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THE SCREENING OF INNER-CITY MALE HIGH SCHOOL
DROPOUTS FOR EMPLOYMENT IN INDUSTRY

by

B. G. Gross

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfilment of
the Requirements for the Degree of
Master of Arts

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In conducting a controlled experiment, there are usually a number of individuals who make it possible for the experimenter to consummate his objectives. Consequently, we express gratitude to John Root, Solon Cousins and John McDole who made the expenditures possible. We also are in debt to many others who arranged for the subjects to be tested.

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CHAPTER I

THE PROBLEM

Public and private social agencies of Chicago's northside inner city have been trying for some time to solve the many inter-related problems of the high school dropout. The author has been a party to their efforts. Current attempts to help the dropout are devoted to finding employment for as many of them as possible and training unemployable ones to some degree so they, too, have a chance to get work and have less reason to congregate on streets, form gangs and get into trouble.

To provide a basis for any sound approach to job placement of dropouts, normative data and background material concerning them had to be obtained and analyzed. Agency studies showed that many dropouts come from non-cohesive families, crime-oriented environments and slum areas. They are anti-social, suspicious of anyone trying to help them and hostile in general. Their norms or goals are not the norms or goals of well-adjusted peers in middle class society. They have failed in formal education and are poor at reading, arithmetic and basic tool subjects. Because of these characteristics, the agencies had trouble in finding any scientific measuring instruments to use in assessing this kind of

subject to determine what these young people had to offer to any potential employer, or in determining what could be done to help them to develop their latent abilities. Much was left to guess-work or subjective evaluation.

Since too many costly mistakes are made when placing people in jobs on such an unsound basis, the author accepted the task of developing screening devices of a more scientific nature. Although he realized that many such devices might eventually be needed, he chose as a point of beginning, the areas of attitude toward the work situation, and mechanical propensity. These two were chosen because potential employers constantly stressed these matters.

The present study, then, is devoted to the construction and initial validation of two instruments for screening these culturally deprived subjects for the purpose of discovering which ones may be employable or which ones could be employable if given orientation and pertinent training. The need for new measuring devices was indicated by the fact that no existing tests were constructed with such a population in mind or validated on subjects possessing this particular set of environmental and behavior patterns.

CHAPTER II

RELATED LITERATURE

A search of the literature covered three areas; namely, dropouts, delinquency, and psychological measuring devices related to attitudes and mechanical comprehension.

Pertinent materials concerning existing testing devices and suggested methodology are covered later under PROCEDURE.

Nothing of scientific value was found regarding dropouts as such. However, since so many dropouts are delinquents or pre-delinquents, this area was covered quite thoroughly. The seemingly excessive number of references described or quoted in this are included because it was felt that they throw light on the characteristics of the subjects to be tested, and therefore are of help in suggesting test items that offer some promise.

In studying the many investigations and reports, it is obvious that there is very little, if any, agreement as to the causes and prevention of this phenomenon. Any attempt to arrive at some degree of consensus is difficult, if not impossible. A compendium of the books, studies and articles devoted to juvenile delinquency would indicate multiple causation in that there is al-

ways a combination of causes and this combination is variable in each case.

The impediment to any rational concept of juvenile delinquency is due to popular misconceptions, over-generalization, conflicting theories, heterogeneous legal definitions and undocumented assumptions on the part of both the public and the officials of law enforcement agencies. With these various conflicting and irrelevant concepts, it follows that prevention would be even more difficult to prescribe. This does not, however, erase the need to construct a hypothesis as to the possible prevention of deviant or delinquent behavior.

In the 1957 report from the Federal Bureau of Investigation on crime in the United States, juvenile delinquency was reported to have increased to where more than half of all major crimes (robberies, burglaries, larcenies, etc.) were committed by persons under 21 years of age and that forty-six per cent of all arrests for serious crimes were committed by boys and girls under 18 years of age. In the 1957 report made by the Senate Subcommittee to Investigate Juvenile Delinquency, it was estimated that over 1,000,000 will appear before the courts in 1965.

According to an editorial in Life magazine of March, 1954, juvenile vandalism on school property cost Chicago taxpayers

around \$400,000 annually; 22,082 school windows were smashed in Baltimore in 1953; the Detroit public library was decimated by smashing glass cases, ripping rare books, heaping index cards on the floor and dousing them with glue; and in New Bedford, Massachusetts, five boys set fire to a church, a drug store, and an automobile "just to see the fire engines come".

Glaser (1958) claims that the dimensions of the problem are multiphasic. He suggests that delinquency is an ambiguously and inconsistently used term in that it applies to both legally involved teen-agers as well as many non-criminal acts conducive to crime. He further states that a youth officially designated as delinquent by the police or courts is a function of the visibility of his behavior, the status of the complainant as well as the nature of his behavior. He also suggests that delinquency statistics are unreliable due to the differing definitions of delinquency reported by official agencies. Consequently, efforts to classify delinquents have not resulted in any consistent or widely accepted uniform categories.

To further delineate some of the conflicting concepts relevant to juvenile delinquency, McCord (1956) advances some generalizations which appear to be in line with our contemporary state of knowledge. He indicates that crime rate variations linked to age, sex and race are largely environmentally rather than biolog-

ically determined and that there is no direct evidence for a heredity or glandular predisposition to crime and that intelligence is not related. He adds, however, that psycopathy, homosexuality, alcoholism and psychotic criminality may have a physiological or neurological background. He further concludes that social-psychological research gives some evidence that non-cohesive families and low socio-economic urban areas are determinants for anti-social behavior.

In recent years the psychiatric approach to delinquency has been given wide acceptance. This theory views all delinquency as a disease and the delinquent as a sick person. All offenders are diagnosed as having some mental pathology. In other words, psychiatrists refer to delinquency as a medical problem.

Hakeem (1958) takes exception to the psychiatric approach to juvenile delinquency. He says in part:

"The psychiatric approach must be recognized as being mainly a value-laden position as to how delinquents should be viewed and dealt with. It cannot be looked upon as representing a scientifically founded set of understandings and skills specifically applicable to the treatment of delinquents. Psychiatry, as it operates in the field of delinquency, certainly cannot be looked upon as a branch of medicine, putting into practice knowledge and techniques in keeping with the traditions, methods, and competencies of the medical profession."

There are a number of sociologists who believe that delinquency is learned predominantly from association with delinquent peers. They claim that the orientations, values and practices of the delinquent are related to the urban community groups, ethnic groups, social class and the home and family. Weinberg (1955) suggests that delinquency is caused by the compulsive need to identify with the gang and that with this identification behavior norms are accepted and acted out in a progressive degree of violence.

Weinberg further indicates that the highest rates of delinquency are concentrated in the poverty-ridden, deteriorated urban areas adjacent to the center of the city. The flight of so many people to the suburbs has created inner city blighted areas characterized by slum housing and congestion. These areas are made up of recent migrants to the city who are not familiar with the socially accepted norms of behavior. Furthermore, since this class is limited in its economic climb upward because of the lack of skills, they resort to deviant and delinquent behavior. This socio-economic group does not have the motivation for educational or vocational advancement. In fact, the children of these parents even repudiate these means to climb socially.

Cohen (1955) points out that parents in this situation unconsciously induce their children to get money or monetary gain

regardless of means used. As the middle class norms emphasize a respect for property rights, the delinquent defies these norms by misappropriating, destroying and stealing.

Another commonly held concept as to the causes of delinquency is the broken home and family disorganization. In a number of studies made by investigators regarding broken homes as a contributing factor in delinquency, its direct or indirect influence must be qualified. Cavin (1948) found that in comparing the broken and intact homes of delinquents, boys did not differ so markedly, while Caldwell (1930) and the Gluecks (1930) found that delinquent boys are more apt to come from homes where divorce, death or separation exist.

Theories concerning the effects of culture conflict and parent-child relations on delinquency have also been advanced. Weinberg (1958) points out that the children of foreign born parents reject the "old world" norms which prompts excessive discipline and thus rebelliousness on the part of the teen-age boy becomes evident. This, in turn, disposes the boy to seek delinquent role models outside the family. On the other hand, Shaw (1938) implies that many parents who have criminal records inadvertently impart delinquent behavior by teaching the younger members of the family to steal, to disobey the law, or to disrespect the law. The Gluecks (1940) found that 70 per cent of 1000 de-

linquents were reared in families whose parents or sibling had criminal records and Szurek (1942) adds that unstable parents are prone to unwittingly, or even unintentionally, influence the child to commit delinquent acts. Johnson (1949) observed that some children are unconsciously singled out by the parents as the scapegoat to act out the parents' poorly integrated and forbidden impulses.

An understanding of delinquency also calls for the examination of all the agencies or institutions in the community setting. While a multi-factor approach is generally conceded, there is a tendency on the part of some agencies to explain delinquency in terms of single causes and thus they prescribe or over-emphasize unitary methods of prevention.

Kaplan (1958) agrees with many of his colleagues by stating that delinquency is related to social disorganization, cultural heterogeneity, internal migration, rapid technological change, urbanization and America's unique traditions. He further explains social disorganization by listing substandard areas as characterized by inadequate housing, high mobility, heavy density and general physical deterioration. Out of these conditions delinquent and deviant subcultures take form. Teen-age gangs, usually made up of "lower class" boys, engage in illegal or anti-social behavior as a status protest to enhance their feelings of

worth in our middle class society. He also refers to poolrooms, bars, cheap dance halls and juke joints as "agencies of moral risk".

In attempting to isolate a single contributory factor of delinquency, the magazines and newspapers have leveled severe criticism at the public schools. Juvenile misconduct has been attributed to a lack of classroom discipline. Many of these criticisms, however, give evidence of conjecture, bias and undocumented opinion.

The problems of teacher recognition, identification and referral on emotionally disturbed and mentally retarded children, along with social class and racial discrimination, have been reviewed by Smith (1958). He believes that diagnostic, remedial and preventive services under school auspices, designed to aid potential delinquents, can be significant if these services are augmented by other community agencies.

Contrary to popular lay opinion, Milne (1958) does not concur that economic factors as such cause delinquency or crime. He suggests that it is the individual's interpretation of poverty that might induce delinquent behavior. He believes that if the child or adolescent can identify and internalize the socially approved standards of his parents, he is not apt to indulge in dev-

iant or criminal behavior. If, on the other hand, the child is forced to identify with a gang which has adopted the standards of predatory crime, he is very apt to become involved in criminal activities. He further suggests that in homes where the tradition itself is criminal, the child can hardly escape becoming delinquent. In other words, if anomaly is the underlying factor, he then urges that efforts should be made to strengthen the social agencies of the community.

Many laymen and social scientists have been interested as to what influence the presentations of crime, sadism, brutality and sexuality by mass media have had on delinquency. Pittman (1958) is of the opinion that there is no positive correlation, and that no scientific evidence exists to show that mass media are primary factors. He points out that the TV, radio and movie screens do not form the entire cultural system and that the delinquent is also exposed to other influences that are socially approved.

One of the most recent books published on delinquency by Merton and Sutherland (1960) deals with the need of defining terms. They submit that delinquency has two essential elements: behavior that violates basic social norms and behavior that, when known, evokes judgments by agents of criminal justice. They advise that there is a recognizable delinquent subculture in which

certain forms of behavior are essential requirements for the performance of the dominant roles supported by the subculture. This subculture, they claim, manifests itself by three distinct patterns of behavior: criminal, conflict, and retreatist.

The criminal type of behavior is characterized by the pursuit of material gain - by such illegal means as extortion, fraud and theft. In the conflict type of behavior, the delinquent attempts to establish status by violence while the retreatist groups indulge in the consumption of drugs. All three are motivated by various types of psycho-emotional stress, socio-economic isolation, family and community disorganization and a lack of opportunity to escape these environmental influences.

On the basis of these theories, Merton and Sutherland predict that delinquency will become increasingly aggressive and violent in the future as our inner city urban communities continue to disintegrate. They also propose that public housing destroys whatever vestiges of social organization remain in the community. Salisbury (1958) gives the following quote from one of the public housing managers:

Housing projects are political deserts. The precinct bosses have been wiped out with the slum. They do not seem to come back. No one cares whether the new residents vote or not. There is no basket at Thanksgiving. No boss to fix it up when Jerry gets in trouble with the police.

The residents have no organization of their own and are discouraged from having any.

Many administrators of social agencies believe that too much leisure time due to school dropouts is a contributing factor in delinquency. In the December, 1959, report of The Chicago Federation of Settlements and Neighborhood Centers, it is reported that 50% of the youngsters who enter high school in Chicago drop out before graduation. Analysis of the 50% shows that approximately 54% of those attending vocational high schools drop out before graduation, while about 44% of those attending academic and technical high schools do not graduate. The national statistics concerning the dropout rate show that 40% of all students entering as high school freshmen throughout the nation do not graduate.

Even though factors of social structure and culture may determine the emergence of delinquent street corner gangs, Cohen and Short (1959) advance the theory that individual participation in delinquency would seem to be a function of: (1) differential associations within the community; (2) perception of illegitimate opportunity structures, criminal learning structures, patterns of adult crime and integration of criminal with conventional values; (3) identification of the individual with structures that may exist within his community; (4) personality processes

not associated specifically with crime or delinquency. Consequently, they advise that an empirical investigation of the individual delinquent is expedient to better understand all of the ramifications of deviant behavior.

In summarizing the numerous theories as to the causation of delinquency, it is obvious that there is no consensus. What is more interesting to note is that there are marked divergencies of opinion. Those who have conducted research projects employing the experimental method have obviously not been able to control the extraneous variables. Even on replication there appears to be little evidence on confirming similar hypotheses whether the randomized matched or multiple group designs were selected. With these conflicting results we can only make the assumptions that the experiments were poorly conducted, that there are still too many gaps in our present knowledge or that the facts we have compiled on juvenile delinquency do not fit into our larger body of existing knowledge that has been confirmed.

With the heterogeneous generalizations that our exploratory, confirmatory, crucial and pilot experiments have produced as to causes, it is evident that attempts to recommend programs for prevention must be viewed as conjectures. Ferri (1917) who, at the beginning of the century, paid considerable attention to the prevention of crime, recommended such diverse programs as

penal reform, personality rehabilitation, free trade, reduction in the consumption of alcohol, metal (instead of paper) money, street lights, reduction in hours of labor, lower interest on public securities, local political autonomy, along with other seemingly irrelevant sociological reforms.

Likewise, later elaborate programs for the prevention of crime have been developed and these programs have included practically every reform that has been suggested by anyone. These programs tend to be Utopian because the knowledge of deviant and delinquent behavior causation has not been crystallized. Almost everything in the universe is found to be associated in some direct or indirect manner with criminality. We have not isolated the conditions which need attention in our programs of prevention. It is next to impossible to treat symptoms when all the causes are not as yet known or classified.

Those who believe that crime is hereditary advocate sterilization. Those who believe that delinquency is due to personality disorganization recommend psychiatric clinics. Those who believe that it is due to immediate personal environment suggest family counseling agencies. Those who believe that the problem is related to larger economic and cultural conflicts prescribe social and community reorganization. No universals have been discovered. Consequently, programs of prevention or treatment should

be attempted only on a trial and error basis. No one program can assure immediate success. More facts concerning delinquent causation are needed. The only irrefutable statement that can be made concerning delinquency is that most people are convinced something should be done. How it should be done remains in the field of probability.

