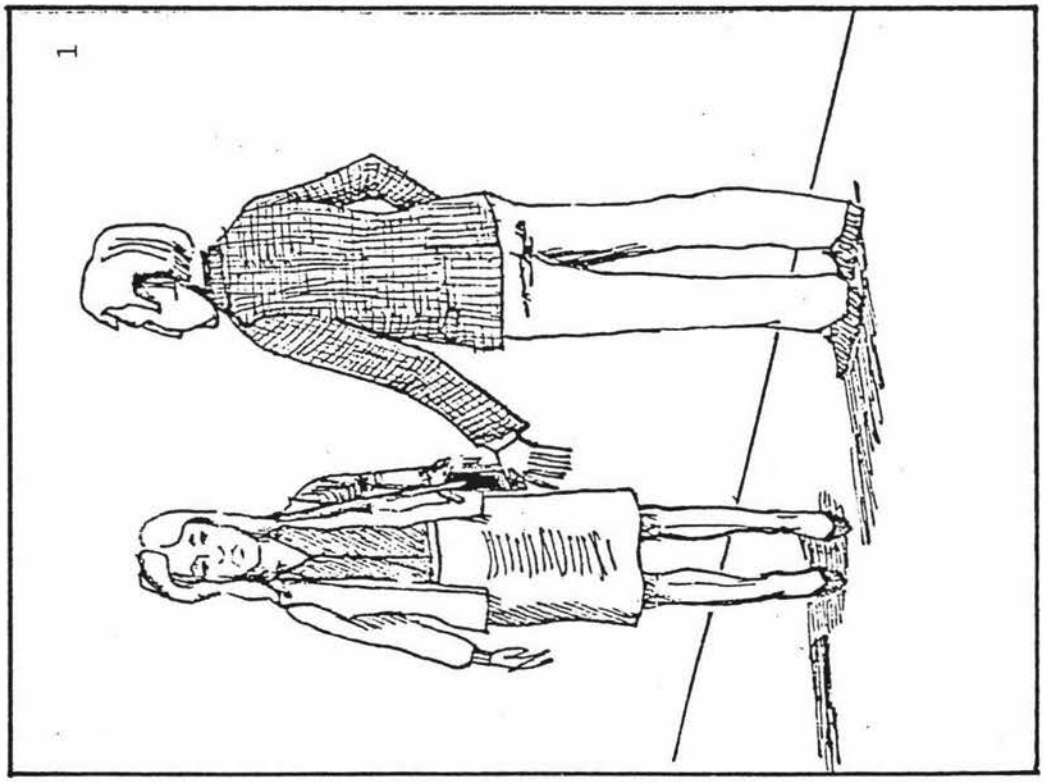


5



Set 3





6 Scoring criteria for role-taking tasks

Category 1 Where subject gave a more or less straight forward presentation of the correct four picture sequence.

Category 4 The subject gave a more or less straight forward presentation of the seven picture sequence rather than the four picture one.

Category 3 Where the subject gave no clear indication of the motivations of the cartoon characters which were evident in the seven card sequence, during narration of the four card sequence, but where these motivations were readily supplied during the inquiry.

Category 2 All responses not scorable for the previous three categories were assigned to this one. It subsumed responses in which (either in narrative or inquiry) some motivation from the seven card sequence was introduced, as in categories 3 and 4, but where the subject also said something which indicated some recognition by him that his "friend" was operating from the four picture sequence only. That is, there was at least a small indication of sensitivity to the role taking aspects of the task.

7 Description of the Rosenzweig Picture Frustration Study (RPFS)

This particular test is a limited projective measure in which the subject either consciously or unconsciously identifies himself with a frustrated individual in a series of 24 cartoon like pictures, and projects his own biases in the replies given. In order to determine this bias each response is scored in terms of direction of aggression and also reaction type. Under direction are included 1) extrapunitiveness, in which aggression is turned onto the environment 2) intropunitiveness, in which it is turned by the subject onto himself 3) impunitiveness, in which aggression is avoided in an attempt to gloss over the apparent frustration. Under type of reaction fall 1) obstacle-dominance (O-d), in which the barrier occasioning the frustration stands out in the responses; 2) ego-defense (E-d), in which the ego of the subject predominates; 3) need persistence (N-p) in which the solution of the frustrating problem is emphasized (Rosenzweig, Fleming and Clarke, 1947).