In the meantime, the public supports the traditional view that penal isolation is a compulsory measure for reformation and prevention. But penal isolation by law enforcement agencies is not related to prevention. The number of recidivists confirms this contention. According to Mannering (1958) 67% of all offenders committed to federal prisons and reformatories in 1958 had been previously committed and 32% had been committed three or four times. Punitive reaction to crime might build up anti-criminal attitudes on the part of the public but unfortunately, it does not correct, prevent or alleviate crime. In many cases, it contributes to delinquent and deviate behavior. The punishment of the offender does not change the situation which produced the behavior. Nor does the restrictive, loosely organized and incompetently staffed parole system give evidence of solving the problem of deviance.

Within the framework of our legal machinery, there are those who feel that probation is the answer to prevention. From

a legal point of view, probation is the suspension of a sentence followed by a period of liberty conditional upon good behavior of the convicted offender. Probation is considered non-punitive and an effort to apply "treatment" to the delinquent. First offenders and "hopeful cases" are given another chance in the hope that the probation officer can affect attitudes and behavior. Probation then becomes a compromise between punishment and corrective treatment.

There are difficulties inherent in the probation system. Some of these problems as listed by Sutherland and Cressey (1960) involve insufficient funds for adequate manpower, lack of opportunities for training probation officers, harsh or impossible restrictions, inadequate and biased reports given to the court, authoritarian methods of counseling, insisting on conformity to the rule of probation based on fear and the high cost of administering departments of probation. Finally, the strongest argument against probation as a corrective device is that it returns the delinquent to the environment that originally contributed to his behavior.

A more alarming deterrent to any successful program of prevention is explained by Sutherland and Cressey (1960). They claim that the majority of prevention programs are apt to be decimated due to the general persistence of criminality and

near criminality in the general society. They further suggest that our patterns of dishonesty approaching a state of moral bankruptcy induces the pro-delinquent or delinquent to view the efforts of prevention with suspicion. They say in part:

Advertisements of toothpaste, cigarettes and hundreds of other commodities are notoriously fraudulent in their claims and suggestions. The bribery of purchasing agents -- ruthlessness in making money -- trade union racketeering -- political graft and corruption -- evasion of taxes -- lying, cheating, fraud, exploitation, and violation of trust are prevalent in the general society. The offender who remains reformed must be superior to the society in which he lives. Certainly the reformation of the offender would be very much easier if the general society contained fewer persons of criminal or near-criminal type.

Another method of prevention is questioned by Sutherland and Cressey, namely, that of moralizing. They believe that tracts, sermons, personal exhortations and signing pledges in the name of religion produce antagonism. When moralizing is employed between members of the same group, it may be corrective; but when exhortations are given by middle and upper class members of our society to the lower socio-economic groups, it is seldom effective, if not useless.

A method of prevention that seems to be gaining acceptance is the group work concept of rehabilitation. Helping the individual to gain new norms of behavior by subjecting him to non-

deviant groups is the major premise of this method. Cartwright (1951) presents the following argument:

The behavior, attitudes, beliefs and values of the individual are all firmly grounded in the groups to which he belongs. How aggressive or cooperative a person is, how much self respect or self confidence he has, how energetic and productive his work is, what he aspires to do, what he believes to be true and good, whom he loves or hates, and what beliefs and prejudices he holds -- all these characteristics are highly determined by the individual's group membership. In the real sense, they are properties of groups and of the relationships between people. Whether they change or resist change will, therefore, be greatly influenced by the nature of these groups. Attempts to change them must be concerned with the dynamics of groups.

Cartwright goes on to say that there are six tentative concepts upon which group work might be helpful. They are as follows: (1) The members must have a strong sense of belonging. (2) The more attractive the group is to the individual, the greater the influence can be exerted. (3) The more relevant the group is to the individual's needs, the greater will be the influence on attitudes and values. (4) The greater the group membership provides prestige and status, the more effective will be its control. (5) The less the group makes obvious efforts to reform, the better degree of conformity will take place. (6) The motivations for reform must come from within the group and not from outside pressures or authority figures.

There are a number of psychologists and sociologists who support the policy that the control of delinquency lies principally in the personal groups within the community. This theory implies that the closest approximation to a general formula for control is to help the delinquent realize that his behavior is defined as undesirable by the personal groups in which he participates. Hopper (1955) believes that personal relationships can be modified through the efforts of local organizations such as the school, church, police, welfare agencies and civic groups. The Chicago Institute for Juvenile Research has established "Chicago Area Projects" in which the persons who reside in an area of high delinquency are induced to form an organization for the purpose of control and prevention. These area projects, made up of adults who band together to prevent delinquency, not only automatically modify their own attitudes but are now moving into larger areas of service such as the rehabilitation of parolees as well as working with children and youth in organized recreation. While programs of recreation alone do not seem to change attitudes or tendencies toward behavior materially, the total program of local community organization to combat delinquency has had some measure of success.

Related to local community organizations to combat crime, there has been a tendency on the part of case-work agencies,

group-work agencies, child guidance clinics and character building organizations to become integrated into what is known as coordinating councils. Like the Chicago Area Projects, these councils are based on the theory that local community resources must be amalgamated and mobilized to deal with delinquency at the local level. These coordinating councils are beginning to make even larger amalgamations by including representatives of the juvenile court, probation department, the police and sheriff's department, schools, churches, social welfare agencies, YMCAs, Boys Clubs, Boy Scouts, civic clubs, parent-teacher associations and women's clubs. Some doubts have been raised concerning the actual benefit of these councils, but Young (1935) is persuaded that there is probably a residue of substantial achievement in that they help to articulate the many problems involved.

One of the most recent, and, to the author, one of the most significant programs for delinquent rehabilitation was inaugurated by Lloyd L. McCloy, General Secretary, Young Men's Christian Association of Metropolitan Chicago, in 1958. Under the supervision of Captain Richard W. Boone, a staff of carefully screened young men known as "detached workers" make an effort to casually infiltrate into the existing delinquent gangs in the inner city urban areas. These detached workers, after gaining the confidence of the gang leader and members, offer to assist these

teen-age boys in gaining club rooms, gymnasiums, and arranging various athletic, sports and social events that are socially acceptable. The major function of these detached workers was to make every effort to place these boys on non-skilled jobs in industry. The gang members respond to these detached workers as those who have "connections". Subtle attempts are made in this relationship to permit these delinquents to release their hostilities and aggressions in a constructive manner. When a gang member comes in conflict with the police or courts, the detached worker is there to "speak for" the offender.

In a speech before the Northtown Industrial Management Club in April, 1958, Captain Boone indicated that the members of these teen-age delinquent gangs do not have the opportunities to escape their socio-economic status. They are not accepted by the middle class society and, at the same time, are not permitted to become a part of the adult "fraternity" of crime. Furthermore, they come from family backgrounds that give little evidence of projecting non-delinquent norms. All that most of these boys have known is brutality on the part of the police, rejection by their parents and teachers, and censure on the part of social welfare leaders. There has been evidence to support the conviction that the detached worker approach is much more effective than any other prevention program to date. This program is con-

gruent with the major educational theory that improvement is based on meeting and working with the individual or group on their own level and gradually by acceptance and example raising the standards and norms of those who need corrective guidance and preventive counsel.

Any attempt to summarize the numerous theories of the causes and prevention of delinquency and to formulate theoretical explanations of criminal behavior is difficult. Crime is a product of many factors acting in many different combinations. Consequently, it is expedient to conclude that the multiple-factor approach (which is not a theory) is the best solution to the understanding of delinquency. The following statement by Elliott and Merrill (1941) is an example of multiple-factor thinking concerning delinquency:

Elaborate investigations of delinquents give us conclusive evidence that there is no single predisposing factor leading inevitably to delinquent behavior. On the other hand, the delinquent child is generally a child handicapped, not by one or two, but usually by seven or eight counts. We are safe in concluding that almost any child can overcome one or two handicaps, such as the death of one parent, or poverty and poor health. However, if the child has a drunken unemployed father and an immoral mother, is mentally deficient, is taken out of school at an early age and put to work in a factory, and lives in a crowded home in a bad neighborhood, nearly every factor in his environment may seem to militate against him.

The same observations that were made concerning the multiple causes of delinquency can also be made concerning the numerous programs for prevention. There appears to be no one method superior to another. As indicated previously, the methods of prevention that seem to work, do so only because they happen to meet particular needs of particular individuals at some particular time or place. Taft (1950) has suggested that only a small portion of delinquency and crime can be reduced by the methods currently employed for prevention. He further states that few, if any, of our present methods of prevention will cut the "deeper roots" of crime as long as the value systems of our present society remain as they are.

Alinsky (1946) confirms the convictions of Taft by indicating that our entire social structure must be reevaluated and redesigned if delinquency and crime are to be prevented. He implies that a delinquent culture will automatically produce delinquent children, youth and adults. In other words, we should concern ourselves with our present socio-economic disorganization to decrease delinquency. Alinsky attacks our present methodologies of dealing with delinquency with the following charge:

You don't, you dare not, come to people who are unemployed, who don't know where their next meal is coming from, whose children and themselves are in the gutter of despair -- and offer them not food, not jobs, not security, but supervised recre-

ation, handicraft classes and character building! Yet, that is what is done! Instead of a little bread and butter we come to them with plenty of bats and balls!

In reviewing the many theories relative to the causes, symptoms and prevention of delinquency, there seems to be one thread of characteristic that is recognizable; namely, that of identification. From the experiments that have been conducted to date, it appears that the majority of delinquents have been denied the opportunities to identify with non-delinquent norms. They have been denied wholesome identification with parents, middle class economic privileges, education, motivation and accomplishment, adequate living conditions and exposure to moral and ethical values. Being denied these opportunities, the youngsters of our inner city areas have looked elsewhere and found associates, norms, leisure time activities, gangs and many other kinds of deviant behavior that help them expel their resultant aggressions and hostilities. Being denied the opportunities to compete successfully with the socio-economic norms that are observable in our mass media and middle class status symbols, they turn to criminal conflict and retreatist modes of delinquent behavior. Being denied the universally and psychologically needed supports of esteem, recognition and respect, they seek and easily find other, devious means by which to sustain their needs, wants and

general deprivations. They sense rejection, and experience futility. They see and daily experience frustration and despair. They encounter censure and social disapproval. They are subjected to racial, ethnic and social prejudice. No wonder, then, that our inner city teen-age boys, who are born and raised in squalor and restrictive opportunity, compensate by any means available to them -- crime and delinquency.

Until these numerous sociological and psychological hurdles are solved, what do we do to alleviate the problems involved? Shall we conduct more experiments as to the causation of delinquency and compile more data for statistical analysis? Shall we continue a trial and error multiplicity of programs for control and prevention that might be an expression of good will, but have little rewarding results?

What is needed, as the author sees it, is an experimental approach to help the inner city teen-age boy to identify himself with an activity or program that will alleviate his environmental stress. There is a rapidly growing "school" of sociologists and psychologists who feel that assisting the inner city teen-age boy to find a job is an immediate and effective measure that will pay dividends to all concerned. They are of the opinion that in a high percentage of the cases, finding the pro-delinquent a job in line with his capacities, skills and interests will serve as a

graphic and concrete remedy and perhaps a sound method of prevention. To determine where the teen-ager is at his present, personal, social and vocational growth and then to investigate his attitudes and behavior after he has held a job for a year, is considered the most expedient approach to teen-age problems. These procedures might also reveal data and information that could or would have predictive validity.

A pro-delinquent teen-age boy who holds a job is given a number of advantages to help him escape a disposition or opportunity for deviant behavior. First of all, the problem of too much leisure time is solved. Working 7 to 8 hours a day with the necessary sleep to sustain such a work schedule leaves little time for aggregating with his delinquent or pro-delinquent peers. He will have little, if any, desire to "kill time" when a lack of time becomes a daily experience.

Secondly, in being given an opportunity to get a job, he will automatically be exposed to the work-a-day world in which a new set of norms is demonstrated. He will soon learn on holding a job that a high majority of individuals are willing to work to gain the necessary funds for food, clothing and shelter rather than gain these necessities at society's expense. He will also learn by observation that those who apply themselves on a job are eventually rewarded by pay increases and promotion which, in

turn, gives status in socially approved ways.

In holding a job a pro-delinquent boy will also find that his work associates and the firm by whom he is employed are entities with which he can identify with satisfaction and pleasure. In the work-group situation, which is based on cooperative effort and a reciprocal environment, will induce habits of self-discipline, which a long period of idleness is apt to destroy. Such therapeutic classifications as "my boss", "the company for which I work", "my friend at work" will produce attitudes of responsibility and maturity. He will gain a new appreciation and understanding of the fact that personal relationship is a two-way street calling for social adjustment with a respect for the rights and privileges of others.

A pro-delinquent or delinquent, who becomes affiliated with a work community, will soon become aware that the majority of his fellow workers have established families with homes of their own. He will hear discussions in which the topic of conversation is related to "the wife and kids". Even though he might have family backgrounds in which crime, strife, conflict and rejection are prevalent, he will discover that it is possible to establish normal marital family relationships. This, in turn, is apt to persuade him to placate his sexual drives in socially accepted ways and to assume the responsibilities that

are incumbent on being a husband and father.

Finally, the boy who has been subjected to economic deprivation will gain self-confidence, status and security by receiving a pay check that permits him to obtain some of the things which he has previously been denied. The difference existing between a maladjusted and a well adjusted adult is, many times, the degree of economic status that a job affords. Likewise, the difference existing between a socially adjusted teen-ager and a maladjusted teen-ager is, many times, the opportunity to obtain a job in which his psycho-emotional and economic needs are met in socially useful work.

In attempting to find part-time or full-time jobs for inner city teen-age boys between the ages of 16 and 21, there are a number of major problems to be solved. First, there is a reluctance on the part of industrial executives to hire boys of this age. They indicate concern over their draft status, realizing that after the boy has been trained he is apt to be pulled off the job for military service, which increases the cost of labor turnover. Secondly, an executive who gives evidence of considering a boy of this age for a job usually asks two questions in various phraseologies; namely, "What are his attitudes?" "What aptitudes does he have?"

In asking about his attitudes, the prospective employer is concerned if the applicant will fit into the work situation and if he is willing to accept orders and direction. This means that the executive is interested in knowing how or to what degree the boy applicant handles his hostilities. This is due to the many newspaper stories which detail the anti-social behavior of particularly the underprivileged inner city boy. There appears to be little, if any, realization that there are apt to be boys of this socio-economic level who are willing to acclimate themselves to the work situation and who are capable of handling their hostilities in socially approved ways.

The question regarding skills and aptitudes is prompted by the general knowledge that many of these boys are school dropouts, which implies to the average executive employer that either the boy is mentally limited or that his school dropout means he has not acquired too many, if any, employable skills. It is thus assumed that a high school dropout has neither the motivation to work nor sufficient background experience or education to function as a productive worker. Consequently, it has been found that the prospective industrial employer will not hire a boy unless the social worker or social agency makes some attempt to screen the boy who is recommended as having socially accepted attitudes and some vocational aptitude.

In employing the term aptitude in this study, the writer is using the term within the semantic framework of the executives who were involved in considering applications of high school dropouts. They gave every indication of not being too interested in what these boys can achieve by training but what they had achieved in mechanical knowledge. In other words, they were interested in knowing to what degree the applicant was an employable risk and not in the applicant's potentiality as a trainee. Industrial executives seldom offer training to non-skilled employees. Fryer, Henry and Sparks (1954) recognize this variation in aptitude testing by explaining that some tests predict how much an individual can achieve while others estimate how much an individual has achieved.

The problem of screening the 16 to 21 age boy as to his attitudes (the manner in which he handles hostilities) immediately involves the question as to what measuring instrument and criterion should be employed. Realizing that the validity of any measuring instrument is dependent upon the population on which the norms were computed, the social agency is confronted with the dilemma of not having an instrument measuring attitudes with norms established on low socio-economic inner city boys, the majority of whom are either school dropouts or retarded in school grade relative to their ages. To screen these boys with instru-

ments that were not standardized with a population representing their peers would obviously not be valid.

This problem also applies to low socio-economic inner city boys as it related to their aptitudes. The major vocational opportunity for boys of this background and environment lies in the possibility of locating non-skilled jobs for them in industry. This, in turn, implies that these boys should give some evidence of aptitudes which are not primarily based upon high school training, attendance or academic success. Any test attempting to measure aptitudes which are related to mechanical comprehension must be based on the assumption that there is a tendency on the part of some boys to gain mechanical comprehension by self-propelled exposure to the mechanical objects they would encounter in their environment.

The problems thus far stated indicate that two tests should be compiled, one on attitudes and the other on mechanical comprehension, to be standardized on samples of the population that these low socio-economic inner city boys represent. In drafting and compiling two tests measuring attitudes and mechanical comprehension, then, the social agency would have the screening instruments with which to recommend boys 16 to 21 years of age for non-skilled jobs in industry. Gaining a job would, in turn, help serve as a deterrent to deviant behavior and delinquency.

CHAPTER III

PROCEDURE

THE SCREENING INSTRUMENTS

In constructing psychometric tests, the psychologist assumes that it is precarious to apply the same criteria to the evaluation of groups of different backgrounds. In attempting to screen inner city boys, ages 16 to 21, who have been exposed to what is perhaps the lowest socio-economic level and who have a large incidence of school dropouts, it would seem expedient to construct a test that would, to some degree, serve as a sample of the population and behavior universe which these boys represent. In other words, in describing the universe of which a test is presumed to be a sample, it is necessary to delineate the kind of behavior and the kind of persons who may be expected to function in this manner.

In attempting to measure attitudes, there are many problems with which the investigator is confronted. According to Goodenough (1949), attitudes may be defined as a somewhat stable tendency to respond in a certain way in accordance with the individualized meaning that a situation has taken on for the sub-

subject in question. This implies that attitudes differ in direction, strength and intensity, breadth and fluidity, and that these dispositions are variable. This, in turn, suggests that the subject should be asked to express the extent of agreement or disagreement on items related to the situation involved to determine attitudes.

Determining the attitudes of the inner city high school dropout subjects was based on the premise that attitudes are the springs from which overt behavior rises, even though they may be at times repressed. As indicated previously, the prospective employer is invariably interested in the degree of hostility toward the work situation that the prospective employee might demonstrate. If the employee exhibits intolerance, resentment, suspicion, pessimism or cynicism, he is not apt to adapt to either his work superiors or peers. Even though attitudes may be modified, the average employer does not have the skill or time to improve the attitudes of employees who have acute degrees of hostility.

Of the two most used and generally accepted methods of studying attitudes (Thurstone and Likert) it was decided that the Likert method was more appropriate and practical for this study. This method permits the subject to respond to many items, each on a five-point scale, as to the extent of his feelings and

behavior regarding the proposed situation or environment. It also permits a neutral or average response.

Newcomb (1950) indicates that both the Thurstone and Likert methods are sufficiently reliable and valid if use properly. In discussing the Likert method, however, he says in part:

The meanings of the Likert and Thurstone scale values are by no means the same. The items included in the Thurstone scale differ primarily in representing different degrees of favoring or opposing the same thing. Thus a Thurstone scale represents the individual's central tendency of favoring or opposing something -- say the church. The items included in a Likert scale, on the other hand, are not selected as representing differing degrees of favorable or unfavorable attitude. Rather, all items are considered equivalent. A Likert scale position is thus influenced by the number, or range, of favorable and unfavorable responses, by the consistency of favorable or unfavorable responses, and by their intensity. The Likert scale scores thus represent a pooling of several dimensions of an attitude -- its meaning lies principally in its position relative to other people's scores.

In attempting to meet the demands of the executives who were being asked to hire these boys, and in considering the above delineations made by Newcomb regarding the Thurstone versus the Likert method, it was decided to use the latter.

While pencil and paper tests may not yield dependable information about actual behavior, they have been found to be pre-

predictive indicators as to how the subjects might function in any given situation. Newcomb (1950) confirms this point of view by indicating that attitudes represent persistent general orientations of the individual toward his environment. He also postulates that attitudes are not sharply differentiated, that is, favorable or unfavorable attitudes fall into a generalized pattern regarding objects or situations.

In endeavoring to draft an attitude questionnaire in which the items would represent a sample of the behavior universe in question, it was decided to hold a number of interviews with those who were familiar with the behavior patterns of the subjects to be tested. Consequently, the boys' work secretaries of the Chicago-Duncan, Sears and Isham Memorial YMCAs were asked to verbalize the deviant kinds of thought and behavior that were demonstrated by the members of their groups.

In a series of personal interviews and group meetings, these boys' work secretaries were asked to consult their records and describe the behavior patterns and general reactions of each boy. As they verbalized the thoughts and actions of their group members, notes were taken which were later compiled into a series of 50 items to which the subjects were to respond in five categories, "always" "often" "occasionally" "seldom" and "never". In compiling these 50 items, care was taken to avoid ambiguity,

unnecessary or irrelevant items, negative statements and personal bias.

After the questions were compiled, they were submitted to six social psychologists who were familiar with the behavior patterns of the population in question. A number of suggestions and changes were made as to phraseology and sentence construction. In discussing the items with these psychologists, it was the consensus that the items were satisfactory indicators as to what degree the subjects involved deal with and handle their hostilities.

To make certain that the items were clearly phrased, a pilot study was run on fifteen boys who frequented the Isham Memorial YMCA. Each boy was encouraged to ask questions or make comments relative to those items that he did not understand. A number of terms that did not seem to be congruent with their past experiences were deleted or rephrased. The items that the subjects referred to as being "obvious" and those items termed as difficult to answer were also rephrased. A number of the subjects raised questions as to the directions for taking the test and filling out the questionnaire answer sheets. These comments were also noted and the corresponding changes were made.

Aptitude testing is a multiphasic concept. To design a test which might predict success in a given field in advance of

actual trial might involve many extraneous variable, such as intelligence, education, experience, training or interests. Most aptitude tests attempt to measure specified abilities of what a subject can demonstrate in the present which, in turn, might be predictive.

There are many tests designed to measure a combination of abilities which are used in general vocational guidance. The task of this investigator, however, was to attempt to give the prospective employer some indication as to the subject's mechanical aptitudes before recommending interviews for a job. In evaluating the various mechanical aptitude tests, Cronbach (1949) recommends the use of The Bennett Test of Mechanical Comprehension, but in investigating the standardization of The Bennett TMC, along with the Differential Aptitude Test (DAT) and the General Aptitude Test Battery (GATB), it was found that they did not represent a population made up of inner city high school dropouts. Consequently, it was evident that this investigator should attempt to construct a test which contained samples of both the population and behavior universe of the subjects in question.

In endeavoring to draft a mechanical comprehension questionnaire in which the items would represent a sample of the aptitudes deemed necessary for non-skilled and semi-skilled jobs

in industry, four plant superintendents and four shop foremen were asked to evaluate 60 illustrated problems that deal with the elements of mechanical aptitudes. These items were originally drafted from The World Book Encyclopedia and general information books geared to boys of these ages. These items covered a cross section of manual tool usage and common physical phenomena that a teen-ager would encounter. The basic and elementary principles of energy, friction, gravity, inertia, matter and force that a boy would be apt to encounter in his leisure time or unsupervised environment were included.

Every effort was made to avoid the items that would assume knowledge based primarily upon a formal high school education to thus not penalize those who were high school dropouts or scholastically retarded. The illustrations were drawn in the simplest possible manner and the questions relative to the illustrations were phrased in easy-to-understand language. The multiple choice items were so constructed that a response of A, B, C or D would indicate the correct answers. These 60 items also included a number of questions that would also challenge the subject who had the normal physics and elementary science classes in high school.

After the eight industrial superintendents and foremen had evaluated the 60 items, 20 of which were discarded as a re-

sult of these individual evaluations, they were called together as a group to determine the scaling of items, which means that the questions were arranged to progress from easy to difficult status.

This was done although there was some divergency of opinion. To gain a more discriminatory scaling, it was agreed that the serial order of difficulty could be better ascertained later in this study by investigating the percentage of testees who correctly answered each item.

A pilot study was also run on the 40 mechanical comprehension items to gain some evidence that the items were understood and intelligible, and to make certain that the printed directions were clear and consie. The same fifteen boys, who participated in the pilot study with the attitude questionnaire, were employed. There were few comments or questions raised in this pilot-study session. It was interesting to note that five of these subjects had little, if any, difficulty in understanding the questions; that six of the boys spent twice as much time answering the questionnaire, while the remaining four boys asked for additional time to recheck their answers. Another interesting observation was the general expressed desire to discuss the items and their correct answers after the answer sheets were turned in, thus indicating that the items were congruent with

their interests and experience backgrounds.

THE SUBJECTS

As a refining device for the two tests and as a means by which to collect raw data for statistical treatment, it was decided to first give the attitude and aptitude tests to a group of inner city boys for whom these tests were drafted as screening instruments for employment. To do this, the investigator approached the same YMCA boys' work secretaries who had verbalized the behavior of the inner city boys under their supervision. These supervisors, who are related to the Chicago-Duncan, Isham Memorial and Sears YMCAs, set aside an hour at each of their respective departments for the investigator to meet with the subjects and administer the tests. Participation in this testing program was voluntary. The number of subjects from the three YMCAs totaled 100. Their mean age was 17 and the mean number of years they had attended high school was 1 year. Assuming that the average boy entering the first grade at 6 years of age would be a junior in high school at the age of 17, the 1 year high school indicates that these boys were academically below the expected norm by approximately 2 years. This observation could be attributable to school dropouts, retarded grade status or parental influences that do not encourage high school attendance.

The boys associated with the three above named YMCA de-

partments can be classified as inner city boys because these departments are geographically located in the inner city industrial sections of Chicago, and the boys with whom the departments work reside in these areas. A high majority of these boys also give every evidence (from what is known of their backgrounds) of coming from the lower socio-economic level. While some of them cannot be designated as being delinquent in the legal sense of the term, their YMCA supervisors attest the fact that much of their behavior is deviant and that their general frame of reference is divergent from the middle class system of values.

The YMCA organizes these inner city boys into clubs in an effort to discourage them from aggregating into "street corner gangs". For the most part, they come from disorganized homes in which the "normal" family relationships are non-existent. They represent many racial, ethnic and cultural backgrounds, including Negroes, Puerto Ricans, American Indians and Bohemian groups known as "gypsies". Their values can be summarized as being "hep" to the norms of what sociologists have referred to as the "inner city jungle", "the culturally deprived", and "sub-culture groups".

The second group of subjects, to which the tests were administered, were the boys enrolled in the Cooley Vocational High School, which is a division of the Chicago public schools. The

students enrolled in Cooley are mainly boys who are not planning to attend college and are thus interested in a terminal education, which deals with vocational training as it applies to industrial skills. The major portion of the curriculum is "shop work" courses. According to Joseph Portle, the director, a high percentage of Cooley students are below the academic high school IQ level of 92 to 110. The percentage of dropouts is higher than what is reported for dropouts in the academic high schools.

The Cooley students are not primarily subjects who live in the inner city sections of Chicago. They come from a large section of Chicago's north side which includes backgrounds that might be termed as the middle class socio-economic level, as well as the lower socio-economic level. The 53 students who participated in this investigation did so on a voluntary basis. Their mean age was 17 and the mean number of years they had attended high school was $1\frac{1}{2}$. These data indicate that the Cooley subjects were academically below the expected norm by approximately one and a half years, and the implications are similar as stated in reference to the YMCA subjects.

The third group of 25 high school students who served as subjects represents the higher socio-economic level. They reside in the Fox River Valley, a suburb of St. Charles adjacent to Chicago. The St. Charles Chamber of Commerce reports that the

St. Charles High School has a larger percentage of graduates who enter college than any other high school in Kane and DuPage counties. These high school students were invited to participate as subjects at the Sunday evening session of the Youth Fellowship Society of the First Methodist Baker Memorial Church of St. Charles, Illinois.

The mean age of the 25 boys participating was 16 and the mean number of years they had attended high school was 2 years, thus indicating the expected norm for academic placement. These students had above average testing experience in that the counseling services of the St. Charles High School is well staffed and active in counseling students as to their academic, vocational and social adjustment problems. They all indicated an eagerness to serve as subjects.

To make a comprehensive comparison of teen-age boys in this study, the investigator approached the executives of the Northtown Industrial Management Club of Chicago to gain subjects who had been employed for at least a year in the industries represented. It was found, as previously reported, that there are a limited number of teen-age boys who hold jobs in industry. The subjects who participated were, for the most part, trainees and semi-skilled employees.

The mean age of the employed teen-agers was 19 and the mean number of years they had attended high school was one year. They resided in various sections of the city and represented a heterogeneous group as to ethnic, social and economic backgrounds. In administering the tests, it was observed that there was a degree of reluctance in participating as subjects. They had to be assured that the test scores would not be revealed to their employers. This reluctance was confirmed by the fact that over 50 per cent refrained from ascribing their names to the answer sheets.

The fifth group of teen-age boys to serve as subjects was drawn from the freshman and sophomore classes of the Northern Illinois University. These 66 Liberal Arts students principally came from the midwestern states and, from everything known about the student body, represented the middle class socio-economic level. As in the case of the St. Charles High School students, the Northern Illinois University students had had testing experiences and entered into the administration of the tests with objectivity on a voluntary basis.

As a final comparison in testing various populations, the tests were administered to the executive members of the Northtown Industrial Management Club. These male adults represented such executive positions as presidents, vice-presidents, treas-

urers, comptrollers, personnel directors and plant superintendents of both large and medium sized industrial firms located on the near north side of Chicago. Their mean age was 42 and the mean number of years in college was $3\frac{1}{2}$.

After the testing session, these executives were asked to comment on the items of both tests and were asked to scale the items as to serial order difficulty in the Mechanical Comprehension Questionnaire. As in the case of the pilot study participants, there appeared to be no consensus. There was a general agreement that the items in the Mechanical Comprehension Questionnaire ran a continuum on what a teen-age boy could be expected to answer correctly. It was also agreed that these items represented the type of knowledge that an industrial employer would look for and expect of an employable applicant. A number of suggestions were made as to the clarity of the illustrations, which were notated for future revision of the test. There were no significant suggestions concerning the items in the Attitude Questionnaire. It was agreed that the adjudication of these items should fall within the discrimination of the investigator and his colleagues.

The following is a table delineating the data on the subjects of the six groups who served on a voluntary basis.