A further score is obtained from this test and is called the Group Conformity Rating (GCR). It is considered to be one measure of the subjects adjustment to a "normal" group. The reason for this is that the particular items which constitute this score, have been found to characteristically produce a particular response among "normal" subjects. On this basis it is reasonable to assume that if a subject belongs to the "normal" population that his/her responses should agree relatively often with those given by such a group. (Rosenzweig, 1945)

APPENDIX B

Supplement to Results Section

1. Conversion tables and procedure for Quay and Parsons (1971) Classification System for a New Zealand Sample.

2. Contingency tables and obtained Chi-square values for all Chi-square calculations.

3. Analysis of variance summary tables for NSQ anxiety scores, composite subscale scores comparison, Verbal IQ comparison and Extrapunitiveness/Intropunitiveness comparison.

4. Means and F-statistics for all one way analysis of variance, and rationale for use of planned comparisons.

5. F-statistics for all planned comparisons.

1. Conversion tables for Quay and Parsons (1971) Classification System for a New Zealand Sample

TABLE B-1

Conversion table for Raw Scores, Z-scores and T-scores for the Checklist for the Analysis of Life History Data, for a New Zealand Sample

Classification Category

BC-1			BC-2		
Raw	Z	T	Raw	Z	T
-1	-1.98	30.2	-1	-1.42	35.8
0	-0.82	41.8	0	-0.33	46.7
1	0.34	53.4	1	0.75	57.5
2	1.50	65.0	2	1.84	68.4
3	2.66	76.6	3	2.93	79.3
4	3.82	88.2	4	4.02	90.2

BC-3			BC-4		
Raw	Z	T	Raw	Z	T
0	-1.16	38.4	-1	-2.04	29.6
1	-0.26	47.4	0	-1.33	36.7
2	0.63	56.3	1	-0.62	43.8
3	1.53	65.3	2	0.09	50.9
4	2.43	74.3	3	0.79	57.9
5	3.33	83.3	4	1.51	65.1
			5	2.22	72.2
			6	2.93	79.3

TABLE B-2

Conversion Table for Raw Scores, Z-scores and T-scores for Correctional Adjustment Checklist for New Zealand Sample

Classification Category								
BC-2			BC-3			BC-5		
Raw	Z	T	Raw	Z	T	Raw	Z	T
0	-0.63	43.7	0	-0.92	40.8	0	-0.74	42.6
1	-0.12	48.8	1	-0.63	43.7	1	0.13	51.3
2	0.38	53.8	2	-0.33	46.7	2	1.02	60.2
3	0.89	58.9	3	-0.04	49.6	3	1.89	68.9
4	1.39	63.9	4	0.26	52.6	4	2.78	77.8
5	1.91	69.1	5	0.55	55.5	5	3.66	86.6
6	2.41	74.1	6	0.85	58.5			
7	2.92	79.2	7	1.14	61.4			
			8	1.44	64.4			
			9	1.74	67.4			
			10	2.03	70.3			
			11	2.33	73.3			
			12	2.62	76.2			
			13	2.91	79.1			
			14	3.21	82.1			
			15	3.51	85.1			
			16	3.80	88.0			

TABLE B-3

Conversion table for Raw Scores, Z-scores and T-scores for Personal Opinion Study for a New Zealand Sample

Classification Category								
BC-2			BC-3					
Raw	Z	T	Raw	Z	T	Raw	Z	T
0	-3.47	15.3	0	-2.18	27.1	26	1.06	60.6
1	-3.25	17.5	1	-2.07	29.3	27	1.19	61.9
2	-3.03	19.7	2	-1.95	30.5	28	1.31	63.1
3	-2.80	22.0	3	-1.82	31.8	29	1.44	64.4
4	-2.58	24.2	4	-1.69	33.1	30	1.56	65.6
5	-2.36	26.4	5	-1.57	34.3	31	1.69	66.9
6	-2.14	28.6	6	-1.45	35.5	32	1.82	68.2
7	-1.91	30.9	7	-1.32	36.8	33	1.94	69.4
8	-1.69	33.1	8	-1.19	38.1	34	2.07	70.7
9	-1.47	35.3	9	-1.06	39.4	35	2.19	71.9
10	-1.24	37.6	10	-0.94	40.6	36	2.31	73.1
11	-1.02	39.8	11	-0.82	41.8	37	2.44	74.4
12	-0.80	42.0	12	-0.69	43.1	38	2.57	75.7
13	-0.57	44.3	13	-0.57	44.3	39	2.69	76.9
14	-0.35	46.5	14	-0.44	45.6	40	2.82	78.2
15	-0.13	48.7	15	-0.32	46.8	41	2.95	79.5
16	0.10	51.0	16	-0.19	48.1	42	3.07	80.7
17	0.32	53.2	17	-0.06	49.4	43	3.19	81.9
18	0.54	55.4	18	0.06	50.6	44	3.32	83.2
19	0.76	57.6	19	0.18	51.8	45	3.45	84.5
20	0.99	59.9	20	0.31	53.8			
21	1.21	62.1	21	0.43	54.3			
22	1.43	64.3	22	0.56	55.6			
23	1.66	66.6	23	0.69	56.9			
24	1.88	68.8	24	0.81	58.1			
25	2.10	71.0	25	0.94	59.4			