TABLE 1. MEAN AGE, MEAN YEARS IN HIGH SCHOOL, MEAN YEARS IN COLLEGE AND THE MEAN TIME FOR THE TEST COMPLETION OF THE SIX GROUPS PARTICIPATING.

Subjects	N	Mean Age of Groups	Years in High School	Years in College	Mean Time on Attitudes	Mean Time on Aptitudes
I. YMCA	100	17	1		15	17.4
II. Cooley	53	17	1½		13.2	14.5
III. St. Charles	25	16	2		10.5	13.3
IV. Employed	25	19	1		13.3	15
V. N.I. Univ.	66	18	4	1.5	9	12.5
VI. Executives	75	42	4	3.5	8.2	10.6

In observing the collective data, it is evident that the mean number of years in high school indicates that the subjects of groups I, II, III, IV had not advanced beyond the sophomore level. Furthermore, in observing the mean number of years that groups V and VI had attended college, it should be pointed out that the subjects were divided into two general educational backgrounds; namely, those who had not completed the last two years of high school and those who had received college training.

In observing the mean time of the groups on completing the attitude and aptitude questionnaires, it is also evident that

those with only high school backgrounds required more time than those who had collegiate backgrounds. This might be attributable to the fact that groups V and VI had had testing experience and perhaps had the advantage of curriculum subject matter that facilitated the time factor.

THE SPECIFIC PROCEDURES

In the administration of psychometric tests, the problem of controlling the extraneous variables is acute. With each of the six groups involved, the investigator first reminded the subjects that they were voluntarily participating in a research project and that the objective was to endeavor to construct screening measurements that might assist inner city teen-age boys to find jobs in industry. They were also assured that their scores on the two tests would be held confidential. This approach to the subjects helped considerably to establish rapport.

Every effort was made to make certain the subjects understood the directions on the fly sheet of the tests. The investigator read the directions as the subjects followed the printed instructions visually. Opportunity was given with each group for the subjects to question the method of answering the items before being told to proceed with the first item. Before taking the attitude test the subjects were asked to be as honest as they could

be in answering the items and to select one of the five discriminatory answers that would represent them most. The subjects were also told that even though they might not know the answer to every item on the aptitude test, they should make an attempt to select an answer that appeared to them to be most reasonably correct. Furthermore, they were told there was no time limit, but that they should not spend too much time on any one item at the expense of not carefully considering the other items.

Before the subjects were given the signal to proceed, the personal information on the answer sheets was reviewed so that such data as age, years in grade school and high school could be ascertained. The investigator, unobtrusively, noted the time the subjects began to answer the items and the time they brought the tests and answer sheets to the desk to thus gain the mean time of the groups.

Even though the subjects were told that no questions concerning the items would be answered after the test period began, there was the inevitable raising of hands during the testing session. When hands were raised during the testing session, the investigator walked over to the subject merely as a supportive measure and whispered whatever comment seemed appropriate without revealing any information that might have confounded the independent variable.

After the two tests had been administered to the six groups involved, the raw data were tabulated to compute the means, standard deviations, percentiles, analysis of variance (F test) and "t" tests to gain the statistically significant difference of the means. The computations were checked by a staff member of the Science Research Associates. Even though the groups did not represent a randomized sampling in the strict sense of the term, the investigator made the assumption that the six groups represented a functional sample of the populations described. The fact that every member of the populations from which the samples were drawn did not have an equal chance to be chosen was, to the investigator, counter-balanced by the fact the subjects of all six populations served on a voluntary basis. This implies that the subjects, chosen on this basis, would be more apt to be cooperatively motivated than a categorically chosen sample of subjects who might resist or fear the testing situation.

In defense of the above argument, it might be expedient to observe that in each testing situation of the six groups involved, there was an obvious majority of the subjects who asked for a report on the number of items they had answered correctly on the aptitude test. This indicates to the investigator that there was little hostility toward the testing situations, that the

subjects participating in this project were responding to stimuli in which they had more than a casual interest.

CHAPTER IV

RESULTS and DISCUSSION

Before presenting the results of the statistical treatment of the raw data, it is expedient to note that there are those who question psychometric tests as reliable tools for diagnosis. They claim that too much emphasis is placed on the interpretation of scores at the expense of being sensitive to the complexity of personality variables, to say nothing of the many extraneous variables that are unknown or cannot be controlled. They further suggest that in employing standard scores to construct abstractions and generalizations the investigator is apt to overlook the fact that all scores are merely symbols, indicants and a non-creative report on traits and aptitudes. On the other hand, those who prefer psychometric tests point out that this approach to analysis eliminates the investigator's bias and erroneous generalizations made on heterogeneous and isolated cases.

In the evaluation of psychometric tests, the investigator must keep in mind that psychometrically measuring personality traits or aptitudes negates the projective test premise that the investigator should view the subject as a total personality in

which all traits are related even though our 20th century culture seems to demand particular traits and aptitudes as objects of study. The questions that usually arise in assessing all testing devices are "Are we attempting to measure traits or defenses? --- aptitudes or interests? --- achievement or intelligence?" Furthermore, the interpretation of psychometric scores may be unreliable due to the investigator's background, previous coaching or test experience on the part of the subject, the variability of speed reactions, the lack of reading comprehension and the eternal question of quantitative as against qualitative validity. In other words, should we attempt to measure isolated traits or aptitudes or approach the problem as many related factors that compensate each other?

The measurement of attitudes calls for further definition. As indicated previously, attitudes can be defined as a stabilized set or disposition toward objects, activities and situations, and the direction of attitudes is determined by strength, intensity, breadth and fluidity. Even though these assumptions can be considered sound, the investigator must keep in mind that it is difficult to obtain responses that are not conditioned by socially acceptable influences. Furthermore, the responses given to abstract items are apt to be more conditioned by the respondent than those given to concrete items. Even though atti-

tudes determine behavior, the determinants of attitudes are subject to experience, propaganda and age. In the interpretation of all attitude test scores, individual differences must be kept in mind and the investigator must remember that quantitative data are so often not tempered by qualitative concepts.

In the measurement of aptitudes we are concerned with samples and signs. It is safe to say that interest determines aptitudes scores as does background, education and experience. The strength of goals and the disposition to overcome obstacles are factors that cannot be ignored and are difficult to measure. To some subjects an aptitude test is a challenge, while to others it is a tension producing situation that negatively influences responses.

Despite these apologetics for psychometric tests, this investigator adheres to their use on the assumption that screening inner city boys for employment calls for quantitative methods because the behavior norms of this lower socio-economic group are too complex and variable for a subjective or personalized approach. Furthermore, this investigator is working on the assumption that because the items in the attitude test were drafted on the direct observations of the YMCA boys' work secretaries, who work with the subjects involved, and because the items on the aptitude tests were evaluated by the industrial executives, who

will actually do the hiring, these tests will be more objective than would the individual screening of these boys on a subjective basis. In other words, psychometric test scores are apt to be more reliable than a personal or biased guess. There are many tests available on attitudes and aptitudes, but there are no published tests to the writer's knowledge that have been standardized on this particular inner city teen-age boy population and behavior universe.

The statistical treatment of the data in this multi-group experiment calls for an analysis of variance. This was done on the assumption that the null hypothesis could be rejected in that there would be a difference in the means of some of the six groups which, in turn, would call for the "t" test to determine if the means were due to chance. In other words, this study was based on the assumption that even though the inner city teen-aged boys are exposed to the socially disapproved norms and influences of the low socio-economic level, some percentage of them might have learned to handle their hostilities in a socially approved manner.

The following table gives the means and standard deviations of the six groups.

TABLE 2. THE NUMBER, MEANS AND STANDARD DEVIATIONS OF THE SIX GROUPS TAKING THE ATTITUDE TEST.*

GROUP	N	M	SD
I. YMCA Inner City	100	126.250	19.24
II. Cooley Vocational High School	53	138.226	11.75
III. St. Charles High School	25	131.000	18.33
IV. Employed for 1 year	25	115.600	14.39
V. Northern Illinois University	66	125.409	15.30
VI. Executives	75	104.600	14.34

*(The lower scores indicate a higher degree of hostility control.)

In observing the means, one discovers some indication of the degree in which the six groups of subjects give evidence of handling their hostilities in socially approved ways. In making this observation, it must be kept in mind that the 50 items in the attitude tests were constructed on the anti-social behavior patterns of the inner city low socio-economic boys as described by the YMCA boys' work secretaries. From this frame of reference, it would be reasonable to expect that the subjects in the executive group, who are in positions of responsibility, would obtain the lowest mean score. It is also reasonable to expect that the subjects who have been employed for a year or more would have learned to adjust themselves to the socially approved work situation norms of behavior and would thus obtain a lower mean score than the subjects of groups I, II, III or V, the majority of whom

have never been employed.

It is interesting to observe that the mean scores of the Northern Illinois University group and the YMCA inner city group are similar. This might indicate that the inner city boys, by their deviant and pro-delinquent behavior, have learned to act out their hostilities, while the Northern Illinois University students, who are restricted by the middle class and collegiate behavior norms, have not learned to resolve theirs. The higher mean score of the St. Charles group (representing the high-socio-economic group) as against the YMCA inner city group might be accounted for on the same assumption as advanced in the case of the Northern Illinois University group. The highest mean score of the Cooley Vocational High School group might be explained on the assumption that these subjects have developed uncontrolled hostilities, due to a fact that they represent a population that could not meet the demands of the academic high schools and were, in turn, forced to attend a vocational high school, which represents an ego threatening educational experience.

Another observation in studying TABLE 2 is that the mean scores are somewhat related to the ages of the subjects as listed in TABLE 1. It is quite possible that the mean age of 42 for the employed group influenced their scores. In discussing the behavior patterns of the YMCA inner city group with the YMCA boys' work

secretaries, it was the consensus that as the inner city boys advanced in age there was some tendency for them to handle their hostilities in more socially accepted ways, due perhaps to the fact that they endeavored to identify with more of the middle class groups and norms of behavior.

In employing the analysis of variance statistical method to the data, an "F" of 32.0 was obtained which is significant beyond the .001 level. To compare the six groups, "t" tests were computed. The results are found in TABLE 3.

TABLE 3. THE LEVELS OF SIGNIFICANCE DERIVED FROM THE "t" TESTS OF THE SIX GROUPS COMPARED ON THE ATTITUDE TEST.

GROUPS COMPARED	t	df	P
I-II	4.34	151	.001
I-III	1.31	123	*
I-IV	2.93	123	.01
I-V	.32	165	*
I-VI	8.74	173	.001
II-III	1.83	75	*
II-IV	5.75	76	.001
II-V	4.29	117	.001
II-VI	11.56	126	.001
III-IV	3.36	48	.01
III-V	1.46	89	*
III-VI	7.05	98	.001
IV-V	2.57	89	.02
IV-VI	2.94	98	.01
V-VI	7.60	139	.001

*Not statistically significant

TABLE 3 indicates that the groups compared were significant beyond the .01 and .001 per cent level with the exceptions of groups I and III, I and V, II and III, and III and V. This implies that the difference of the means between the YMCA inner city group and the St. Charles High School group, the YMCA inner city group and the Northern Illinois University group, the Cooley Vocational High School and the St. Charles High School group, and the St. Charles High School group and the Northern Illinois University group was due to chance.

Since this study is primarily concerned with the employability of group I (the YMCA inner city subjects), it is interesting to note there is a statistically significant difference of the means between the YMCA inner city group and the Cooley Vocational High School group as to attitudes. The Cooley subjects can be considered the peers of the YMCA group from the standpoint of mean age, approximately the same mean years attending high school and, to some extent, the same socio-economic level. The lower mean score of the YMCA subjects thus indicates they might have learned to handle their hostilities in more ego-building ways than their Cooley peers.

Even though the differences of the means between the YMCA inner city group and the Northern Illinois University group and the St. Charles High School group are not statistically signifi-

cant, it is interesting to note that the YMCA inner city group compare favorably on the attitude test. This is worthy of comment when realizing that the Northern Illinois University and St. Charles High School groups represent a higher socio-economic level and more mean years in formal education. While formal education, per se, does not necessarily determine hostility control, it is reasonable to expect that subjects who have been exposed to middle and upper class norms of behavior should have an advantage over those whose backgrounds represent only the low socio-economic inner city environment.

In observing the statistically significant difference of the means of the groups compared, it is expedient to keep in mind that the number of subjects in each of the six groups varies considerably. This implies that perhaps if the number of subjects in groups IV and III were larger, or if the number of subjects in all six groups were more equalized, there might have been a larger distribution of scores which, in turn, might have affected the difference in the means and the probabilities reported.

In continuing to investigate the predictability of the attitude test, it was considered feasible to choose categorically a cutting score by which a YMCA inner city boy could be tentatively recommended for a job in industry on an experimental basis. To do this, the investigator averaged the mean scores of groups I, II,

III and V and then subtracted one standard deviation of the mean from the YMCA inner city group mean on the assumption that any YMCA subject scoring below this arbitrary score might be considered as a recommendee for a job. Thus, in future evaluations of YMCA subjects, as to their employability in regard to attitudes, a score below 114 could be considered as an employable risk.

Acting on the same assumption as stated for the attitude test, the data derived from giving the aptitude test to the six groups were given the same statistical treatment. TABLE 4 gives the number, means and standard deviations of the six groups participating.

TABLE 4. THE NUMBER, MEANS AND STANDARD DEVIATIONS OF THE SIX GROUPS TAKING THE APTITUDE TEST.*

GROUP	N	M	SD
I. YMCA Inner City	100	24.100	4.33
II. Cooley Vocational High School	53	22.103	3.33
III. St. Charles High School	25	31.420	3.37
IV. Employed for 1 year	25	30.220	4.49
V. Northern Illinois University	66	30.318	3.46
VI. Executives	75	30.486	4.69

*(The higher the mean score, the greater number of items answered correctly.)

In studying the means in TABLE 4 it becomes apparent that the means of the St. Charles High School, the executives, the

Northern Illinois University and the employed groups are similar. The comparatively high mean scores of groups V and VI (the Northern Illinois University and the executives groups) are probably due to the number of years of collegiate education in which the study of science and mathematics courses could have possibly influenced their scores. The comparatively high mean score of the executive group could quite probably be due to the fact it was the Northtown Industrial Management Club executives who helped draft and construct the 40 items in the aptitude test as being the items they deemed necessary as employable knowledge for an applicant. In observing that the St. Charles High School group also had a similar mean score as compared to the executives and Northern Illinois University groups, a possible reason might be that the St. Charles High School was presently engaged in studying the kind of subject matter that could influence their score. The similarity of the mean score of the employed group as compared with the St. Charles High School, the executives and the Northern Illinois University mean scores might be attributable to the present mechanical experience and informal training which working in industry affords.

On the above assumptions that collegiate training, present academic study and job experience might influence the mean scores of groups III, IV, V and VI, it might be reasonable to expect the

YMCA inner city group and the Cooley Vocational High School group would have lower mean scores, especially when considering that the subjects of these groups were (according to age) academically below the expected norm by approximately two years. This academic deviation could be due to either dropouts or scholastic retardation.

In employing the analysis of variance method of treating the data on the aptitude test, an "F" of 53.8 was obtained which is significant beyond the .001 level. The "t" test was then applied to the six groups participating, the results of which are found in TABLE 5.

TABLE 5. THE LEVELS OF SIGNIFICANCE DERIVED FROM THE "t" TESTS OF THE SIX GROUPS COMPARED ON THE APTITUDE TEST.

GROUPS COMPARED	t	df	P
I-II	2.88	151	.01
I-III	7.98	123	.001
I-IV	6.67	123	.001
I-V	9.43	165	.001
I-VI	10.22	173	.001
II-III	9.31	76	.001
II-IV	8.19	76	.001
II-V	10.97	117	.001
II-VI	11.51	126	.001
III-IV	1.03	48	
III-V	1.14	89	
III-VI	.99	98	
IV-V	.10	89	
IV-VI	.28	98	
V-VI	.24	139	

The first observation to be made in studying TABLE 5 is that the difference between the mean scores of the St. Charles High School, the executives, the Northern Illinois University and the employed groups as against the mean scores of the YMCA inner city and Cooley Vocational High School groups are statistically significant. This might indicate that the YMCA inner city group could be handicapped in regard to the kind and degree of aptitudes that are employable. As indicated previously, many of these subjects are high school dropouts and are exposed to a cultural environment that does not encourage high school attendance. Even though the items on the aptitude test were constructed so that an equal appearing number of items could be answered by having general environmental experience with mechanical objects, as well as by formal education, it is apparent that the YMCA inner city group subjects, who have dropped out of high school or are academically retarded, are at a disadvantage when taking the aptitude test.

This observation might be counterbalanced, however, by the fact that the mean score of the employed group is similar to the mean scores of St. Charles High School, the executives and the Northern Illinois University groups even though the employed group has the same number of mean years of high school attendance as the YMCA inner city group. In other words, there is a possi-

bility that if the subjects of the YMCA inner city group were given an opportunity to work in industry they, as evidenced by the employed group, might improve their mechanical skills and knowledge in the work environment.

Another observation to be made regarding TABLE 5 is that the difference between the mean scores of the YMCA inner city group and the Cooley Vocational High School group is statistically significant beyond the .01 level. This deviation could be related to the reported fact that a majority of the Cooley Vocational High School students are below the academic high school IQ level of 92 to 110. The inference might be made from this knowledge that perhaps the aptitude test is measuring some function of intelligence although the investigator would make no such claim until a positive correlation was found to exist between the aptitude test and some valid intelligence test such as the Wechsler Adult Intelligence Scale.

In future attempts to use the aptitude test as a screening instrument to recommend the YMCA inner city boy for industrial employment on an experimental basis only, a cutting score was considered helpful. Consequently, one standard deviation was subtracted from the average mean scores of groups II, IV, V and VI to obtain a cutting score of 26.

Because all psychometric instruments must demonstrate some degree of confidence as to the accuracy and consistency of what they purport to measure, the next step was to investigate validity. The criteria selected were the ratings of three employers on each of the subjects in group IV, who had been employed for at least a year. The 25 subjects of this group were employed in the following four industries: The Chicago Miniature Lamp Works, The Seeburg Corporation, Oscar Mayer and Company, and The Hedman Company.

Three rating sheets were mailed to the personnel directors of the four above named companies with the request that the subjects who had taken the two tests be rated on a five-point scale by the personnel director, the foreman and supervisor of the subjects involved. They were asked to give estimates on these subjects as to their present status as competent employees.

The five degrees of the scale were defined by the same executives who helped draft the items on the aptitude test.

They were as follows:

Inferior: Demonstrating little or no indication for improvement.

Borderline: Below average - a liability.

Average: A fifty per cent demonstration of competency.

Good: Above average - an asset to the company.

Superior: Little, if any, room for improvement.

The instructions further cautioned that the three employers of each subject should inscribe their ratings independently and that they should rate the subject rather than the job being performed.

When the rating sheets were returned, the three ratings on each of the 25 subjects were combined and categorized as "high" and "low" estimates and then compared with the scores that these subjects had made on the two tests, The Attitude Questionnaire and The Mechanical Comprehension Questionnaire. By employing the Point Biserial Coefficient of Correlation (the product-moment coefficient of correlation between a continuous variable and a dichotomous variable) the correlations were as follows:

The Attitude Questionnaire: .81

The Mechanical Comprehension Questionnaire: .60

The computations were checked by a staff member of Science Research Associates, Inc.

The second attempt to establish some level of confidence on The Attitude Questionnaire was accomplished by asking three of the YMCA boys' work secretaries to rate the behavior patterns of each of the 100 inner city subjects in group I who had taken the two tests. These YMCA boys' work secretaries had had close relationships with the subjects involved. They, like the three employers,

were asked to make their ratings independently. The five degrees of the scale were defined by the same youth work leaders who had helped draft the items on the attitude test.

- I. Vindictive, belligerent, antagonistic, anti-social, pugnacious.
- II. Mid-point between I and III.
- III. Average, temperate, moderate, medial ordinary.
- IV. Mid-point between III and V.
- V. Cooperative, well-adjusted, integrated, well-intentioned, mature.

When the rating sheets were returned, the ratings on each of the 100 subjects were combined and categorized as "high" and "low" estimates and then compared with the scores that these subjects had made on The Attitude Questionnaire. By employing the Point Biserial Coefficient of Correlation, the correlation was found to be .68. This computation was also checked by a staff member of Science Research Associates, Inc.

While it was conceded that subjective ratings are invariably subject to bias, the halo effect and judgmental inaccuracies; that raters are apt to misunderstand or misinterpret the trait descriptions; that all scores are merely indicants and subject to the laws of probability; and that single incidents and general impressions influence the rater; these correlations can be considered as being preferable to a hazardous guess as to

the predictability of the two screening instruments in question.

In most instances, experimenters employ the test-retest method to establish reliability. This could not be done in the present case because many of the subjects in group I (the inner city group) had moved out of the neighborhood and because a smaller number had been incarcerated by the law enforcing agencies. In attempting to establish some degree of confidence in the stability of the two instruments involved, it was necessary, therefore, to employ the Spearman-Brown Correction Method (split-half).

The computations on reliability were made by a statistician in the Psychology Department of Loyola University, who double-checked his results. The reliability coefficient on The Attitude Questionnaire was found to be .87, and on The Mechanical Comprehension Questionnaire the reliability coefficient was found to be .67.

There are several factors that might account for the reliability on The Mechanical Comprehension Questionnaire being .67. In administering the test to the six groups there were a number of instances where the subjects questioned two of the illustrations as to their visual clarity (items 24 and 28 - see appendix). There were also four items on which a number of the subjects questioned the ambiguity of the items (13, 15, 29). Fur-

thermore, in consulting the 8 industrial superintendents and foremen when drafting the 40 items, there were some disagreements as to what should be the right answers on two items (15 and 20). The experimenter in this case was obliged to accept the opinion of six of the eight consultants in both cases. As previously mentioned, there was also some divergency of opinion as to scaling the items in a serial order from easy to difficult. Because of these discrepancies the experimenter decided to make an item analysis on both tests, the results of which are described later.

When it became known to the social agencies located in the inner city area that the experimenter was attempting to standardize two screening instruments which might help to recommend boys for non-skilled jobs in industry, the directors of these agencies began to request that the experimenter assist them in placing a number of high school dropouts who were participating in their recreational program. These requests led to a series of meetings at which it was decided to study the problem collectively. Because of the high incidence of high school dropouts and the resultant symptoms of deviant and delinquent behavior on the part of these teen-aged boys, the Inter-Agency Committee on Neighborhood Problems organized in October, 1961, the Northtown Vocational Council to study, draft, inaugurate and implement a remedial program to meet the socio-economic and psycho-emotional needs of

the above named constituents.

To discharge the program of NVC, an 18-member voluntary executive committee was made up of sociologists, educators, psychologists and social agency directors was appointed to coordinate the resources of the community. In marshalling the resources, the Northtown Industrial Management Club, consisting of some 300 industrial executives, the Chicago Board of Education and various other city and state agencies, were induced to participate in this pilot-demonstration project. As the program of NVC became crystallized and enlarged, it became obvious that more comprehensive leadership was necessary. Consequently, on July 31, 1962, the NVC was chartered by the State of Illinois as a non-profit organization with duly elected officers, a board of managers and directors, and a voluntary program staff made up of the 18 original members of the NVC executive committee to identify, screen, counsel, train and recommend for job placement all the males between the ages of 16 to 21 inclusive, who are out of school and out of work and reside in the inner city area.

The four-point program which was inaugurated on January 1, 1962, is administered as follows: Any male high school dropout who is interested in a job is encouraged to report to the NVC office. There, he is asked to fill out a questionnaire, along with compiling a biographical record. He is assigned to an adult

sponsor with whom he can identify and thus gain an ego-supporting relationship. He is enrolled in a job orientation class, arranged by the Chicago public schools, which deals with applying for, obtaining and keeping a job, along with an exposure to the employer-employee norms. He is recommended for a non-skilled job as the officers and staff members of NVC persuade the Northtown Industrial Management Club executives to offer such jobs.

While the NVC officers, boards and staff are cognizant of the fact that obtaining a job for the high school dropout is not a panacea and that there are many variables operating in this sociological dilemma, there is enough evidence to support the premise that the most functional and pragmatic method by which to help solve the problem is to ask industrial executives to assume the attitude which says, in fact, "I do not understand your subculture or frame of reference --- I am not familiar with the kind of background you represent --- I cannot agree with your methods to gain ego-support or status --- I cannot comprehend your failure to realize the necessity of remaining in school --- I cannot conceive of your obvious attraction to gang participation or defiant behavior --- but I will reach out and try to help you. I will try to help you to become identified with a set of norms of behavior which are socially acceptable. I will give you a job. I will attempt to teach you to become efficient in

some aspect of our work. I will stand behind you to the limit of what the law allows in case you get into trouble. I will make every effort to understand your psycho-emotional climate. I will respect you as an individual regardless of what your past misdemeanors have been, and I will make every effort to help you gain personal self-esteem, recognition and respect".

Serving as the executive secretary of the Northtown Vocational Council, the experimenter, in administering this four-point program, was in a position to collect additional data relative to the standardization of the two screening instruments involved. By October of 1962, 110 high school male dropouts had registered with the Northtown Vocational Council.

TABLE 6. STATISTICAL DATA COMPILED ON THE
FIRST 110 MALE HIGH SCHOOL DROPOUTS WHO REG-
ISTERED WITH THE NORTHTOWN VOCATIONAL COUNCIL.

SUBJECTS

Number of applicants as of Oct. 1, 1962	110
Number of applicants placed on jobs:	42
Number of applicants who lost jobs:	14

BIOGRAPHICAL DATA

Average age of applicants (16 to 21)	18.6 yrs.
Negro applicants:	61.0%
White applicants:	39.0%
Applicants born in Chicago:	46.3%
Applicants born in Mississippi:	16.8%
Applicants born in Tennessee:	5.3%
Applicants born in Puerto Rico:	5.3%
Applicants born in other states:	26.3%
Average no. of years living in Chicago:	13.3%

EDUCATIONAL BACKGROUNDS

Average years attending grade school:	7.8
Average years attending high school:	1.77
Average years not attending school:	2.19
High School graduates:	6.3%
Still attending high school:	15.6%

PARENTAL DATA

Mothers listed:	87.4%
Fathers listed:	63.3%
Step-fathers listed:	16.4%
Step-mothers listed:	1.0%
Average number of siblings:	3.4%
Living with parents:	82.0%
Living with relatives:	6.4%
Additional addresses:	6.3%
Living with friends:	6.3%
Married - living in own home:	2.0%
Number of fathers unemployed:	32.6%
Number of parents on public assistance:	29.5%

POLICE RECORDS AND OFFENSES

Applicants with police records:	63.0%
Number on probation:	7.0%

OFFENSES

Burglary:	9	Riding in stolen cars:	2
Robbery:	8	Suspicion:	2
Fighting:	3	Loitering:	3
Vandalism:	10	Not mentioned:	11
Stealing cars:	3	Incarcerated:	7

In studying TABLE 6 there are a number of observations which are interesting. It is apparent that practically one-third of the boys who were placed lost their jobs within an eight-month period, even though they attended a twelve-session job orientation class which deals with what is considered to be the norms of on-the-job behavior. (See appendix.) At this writing there appears to be no one pattern as to why they lost their jobs. The job records that were kept on each boy indicate that layoffs due to economy occurred in four instances. Some of the sponsors reported that in three cases a hostility on the part of a foreman or supervisor was evident. In three cases it was reported the boy could not discharge his duties satisfactorily due to lack of skill. In two of the fifteen cases the sponsors reported that the boys quit their jobs to return to school. When a larger incidence of job placements and job losses are recorded, the experimenter will compare the job histories with the scores made on the two screening instruments to further establish predictability.

In observing the biographical data in TABLE 6, it is evident that negroes are more apt to drop out of school than are their white peers. The sponsors reported that this is probably due to past limited educational opportunities in the south, socio-economic factors, lack of parental encouragement and the

influence of a cultural environment which does not view education as necessary or desirable.

The parental data confirm, to a degree, that these boys do not receive much ego support from home. With close to 40% of these boys who do not list fathers; with a third of the fathers listed as unemployed; and from the reports made by the sponsors, it is not surprising that they have dropped out of school and that 63% have had police records.

In comparing group I (the YMCA inner city group) with the NVC registrants, of which there are no duplications, we find a number of deviations that deserve attention. In this comparison, data relative to ten subjects in the NVC group were withdrawn because they had returned to school at the urging of their sponsors.

TABLE 7. THE NUMBER, MEAN AGE, MEAN YEARS IN HIGH SCHOOL, MEAN ATTITUDE AND APTITUDE SCORES AND STANDARD DEVIATIONS OF THE YMCA INNER CITY GROUP AND THE NVC REGISTRANTS

	N	Mean Age	Years in High School	Mean Score Attitudes	SD Attitudes	Mean Score Aptitudes	SD Aptitudes
YMCA Inner City (Group I)	100	17	1	126.25	19.24	24.10	4.33
NVC Registrants	100	18.6	1.77	115.15	17.63	25.24	3.83

The first observation to be made relative to TABLE 7 is that the mean age of the NVC registrants when compared to the mean age of the YMCA inner city group indicates the NVC group was older and would thus be more interested in finding a job. This would also perhaps account for the NVC group having made a 11.10 better mean score on attitudes than Group I. In conversations with a number of sponsors, they have indicated that the longer a boy is out of school the more apt he is to demonstrate mature attitudes toward the social norms. A series of unfortunate experiences with the police would obviously serve to deter anti-social attitudes if not behavior.

It is interesting to note the small difference between the standard deviations on the two tests. This small difference in variability might permit the assumption that these two groups represent the same universe. Furthermore, the .5 difference of the mean scores on the aptitude test might indicate that the NVC group, even though older, had not been exposed to the type of environment that would have improved their mechanical propensity. Aggregating in gangs to kill time cannot hope to improve vocational skills.

As indicated previously, the experimenter asked a statistician to run an item analysis on both tests. TABLE 8 shows the P scores of each of the 40 items on the aptitude tests where P

equals the proportion of subjects passing a given item, and TABLE 9 shows the distribution of item difficulty level.

TABLE 8. THE PROPORTION OF GROUP I SUBJECTS PASSING A GIVEN ITEM ON THE MECHANICAL COMPREHENSION QUESTIONNAIRE.