TABLE B-3 continued

Classification Category		
	BC-4	
Raw	Z	T
2	-4.70	3.0
3	-4.45	6.5
4	-3.99	10.1
5	-3.64	13.6
6	-3.29	17.1
7	-2.93	20.7
8	-2.59	24.1
9	-2.23	27.7
10	-1.88	31.2
11	-1.53	34.7
12	-1.18	38.2
13	-0.83	41.7
14	-0.47	45.3
15	-0.12	48.8
16	0.23	52.3
17	0.58	55.8
18	0.93	59.3
19	1.28	62.8
20	1.63	66.3
21	1.98	69.8
22	2.34	73.4
23	2.69	76.9
24	3.04	80.4

TABLE B-4

Means and Standard Deviations of four composite BC scores for the New Zealand sample and the Quay and Parsons (1971) Sample

	New Zealand Sample		Quay and Parsons (1971)	
Category	$\bar{X}$	S-D	$\bar{X}$	S-D
BC-1	49.855	10.012	49.63	6.54
BC-2	49.972	6.867	49.61	5.78
BC-3	49.970	6.880	49.63	6.18
BC-4	50.005	7.805	49.42	7.54

Formula for calculating final composite T score

$$F = \frac{(X-M)}{S} \; 10 + 50$$

where F = final composite T-score

X = initial composite T-score

M = mean of initial composite T-Score (from Table B-4)

S = standard deviation of initial composite T-score (from Table B-4)

FIGURE 1 Example of completed Behaviour Category Data Form

BEHAVIOR CATEGORY DATA FORM

Name: J. Smith Institution: MYI

Number: 2648 Date Tested: 15/3/84

Birth Date : 2/5/64

Behavior Category Rankings: 1 BC-2 2 BC-1 3 BC-4 4 BC-3

Scale	Raw Scores		
	Test	Rating	History
BC-3	19	5	0
BC-2	22	5	0
BC-1			1
BC-4	17		1

Scale	T Scores			Sum	Composite T Score	
	Test	Rating	History		Initial	Final
BC-3	51.8	55.5	38.4	145.7 / 3	48.56	47.95
BC-2	64.3	69.1	46.7	180.1 / 3	60.03	64.64
BC-1			53.4	53.4 / 2	53.4	53.55
BC-4	55.8		43.8	99.6 / 2	49.8	49.73

2 Contingency tables and otained Chi-square values for Chi-square calculations

Formula $\chi^2 = \sum_{J=1}^{k} \frac{(O_j - E_j)^2}{E_j}$

where O_j = observed frequency
E_j = expected frequency

a) TABLE B-5

Chi-square Contingency table for new admissions retained or transferred from MYI in each of Quay's categories

	Classification Category			
Decision	BC-2	BC-3	BC-4	Total
Retained	16/11.9	3/11.9	24/19.1	43
Transferred	2/6.1	15/6.1	5/9.9	22
Total	18	18	29	65

$\chi^2 (2, N = 65) = 27.49, p < .0001$

b) TABLE B-6

Chi-square Contingency table for comparison of BC-2 and BC-3 group members who were retained or transferred from MYI

	Classification Category		
Decision	BC-2	BC-3	Total
Retained	16/9.5	3/9.5	19
Transferred	2/8.5	15/8.5	17
Total	18	18	36

$\chi^2 (1, N = 36) = 16.0492, p < .001$

c) TABLE B-7

Chi-square Contingency table for comparison of BC-3 and BC-4 group members who were retained or transferred from MYI

	Classification Category		
Decision	BC-3	BC-4	Total
Retained	3 / 10	24 / 16.6	27
Transferred	15 / 7.6	5 / 12.4	20
Total	18	29	47

$\chi^2(1, N = 47) = 17.54$, $p < .001$

d) TABLE B-8

Chi-square Contingency table for role taking ability hypothesis

	Classification Category			
	BC-2	BC-3	BC-4	Total
Egocentric	8 / 10.8	14 / 10.8	17 / 17.4	39
Non-egocentric	10 / 7.2	4 / 7.2	12 / 11.6	26
Total	18	18	29	65