Item P	Item P	Item P	Item P
1 .802	11 .640	21 .767	31 .256
2 .651	12 .616	22 .849	32 .523
3 .534	13 .581	23 .779	33 .756
4 .709	14 .837	24 .407	34 .535
5 .860	15 .441	25 .593	35 .750
6 .616	16 .791	26 .814	36 .360
7 .674	17 .314	27 .547	37 .267
8 .802	18 .849	28 .547	38 .267
9 .860	19 .849	29 .407	39 .221
10 .826	20 .547	30 .674	40 .395

TABLE 9. THE DISTRIBUTION OF ITEM DIFFICULTY LEVELS OF THE MECHANICAL COMPREHENSION QUESTIONNAIRE.

Difficulty Level	Frequency
0	0
10	0
20	4
30	3
40	3
50	8
60	6
70	6
80	10
90	0
100	0

In studying TABLES 8 and 9 it is apparent there are 30 items which over 50 per cent of the subjects answered correctly. Stated conversely, there are only 10 items which less than 50 per cent answered correctly. This implies that the items might be too easy for the population involved. This might be attributable to the fact that the 8 foremen and supervisors who assisted in drafting the items were influenced by the assumption that high school dropouts were more lacking in aptitudes than they actually are.

Because the smaller number of items in a test gives a lower reliability; because enlarging the number of items increases reliability, it would be advantageous to make revisions of the aptitude test. Before this is done, however, there is another statistical device which this investigator will employ in the future: to compute phi correlations to obtain various item weights. In the meantime, the data tabulated in TABLE 8 and TABLE 9 can assist the experimenter in arranging the items in serial order as to difficulty.

The proportions of subject responses on the five scaled categories on the attitude test as shown in TABLE 10 contain further implications which will be helpful when future revisions are undertaken.

TABLE 10. THE PROPORTIONS OF GROUP I SUBJECT RESPONSES ON THE FIVE SCALED CATEGORIES ON THE ATTITUDE QUESTIONNAIRE.

<u>ITEM</u>	<u>ALWAYS</u>	<u>OFTEN</u>	<u>OCCASIONALLY</u>	<u>SELDOM</u>	<u>NEVER</u>
1	.140	.209	.372	.151	.128
2	.07	.186	.267	.233	.244
3	.07	.244	.198	.279	.209
4	.209	.163	.337	.163	.128
5	.198	.198	.233	.163	.209
6	.093	.186	.337	.221	.163
7	.116	.233	.244	.279	.128
8	.395	.198	.233	.093	.081
9	.047	.116	.186	.279	.372
10	.058	.174	.279	.244	.244
11	.105	.140	.186	.326	.244
12	.035	.140	.349	.337	.140
13	.047	.128	.163	.291	.372
14	.047	.116	.209	.256	.372
15	.349	.221	.151	.151	.128
16	.07	.186	.302	.302	.140
17	.058	.116	.279	.314	.233
18	.047	.128	.198	.384	.244
19	.000	.105	.140	.360	.395
20	.337	.384	.128	.081	.07
21	.047	.081	.174	.279	.419
22	.058	.07	.221	.384	.267
23	.047	.116	.244	.267	.326
24	.116	.093	.163	.326	.337
25	.012	.140	.244	.291	.271
26	.477	.349	.081	.035	.058
27	.081	.198	.244	.384	.093
28	.058	.116	.279	.372	.174
29	.140	.151	.233	.279	.198
30	.047	.081	.081	.349	.442
31	.628	.233	.093	.023	.023
32	.058	.244	.349	.233	.116
33	.128	.186	.163	.349	.174
34	.337	.419	.163	.047	.035
35	.407	.279	.105	.093	.116
36	.035	.0818	.267	.291	.326
37	.488	.349	.047	.058	.058
38	.279	.349	.163	.140	.07
39	.442	.360	.093	.058	.047
40	.128	.151	.140	.267	.314

TABLE 10 -- Continued

<u>ITEM</u>	<u>ALWAYS</u>	<u>OFTEN</u>	<u>OCCASIONALLY</u>	<u>SELDOM</u>	<u>NEVER</u>
41	.023	.058	.174	.337	.407
42	.419	.174	.186	.081	.140
43	.093	.081	.058	.198	.570
44	.477	.174	.140	.174	.035
45	.151	.174	.302	.233	.140
46	.419	.395	.163	.023	.000
47	.116	.186	.349	.186	.163
48	.047	.07	.105	.256	.523
49	.035	.035	.07	.174	.686
50	.035	.081	.058	.430	.395

It might be reasonable to expect that on a normal curve a large percentage of the subjects (68 per cent) would respond on the three middle categories (often, occasionally and seldom) on the 50 items and that a smaller percentage (32 per cent) might respond at the extremes of the scale (always and never).

In studying the responses in TABLE 10, it can be ascertained that there are 24 items in which this is not the case. This tendency may be rationalized, however, on the generalized experience of psychometricians that subjects are prone to misunderstand or misinterpret the descriptive terms as to degrees of behavior. On the other hand, it may be possible the phraseology of the items is too obvious and calls for the extreme responses of "always" and "never". Here again, correlations on the responses of each item with the subjects total score would

give a criterion on which to establish item weights for the scoring process. In any event, the data found in TABLES 8, 9 and 10 contain implications that will be of value as the experimenter attempts to refine both tests.

CHAPTER V

SUMMARY AND CONCLUSIONS

SUMMARY

One of the major problems of the inner city public and private social agencies is to deal with the male high school dropout who cannot find employment. Because of excessive leisure time these boys are prone to aggregate in groups and gangs which encourages delinquent behavior. Those who work with delinquents have found that locating a job for them in industry has some deterrent effect on their pro-delinquent behavior. A job gives them a new set of socially approved norms with which to identify.

Helping the teen-aged high school dropout to find a job demands some scientific screening process before he is recommended to a prospective employer. The industrial executive requests that all applicants be screened by the social agency regarding attitudes and aptitudes before interviews are granted. They ask if the applicant will fit into the work-group situation and if he has any skills or aptitudes.

To make certain that the screening instruments were sam-

ples of the behavior universe in question and to employ the kind of instruments which were standardized on a sample of the population to be tested, an attitude and an aptitude test were constructed. The 50 items on the attitude test were drafted on the characteristics of behavior that were verbalized by the YMCA boys' work secretaries, who work with 16 to 21-year old inner city boys. These items were evaluated by six social psychologists as being the kind of items that would indicate to what degree the subjects handle their hostilities. The 40 items on the aptitude test were selected, evaluated and scaled by four plant superintendents and four shop foremen as representing the aptitudes that a teen-aged male subject should have to be employable.

After the pilot study was run on both tests to see if the directions and items had clarity, the tests were administered to the following six groups on a voluntary basis.

- I. 100 YMCA inner city boys, who represent the lower socio-economic level and who were high school dropouts.
- II. Fifty-three students of the Cooley Vocational High School, who represent a population of below normal intelligence range found in academic high schools.
- III. Twenty-five students of St. Charles High

School in Illinois, representing a high socio-economic level of a Chicago suburb.

- IV. Twenty-five teen-aged subjects, who worked in industry for a year or more.
- V. Sixty-six freshmen and sophomores of The Northern Illinois University psychology classes.
- VI. Seventy-five industrial executives with a mean age of 42 and $3\frac{1}{2}$ mean years of college attendance.

In administering the two tests to the six groups every effort was made to control the extraneous variables. After the raw scores were tabulated and compiled, the means, standard deviations, percentiles, analysis of variance and the necessary "t" tests were computed.

The means of the six groups on the attitude test indicated that the YMCA inner city subjects (group I) compared favorably with the subjects in groups II, III and V. It was reasonable to expect that the mean score of the YMCA subjects would not favorably compare with the mean scores of groups IV and VI and that there would thus be a statistical difference in the means. The major inferences to be drawn from these statistical comparisons are that socio-economic levels are not related to attitudes

as measured in this particular tests, and that the YMCA subjects have learned to handle their hostilities in comparable socially approved ways. Consequently, it is suggested that future YMCA inner city subjects, who make a score below 114, could be recommended for a job in industry on an experimental basis.

A comparison of the mean scores of the six groups on the aptitude test indicated that the YMCA subjects (group I) did not compare favorably with groups III, IV, V and VI, and that there was a statistical significant difference in the means. This is attributable to the fact the subjects of groups III, IV, V and VI had studied or were now being exposed to the mechanical and mathematical principles that were involved in the 40 items of the aptitude test. The YMCA subjects did, however, have a statistically significant higher mean score than group II. A further analogy of the aptitude mean scores implies that the YMCA subjects are somewhat handicapped in the kind and degree of aptitudes that are employable, which might be due to high school dropouts or retarded scholastic status in reference to age. This investigator submits the assumption, however, that if given the opportunity to work in industry, the YMCA subjects might, by mechanical exposure and motivation, improve their mechanical aptitudes to the same degree as indicated by the mean score of group V, who have approximately the same number of mean years in

high school attendance. It is further suggested that future YMCA subjects, who score above 26, could be recommended for a job in industry on an experimental basis only.

In establishing the validity of these two screening instruments (The ATTITUDE QUESTIONNAIRE and The MECHANICAL COMPREHENSION QUESTIONNAIRE) the investigator asked the personnel director, the foreman and the supervisor of each of the subjects in group IV (those who had worked in industry for at least a year) to rate them on a five-point scale, namely, inferior, borderline, average, good and superior. After these ratings were returned, the 25 subjects were categorized as "high" and "low" estimates and then compared with their two test scores. The correlations on the attitude test was found to be .81 and .60 on the aptitude test.

A further attempt to establish validity was made by asking three YMCA boys' work secretaries to rate each of the subjects in group I (the YMCA inner city group) on a five-point scale, namely, anti-social, midpoint, average, midpoint and well adjusted. These ratings were then categorized as "high" and "low" and then compared with the scores on the attitude test which gave a correlation of .68.

Because many of the subjects in group I had left the

neighborhood or were incarcerated by the police, the reliability on the two tests was computed by the Spearman-Brown correction formula which gave a correlation of .87 on the attitude test and .67 on the aptitude test. Ambiguity, lack of visual clarity on the illustrations, questionable criteria on correct answers, a small number of items and too easy items might have been responsible for the .67 correlation on the aptitude test. An item analysis suggested that the last two considerations did affect the reliability of the test.

While conducting the above study, some fifty public and social agencies organized the Northtown Vocational Council to serve the high school dropouts in the inner city area with a four-point program --- that of collecting biographical data, assignment to a sponsor, holding job department classes, and recommendation job placement for each boy who registered with NVC. After administering the two tests to 100 of these registrants, it was found that in comparison with group I (in which there were no duplications) the mean ages, years in high school, standard deviations and mean test scores were similar with a slightly lower mean score on the attitude test on the part of the NVC group. These data permit the assumption that group I and the NVC group represent the same population and behavior universe.

While an item analysis of both tests suggests that revisions would help to refine these screening instruments, the investigator feels that in their present development they can assist in recommending the inner city high school dropout for a non-skilled job in industry with some assurance that these recommendations can be based on criteria which are better than a subjective and hazardous guess.

With the evident increase of high school dropouts, particularly in the inner city environment; with the reluctance to return to school, principally because of advanced chronological age and previous ego-deflating experiences with subject matter in which they are not interested or see no relationship with their present or future socio-economic status; with the probability that undisciplined leisure time leads to deviant or delinquent behavior; with parents who seldom appreciate or will obtain a middle class system of value judgments, it is imperative that public and private agencies should make every effort to place these boys on non-skilled jobs in industry. If our industrial society finds that there are too many of these boys to be absorbed in non-skilled jobs, perhaps other solutions such as governmental projects might be necessary. In the meantime, it is our duty to exhaust the possibilities of placing them in jobs which will prevent gang participation which is a

costly social and economic cancer.

CONCLUSIONS

In making an overall observation of the results accruing from subjecting all the data of this study to statistical treatment, there are a number of inferences that can be drawn in favor of the hypothesis that some of the inner city male high school dropouts between the ages of 16 to 21 inclusive need and deserve to be recommended for a non-skilled job in industry, and that the two tests have some degree of predictability as screening instruments. Further conclusions that can be made are as follows:

1. In comparing the mean scores of group I (the inner city group) with their peers (groups II, III, IV and V) on attitudes, there is some evidence to support the generalization that a portion of the inner city high school dropouts have learned to handle their hostilities in the socially accepted norms of behavior.

2. In comparing the mean scores of group I with their peers on the aptitude test, there is some indication that the group I subjects do not favorably compare on employable skills with the subjects of their own approximate age. It is reasonable to suggest, however, that perhaps if the group I subjects were given a job in industry on an experimental basis, they might im-

prove their aptitudes by gaining experience in the work situation.

3. On comparing three employers' ratings on each of the subjects in group IV (employed for a year) with their scores made on both tests, and obtaining point biserial coefficients of correlation of .81 on attitudes and .60 on aptitudes, we can assume that the two tests have some degree of validity. Further confidence in the predictability of the attitude test can be substantiated by the fact that when comparing three YMCA group work leaders' ratings on each of the subjects in group I with their scores on the attitude test, a correlation of .68 was found.

4. The degree of test consistency or reliability that was determined by employing the Spearman-Brown formula was found to be .87 on the attitude test and .67 on the aptitude test.

5. An item analysis of both tests indicates that further refinement of these screening instruments would be advantageous, particularly on the aptitude.

6. In comparing the mean ages, years in high school, the mean scores on both tests and the standard deviations of group I with the NVC registrants, it can be assumed that both groups represent the same population and behavior universe and that the

NVC registrants can be measured and recommended for a job on the same criteria.

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APPENDIX

DISTRIBUTION OF ATTITUDE SCORES FOR SIX GROUPS

<u>Score</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>
179	01					
178	01					
177	01					
176	01					
175	01					
174	02					
173	02					
172	02					
171	02					
170	02		01			
169	03		01			
168	03		03			
167	03		04			
166	03		05			
165	03		06			
164	04		06			
163	04		07			
162	04		08			
161	04	01	08			
160	04	03	08		01	
159	04	05	08		02	
158	04	07	08		03	
157	04	09	08		04	
156	05	12	10		04	
155	06	14	11		04	
154	07	17	13		05	
153	08	19	14		05	
152	09	21	16		05	
151	10	23	18		06	
150	12	25	19		07	
149	14	26	21		07	
148	15	28	22		08	
147	16	30	24		09	
146	17	34	26		10	
145	18	38	27		11	
144	20	43	29		12	
143	22	47	30		13	
142	23	51	32	01	14	
141	26	53	34	03	17	01
140	29	55	35	04	19	02
139	32	57	37	05	21	02
138	35	59	38	06	23	03

DISTRIBUTION OF ATTITUDE SCORES FOR SIX GROUPS - continued

<u>Score</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>
137	38	61	40	08	26	03
136	40	63	43	12	29	03
135	42	66	45	15	31	04
134	44	69	47	17	34	04
133	47	72	49	20	36	05
132	49	75	52	24	39	05
131	51	77	56	26	43	05
130	53	79	60	27	46	06
129	55	81	64	29	49	06
128	56	83	68	30	52	07
127	58	85	72	32	56	07
126	59	87	73	34	60	08
125	61	89	74	35	63	10
124	62	90	74	37	67	12
123	64	92	75	38	70	14
122	65	94	76	40	74	15
121	66	95	78	44	75	17
120	68	96	79	47	75	19
119	69	96	81	49	76	20
118	71	97	82	52	76	22
117	72	98	84	56	77	24
116	73	98	85	59	79	26
115	74	98	86	61	81	28
114	74	99	86	63	82	31
113	75		87	65	84	33
112	76		88	68	86	35
111	77		88	70	87	38
110	78		88	71	87	41
109	80		88	73	88	43
108	81		88	74	88	46
107	82		88	76	89	49
106	83		89	78	90	53
105	84		90	79	91	55
104	86		90	81	91	58
103	88		91	82	92	60
102	89		92	84	93	64
101	90		93	85	93	67
100	91		94	86	93	69
99	93		94	86	93	72
98	94		95	87	93	74
97	95		96	88	93	77

DISTRIBUTION OF ATTITUDE SCORES FOR SIX GROUPS - continued

<u>Score</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>
96	96		96	90	94	79
95	97		97	91	95	81
94	97		98	93	96	83
93	98		99	94	97	85
92	99			96	98	87
91				97	98	88
90				98	98	89
89				99	98	91
88					99	92
87						93
86						94
85						94
84						95
83						95
82						96
81						96
80						96
79						97
78						97
77						97
76						97
75						98
74						98
73						99

DISTRIBUTION OF APTITUDE SCORES OF SIX GROUPS

<u>Score</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>
40						99
39			99	99		96
38			94	98		94
37	99		86	93	99	89
36	98		82	87	95	83
35	98		77	79	86	76
34	97		71	69	76	68
33	95		62	59	65	59
32	94		50	49	53	48
31	92		37	41	42	41
30	89		23	35	31	36
29	84	99	14	29	23	29
28	77	98	10	23	17	24
27	68	93	05	18	12	18
26	57	82	01	14	08	14
25	48	69		11	05	11
24	38	50		09	04	07
23	31	42		07	03	05
22	25	30		05	02	04
21	19	21		03	01	03
20	12	15		01		02
19	08	09				01
18	05	06				
17	03	04				
16	02	04				
15	01	04				
14		04				
13		04				
12		03				
11		02				
10		01				

ATTITUDES

F-Test

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MSS</u>	<u>F</u>
Between	42,051	5	8,410.2	32.0*
Within	88,787	338	262.7	
Total	130,838	343		

*Significant beyond the .001 level

APTITUDES

F-Test

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MSS</u>	<u>F</u>
Between	4,494	5	898.8	53.8*
Within	5,655	338	16.7	
Total	10,149	343		

*Significant beyond the .001 level

THE NORTHTOWN VOCATIONAL COUNCIL

1515 North Ogden Avenue
Chicago 10, Illinois

A Suggested Compendium
on

THE JOB TRAINING COURSE

(A six-weeks course meeting twice a week for 90 minutes)

FIRST SESSION:

(Orientation)

Instructor calls on each member of the class to give his name and describe the kind of vocation or work in which he is interested. The twelve NVC departmental secretaries give a 3 minute resume of their particular responsibilities in serving the needs and interests of high school dropouts in the area.

SECOND SESSION:

(Applications)

Three or four sample applications are distributed to each registrant with concrete instructions as to how to accurately fill them out. The material asked for in the applications can serve as a motivation for self-evaluation.

THIRD SESSION:

(Job Interview)

Detailed instructions as to how to apply for a job:
Promptness - mannerism - appearance - clothing - speech - opening statements and detailing experience: class role playing for job interview with instructor serving as employer: Personal resumes.

FOURTH SESSION:

(Quantity of Work)

Speed of production - time reactions - impediments - use of working time - waste time - consistent work habits - use of materials - economical - cost of raw materials.

FIFTH SESSION:

(Quality of Work)

Accuracy - spoilage - inaccuracies - errors - care of working space - careless - slovenly - disorder - handling of materials - care of tools - equipment.

SIXTH SESSION:

(Cooperation)

Attitudes toward fellow employees - team work - egocentered - attitudes toward superiors - take orders - negativism - attitudes toward company - antagonistic - defenses - projections.

SEVENTH SESSION:

(Safety Habits)

Attitudes toward safety program - hazards - caution - Observance of safety rules - chance factors - costs involved - accident records - personal records - accident prone.

EIGHTH SESSION:

(Adaptability)

Willingness to learn - training courses - apprenticeship - acceptance of responsibility - buck passer - meet obligations - initiative - volunteer suggestions - new ideas - alert - ability to direct others - considerate - tact - promotions.

NINTH SESSION:

(Personal Habits)

Moral character - honesty - integrity - employer's trust - physical condition - health principles - sleep - alcohol - appearance - personal pride - hygiene - attendance - regularity - tardiness - predicting absence.

TENTH SESSION:

(Retesting)

To gain reliability on the two screening instruments - The Attitude Questionnaire and The Mechanical Comprehension Questionnaire - or additional tests as advised.

ELEVENTH SESSION:

(Tour)

Visiting the night shift of a large industrial plant.

ELVTH SESSION:

(Graduation Dinner)

Parents invited.

Supportive speeches by several executives.

NVC Executive Committee present.

Certificates.

ADDENDA:

It is suggested that the above outline be employed as a student-centered-teaching-concept as is possible and that the authoritarian-lecture technique be underplayed. Furthermore, it is suggested that since all learning is best facilitated by a self-enhancement hypothesis, the class members be given every opportunity to participate in class discussion and that all class member comments, regardless of how irrelevant or hostile, be accepted and clarified by the instructor. Also all external evaluation and threat-implied comments of the instructor should be conspicuously avoided.

Jay G. Hirsch, M.D.
Institute for Juvenile Research

1. Name _____
2. Age _____
3. Company _____
4. Position _____
5. Marital status _____
6. Age and sex of children and own siblings _____
7. Home address _____
8. Level of own educational attainment _____
9. Religion - level of attainment _____

10. Own socio-economic level during teen-ages _____

11. Attitudes toward your own education on part of
 Mother _____
 Father _____
 Significant other person _____
12. Who or what was major influence in your own choice of life endeavor?

13. Did anyone in your own family of origin drop out of school and if so
 what were the reasons?

14. How did you get involved in NVC _____

15. What is your opinion as to the causation of the school drop-out problems?

16. What do you feel are the best remedies for this situation?

17. For what reasons did you decide to invest this amount of time in a
 project of this type?

N V C JOB PLACEMENT AND PERFORMANCE REPORT

NAME _____ AGE _____ RACE _____

ADDRESS _____ PHONE _____

NAME OF SPONSOR _____

ADDRESS _____ PHONE _____

EMPLOYER'S NAME _____ TITLE _____

FIRM _____

ADDRESS _____ PHONE _____

DATE OF EMPLOYMENT _____

TYPE OF JOB HELD _____

APPLICANT STILL WORKING? YES _____ NO _____

DATE OF RELEASE IF NO LONGER WORKING _____

REASONS FOR RELEASE: _____

RATING OF JOB PERFORMANCE: INDICATE BY CHECK:

PRODUCTION: ABOVE AVERAGE _____ AVERAGE _____ BELOW AVERAGE _____

GENERAL ADJUSTABILITY TO PEERS: POOR _____ AVERAGE _____ GOOD _____

ABSENTEEISM: MORE THAN AVERAGE _____ AVERAGE _____ LESS THAN AVERAGE _____

GIVE NUMBER OF DAYS, IF INFORMATION IS AVAILABLE _____

RELIABILITY: ABOVE AVERAGE _____ AVERAGE _____ BELOW AVERAGE _____

JOB DATA: HOURS PER WEEK _____ HOURLY RATE _____

SKILLED _____ SEMI-SKILLED _____ UNSKILLED _____

GENERAL AFFIRMATIVE ATTRIBUTES: _____

WOULD YOU CONSIDER HIRING ANOTHER N V C APPLICANT? YES _____ NO _____

NORTHTOWN VOCATIONAL COUNCIL
Employment Record

TO BE FILLED OUT BY APPLICANT IN HIS OWN HANDWRITING.

Name _____ Date _____

Address _____ Telephone No. _____

Place of birth _____ Family Composition (Who do you live with?)

Please give ages

How long have you live in Chicago? _____ Mother _____ Father _____

Sister(s) _____ Brother(s) _____

Hobbies _____

What kind of job would you like? _____

Others (aunts, uncles, cousins, etc.)

What kinds of jobs have you had? _____

How far have you gone in school? _____

Are you now attending school? _____

If not, why did you leave school? Would you like to go back? _____

Remarks of interviewer _____

A MECHANICAL COMPREHENSION QUESTIONNAIRE

for
Teen-Agers

by
B. G. Gross

DIRECTIONS

We are trying to find out how much you like to work with mechanical problems. In the first 35 questions, you will find 2 or 3 pictures and a question. You are expected to give the right answers by writing on your answer sheet A or B, and, in some cases, A or B or C. In the last five questions, you will be asked to give the right answers by counting different shapes or spaces. The following is a sample showing you how to answer the questions:

A ☐ Iron B ☐ Wood C ☐ Cork Which is lightest in weight – A, B or C?

After you look at the picture you would write C on your answer sheet because iron and wood are heavier than cork.

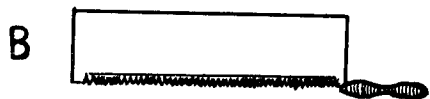
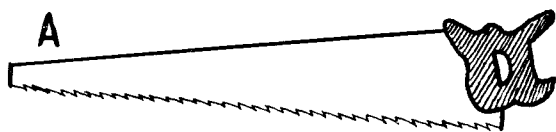
On the following pages you will find more pictures and questions. Read each question carefully and then write down on your answer sheet what you think is the right answer, A or B or C. Make certain that you write down your answers next to the correct number on the answer sheet. When you are through, bring the questions and answer sheet up to the front of the room. Do not turn this first page until you are told to do so. If you do not know the right answer, make a guess.

Before you start, write your name, address, age and how many years you have been in high school. If you have quit school, write the number of years you attended grade school and high school. *Do not write your answers on the pages that have the pictures. Put your answers on the answer sheet.*

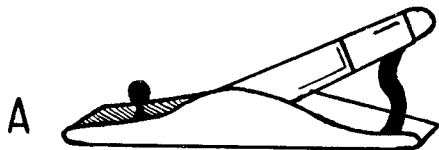
Published by
ISHAM MEMORIAL YMCA

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Chicago 10, Illinois

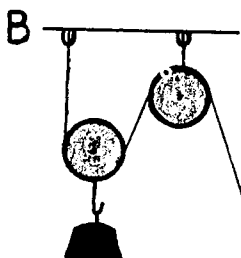
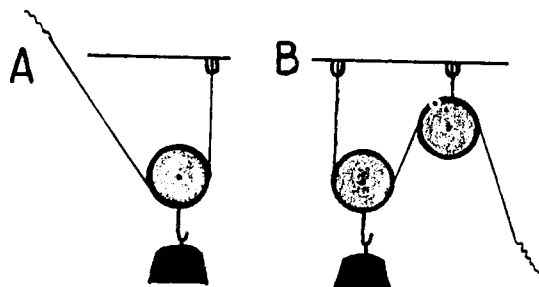
COPYRIGHT PENDING



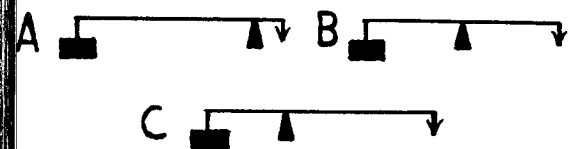
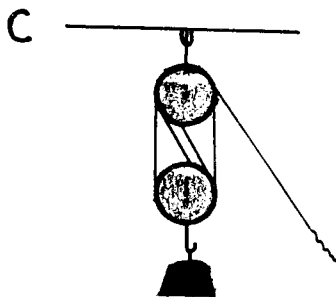
1. Which saw will cut the hardest materials - A or B?



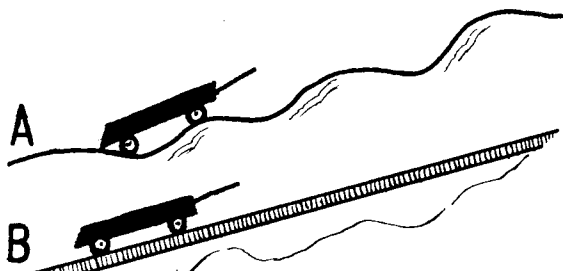
2. Which tool will make the flattest surface on the broad side of a 2" x 4" piece of wood - A, B or C?



3. Which pulley will most easily lift the weight - A, B or C?

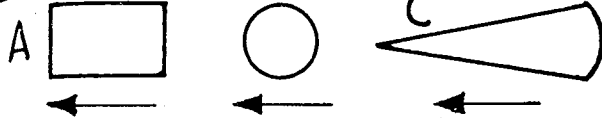


4. Which stick would most easily lift the weight - A, B or C?



5. Which wagon would be easier to pull - A or B?





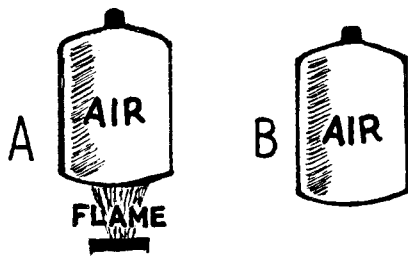
6. Which object will move through the air - A, B or C?



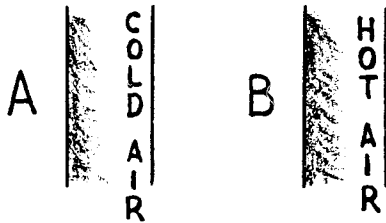
7. Which whistle will make the higher sound - A or B?



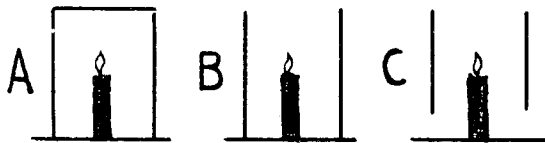
8. Which balloon will go up faster - A or B?



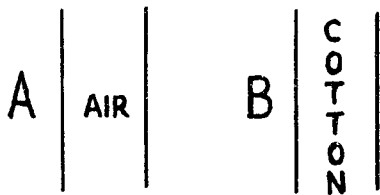
9. Which jug would be more likely to blow out the cork - A or B?



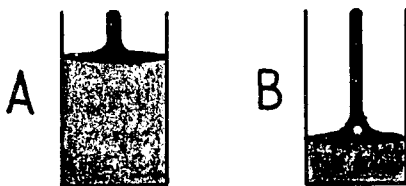
10. In which tube will the air go up - A or B?



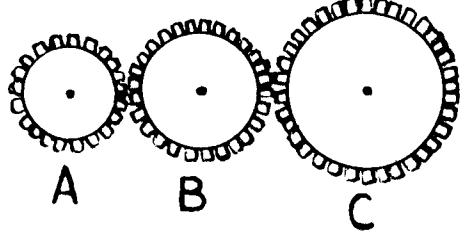
11. Which candle will burn brightest - A, B or C?



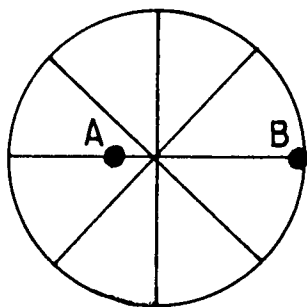
12. Which wall will keep a room warmer - A or B?