$\chi^2(2, N = 65) = 4.203$, difference is not significant

3 Analysis of Variance summary tables for NSQ anxiety scores, composite subscale scores comparison, Verbal IQ/Non-verbal IQ comparison and Extrapunitiveness/ intrapunitiveness comparison

TABLE B-9

Analysis of variance summary table of mean NSQ anxiety scores and mean composite subscale scores

Source	SS	df	MS	F
A(group)	4.6244	2	2.3122	0.8939
B(subscales)	216.9994	1	216.9994	115.7986*
A x B	4.4222	2	2.2111	1.1799
Error	116.1818	62	1.8739	

*$p < .001$

TABLE B-10

Analysis of variance summary table of mean group scores for the Peabody Picture Vocabulary Test and the Standard Progressive Matrices Test

Source	SS	df	MS	F
A(group)	684.159	2	342.0795	0.8147
B(tests)	16361.973	1	16361.9727	211.9881*
A x B	389.461	2	194.7305	2.5230
Error	4785.377	62	77.1835	

*$p < .001$

TABLE B-11

Analysis of variance summary table of mean RPFS extrapunitiveness and intrapunitveness scale scores

Source	SS	df	MS	F
A(group)	17.6272	2	8.8136	0.3686
B(scale)	40728.3359	1	40728.3359	189.4175*
A x B	66.2110	2	33.1055	0.1540
Error	13331.1718	62	215.0189	

*$p < .001$

4 Rationale for use of planned comparisons, and means and F-statistics for all one way analysis of Variance.

One way analyses of variance were conducted, although the direct questions of interest in the present study were the specific comparisons between groups on each variable. Although all the one way analyses were not significant at the .05 level, it was considered appropriate to also conduct the planned comparisons, based on the rationale presented by Keppel (1973)) p89-90

TABLE B-12
Means and F-statistics for all one way analyses of variance

	MEANS				
Variable	BC-2	BC-3	BC-4	F	PROB
Tendermindedness	5.22	5.11	5.21	0.037	0.963
Depression	4.44	3.33	3.62	1.673	0.196
Anxiety	7.44	7.06	7.89	1.303	0.279
Submissiveness	5.89	5.50	5.38	0.285	0.752
Total NSQ	6.00	5.22	5.72	0.937	0.397
Machiavellianism	90.67	96.39	89.59	2.355	0.103
Extrapunitiveness	61.94	65.44	58.41	0.951	0.392
Intrapunitiveness	19.11	16.39	21.03	0.998	0.374
Ego Defence (E-D)	62.61	62.83	61.48	0.103	0.903
Need Persistence	24.72	26.17	27.14	0.279	0.758

Appendix B.5

TABLE B-13
F-statistics for all planned comparisons

Variable	Comparison	F	Prob.
Tendermindedness	BC-2 x BC-3	0.06	0.814
	BC-2 x BC-4	0.001	0.974
	BC-3 x BC-4	0.05	0.773
Depression	BC-2 x BC-3	3.03	0.120
	BC-2 x BC-4	2.05	0.172
	BC-3 x BC-4	0.25	0.622
Anxiety	BC-2 x BC-3	0.44	0.579
	BC-2 x BC-4	0.73	0.469
	BC-3 x BC-4	2.53	0.080
Submissiveness	BC-2 x BC-3	0.26	0.601
	BC-2 x BC-4	0.57	0.459
	BC-3 x BC-4	0.03	0.860
Total NSQ	BC-2 x BC-3	!.80	0.254
	BC-2 x BC-4	0.35	0.628
	BC-3 x BC-4	0.93	0.328
Machiavellianism	BC-2 x BC-3	2.55	0.115
	BC-2 x BC-4	0.11	0.739
	BC-3 x BC-4	4.45	0.039
Extrapunitivenss	BC-2 x BC-3	0.37	0.572
	BC-2 x BC-4	0.47	0.500
	BC-3 x BC-4	1.87	0.188
Intrapunitiveness	BC-2 x BC-3	0.55	0.471
	BC-2 x BC-4	0.34	0.550
	BC-3 x BC-4	1.99	0.182
Ego Defence	BC-2 x BC-3	0.004	0.958
	BC-2 x BC-4	0.11	0.704
	BC-3 x BC-4	0.17	0.724
Need Persistence	BC-2 x BC-3	0.16	0.679
	BC-2 x BC-4	0.56	0.430
	BC-3 x BC-4	0.09	0.777