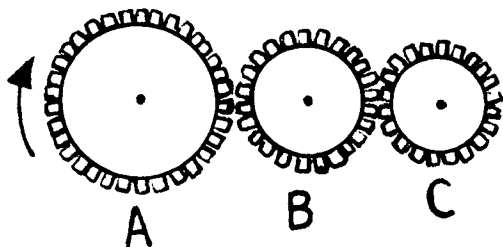
13. Which piston has produced the most pressure - A or B?



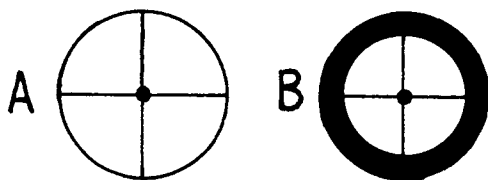
14. Which gear will turn slowest - A, B or C?



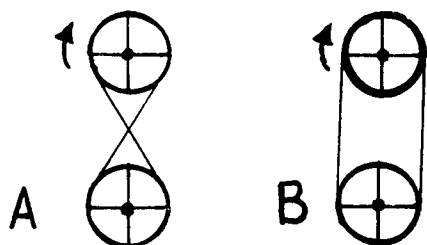
15. Which spot on the wheel will move faster - A or B?



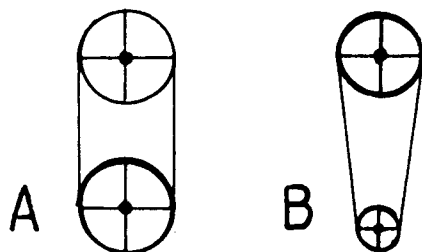
16. If gear A turns clockwise, which gear will go in the same direction - B or C?



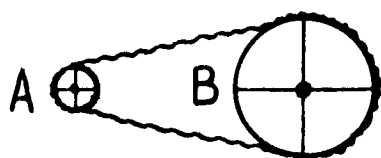
17. Which wheel will stop sooner when the power is turned off - A or B?



18. Which wheel will move in the opposite direction - A or B?



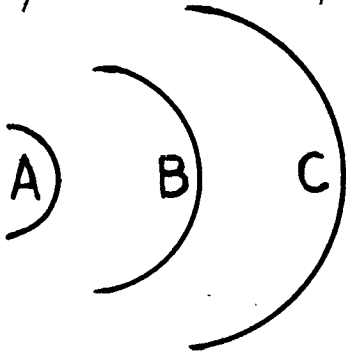
19. If both top wheels are turning at the same speed, which of the two lower wheels will turn faster - A or B?



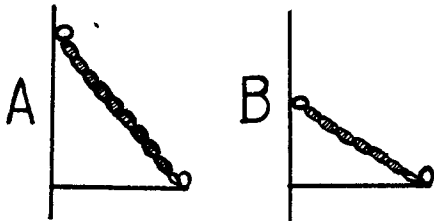
20. Which wheel of the bicycle sprocket provides the power - A or B?



21. Which stepladder is more dangerous to climb - A or B?



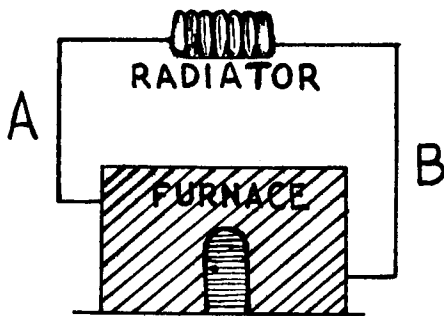
22. On which curve could you safely drive at the fastest speed - A, B or C?



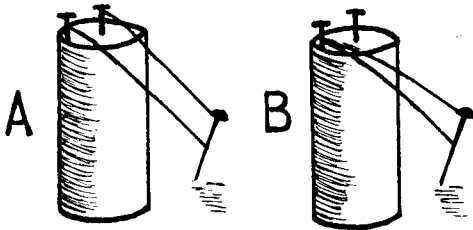
23. Which shelf will hold the most weight - A or B?



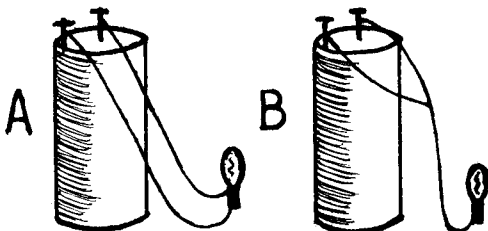
24. Which lens will make objects look bigger - A or B?



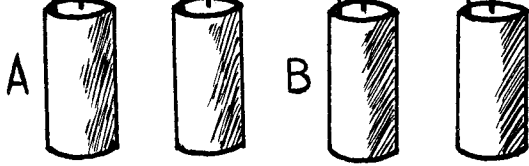
25. Which pipe will be hotter to touch - A or B?



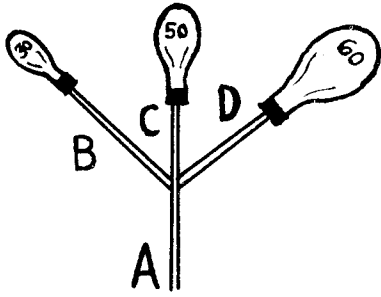
26. In both pictures, the wires from the batteries are wrapped around the nails. Which nail will pick up paper clips - A or B?



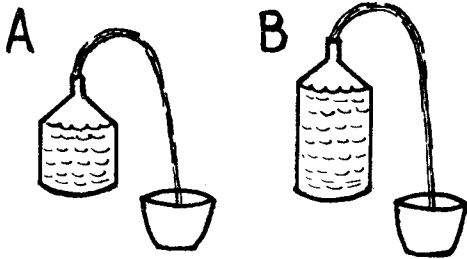
27. Which flashlight bulb will light up - A or B?



28. Which of the two sets of batteries will provide the most current - A or B?



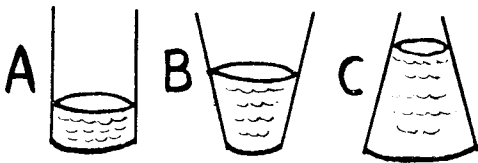
29. Which cord has the most current - A, B, C or D?



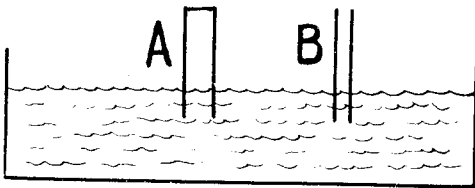
30. Which tank of water will empty first - A or B?



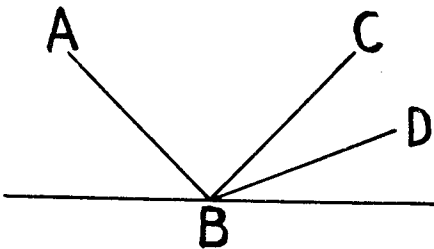
31. Which can will weigh more - A or B?



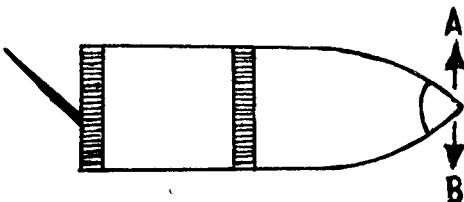
32. Which tank of water has the most force on the bottom - A, B or C?



33. In which of the two pipes will the water rise higher - A or B?



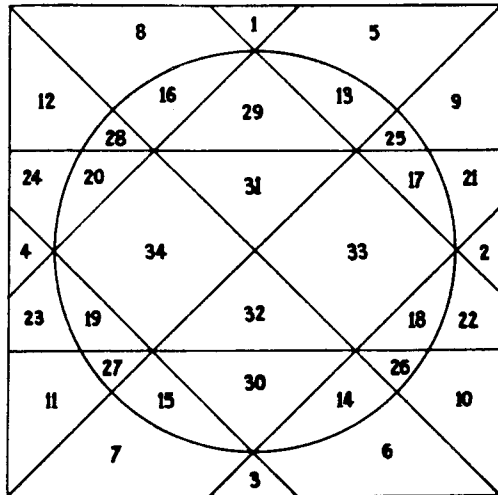
34. If a ball is thrown from A and it hits the ground at B, which line will it follow - C or D?



35. Which way will the boat turn - toward A or B?

36. How many other spaces can you find that are the same size as the space numbered "5?"

37. How many spaces have one side curved?



38. If you took out the circle, how many spaces would you lose?

39. How many spaces are there whose sides have all straight lines?

40. How many spaces are there in which all sides are equal?

ANSWER SHEET
for
THE MECHANICAL COMPREHENSION QUESTIONNAIRE

NAME _____ AGE _____
(please print)

ADDRESS _____ CITY _____

Write the number of years you attended grade school _____
Write the number of years you attended high school _____
Did you graduate from high school? _____
Are you now attending high school? _____

- | | |
|-----|-----|
| 1. | 21. |
| 2. | 22. |
| 3. | 23. |
| 4. | 24. |
| 5. | 25. |
| 6. | 26. |
| 7. | 27. |
| 8. | 28. |
| 9. | 29. |
| 10. | 30. |
| 11. | 31. |
| 12. | 32. |
| 13. | 33. |
| 14. | 34. |
| 15. | 35. |
| 16. | 36. |
| 17. | 37. |
| 18. | 38. |
| 19. | 39. |
| 20. | 40. |

AN ATTITUDE QUESTIONNAIRE

for
Teen-Agers

by
B. G. Gross

DIRECTIONS

This is a questionnaire to help you find out what kind of a personality you have. We all have different personalities that determine what kind of a vocation we should choose. There are some people who like to work by themselves while others like to work around many other kinds of people.

In answering the following questions be as honest with yourself as you can. Think about each question before you answer it. Be certain that your answer most represents you.

Read each question carefully. Every word is important. If you do not understand the question, raise your hand and the counselor giving the test will come over to you and explain. Also, answer every question.

You will find attached 50 questions which you are to answer by placing *one check* () under any one of the columns on the answer sheet marked "*always*" "*often*" "*occasionally*" "*seldom*" or "*never*." Make certain that you place your checks on the numbered lines that correspond to the numbers of the questions. For instance: on the first question "Can you talk to people when you don't feel like it." If you always do this, place a check under the column labeled "*always*." If you often do this, place a check under the column labeled "*often*." If you occasionally do this, place a check under the column labeled "*occasionally*" and do the same if your answer is "*seldom*" or "*never*." When you are through, bring the questions and the answer sheet up to the front of the room.

Before you start, write your name, address, age and how many years you have been in school on the answer sheet. *Do not write your answers on the pages that have the questions. Put your answers on the answer sheet.*

Published by
ISHAM MEMORIAL YMCA
1515 N. Ogden Avenue
Chicago 10, Illinois

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AN ATTITUDE QUESTIONNAIRE

1. Can you talk to people when you don't feel like it?
2. Do you smile when things go wrong?
3. Are you annoyed when you must wait in line?
4. Do you stay away from people you don't like?
5. Can you enjoy staying at home on holidays?
6. Do you laugh at yourself when you make a mistake?
7. Do you think that people are honest?
8. Do you trust your friends?
9. Would you trust a friend who had lied to you?
10. Are older people too "old-fashioned" or "square?"
11. Do you like to "get even" with your enemies?
12. Do you get "the blues?"
13. Do you become so excited you cannot talk?
14. Do you become very tired without knowing why?
15. Do you find it easy to wake up in the morning?
16. Do you feel guilty about many things?
17. Do you argue when people criticize you?
18. Do you feel that you have more trouble than most people?
19. Do you dislike people who give orders?
20. Are you happy?
21. Do you feel sorry for yourself?
22. Do you become angry very quickly?
23. Do you feel inferior to other people?
24. Do you slam doors or other things when you are angry?
25. Do you like to "tell other people off?"

26. Do you think about things before doing something about it?
27. Do you say things you do not mean?
28. Do you change your mind at the last minute?
29. Are you "touchy" about things that belong to you?
30. Have you ever "walked out" on something you were asked to do?
31. Can you stick at a job until you have finished it?
32. Do you do things you don't like to do?
33. Would you change your job if it was unpleasant?
34. Do you do the things that are expected of you?
35. Can you work when others about you are loafing?
36. When people discourage you do you feel like quitting?
37. Do you "show up" on time?
38. Can you make yourself stick to an unpleasant job?
39. When you make a mistake do you admit it?
40. Do you imagine yourself a famous person?
41. Does comparing yourself with others make you discouraged?
42. Are you ashamed to let others see you cry?
43. Do you feel like running away?
44. Are you satisfied with your looks?
45. Do you wish for things that cannot come true?
46. Do you like to help people who are in trouble?
47. Does other people's sadness make you sad?
48. Do you poke fun at strange acting people?
49. Do you try to change your parents?
50. Do you laugh at other people's mistakes?

NAME _____

AGE _____

(please print)

ADDRESS _____

CITY _____

Write the number of years you attended grade school _____

Write the number of years you attended high school _____

Did you graduate from high school? _____

Are you attending high school now? _____

PLACE A CHECK UNDER ONE OF THE 5 ANSWERS FOR EACH QUESTION

	<u>ALWAYS</u>	<u>OFTEN</u>	<u>OCCASIONALLY</u>	<u>SELDOM</u>	<u>NEVER</u>
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____
6.	_____	_____	_____	_____	_____
7.	_____	_____	_____	_____	_____
8.	_____	_____	_____	_____	_____
9.	_____	_____	_____	_____	_____
10.	_____	_____	_____	_____	_____
11.	_____	_____	_____	_____	_____
12.	_____	_____	_____	_____	_____
13.	_____	_____	_____	_____	_____
14.	_____	_____	_____	_____	_____
15.	_____	_____	_____	_____	_____
16.	_____	_____	_____	_____	_____
17.	_____	_____	_____	_____	_____
18.	_____	_____	_____	_____	_____
19.	_____	_____	_____	_____	_____
20.	_____	_____	_____	_____	_____
21.	_____	_____	_____	_____	_____
22.	_____	_____	_____	_____	_____
23.	_____	_____	_____	_____	_____
24.	_____	_____	_____	_____	_____
25.	_____	_____	_____	_____	_____
26.	_____	_____	_____	_____	_____
27.	_____	_____	_____	_____	_____
28.	_____	_____	_____	_____	_____
29.	_____	_____	_____	_____	_____
30.	_____	_____	_____	_____	_____
31.	_____	_____	_____	_____	_____
32.	_____	_____	_____	_____	_____
33.	_____	_____	_____	_____	_____
34.	_____	_____	_____	_____	_____
35.	_____	_____	_____	_____	_____
36.	_____	_____	_____	_____	_____
37.	_____	_____	_____	_____	_____
38.	_____	_____	_____	_____	_____
39.	_____	_____	_____	_____	_____
40.	_____	_____	_____	_____	_____
41.	_____	_____	_____	_____	_____
42.	_____	_____	_____	_____	_____
43.	_____	_____	_____	_____	_____
44.	_____	_____	_____	_____	_____
45.	_____	_____	_____	_____	_____
46.	_____	_____	_____	_____	_____
47.	_____	_____	_____	_____	_____

APPROVAL SHEET

The thesis submitted by B. G. Gross has been read and approved by three members of the Department of Psychology.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

May 31, 1965
Date

Edmund P. Marx
Signature of Adviser