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A comparison of the effects of two recreational interventions on various aspects of adaptive behavior and self-concept among male adolescent offenders with mild mental retardation in residential treatment

Greene, Jeffrey Robert, Ph.D.

The Ohio State University, 1987
A COMPARISON OF THE EFFECTS OF TWO RECREATIONAL INTERVENTIONS ON VARIOUS ASPECTS OF ADAPTIVE BEHAVIOR AND SELF-CONCEPT AMONG MALE ADOLESCENT OFFENDERS WITH MILD MENTAL RETARDATION IN RESIDENTIAL TREATMENT

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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*****

The Ohio State University

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Dedicated to my Mother and Father,
Harriet Bogart and Laurence Greene
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In recognition of the contributions of the many individuals that made the completion of this task possible, I would like to thank the administration and staff of the participating residential treatment facility for allowing this investigation to take place, and for their cooperation and indulgence.

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CHAPTER 1
INTRODUCTION

Over the past decade litigation and resultant legislation have created a unique population at the intersection of the juvenile justice and mental retardation system: the mentally retarded adolescent offender or "defective" delinquent.

The defective delinquents in some respects represent one of the most neglected, if not mistreated, groups in the field of mental retardation. For the most part, these are aggressive youth in the mild range of mental retardation who are functionally illiterate, and who have varying histories of criminal involvement and failure in treatment (Denkowski, Traugott, & Denkowski, 1983). Most difficult from a treatment perspective are members of this group whose maladaptive behavior tends to overwhelm the resources of traditional community programs.

The treatment of the defective delinquent under the law "presents a curious hodgepodge of lack of understanding,
fear, a primitive philosophy of retribution, and rather curious social doctrines" (Weingold, 1966, p.36).
Accordingly, the typical response to the mentally retarded adolescent offender has been institutionalization (Brown & Courtless, 1971; Hobbs & Holt, 1976). However, judicial rulings have increasingly mandated that mental health/retardation clients be provided the least restrictive environment (Covington v. Harris, 1969; Lake v. Cameron, 1966). In at least one state, Texas, a federal suit has guaranteed mentally retarded adolescent offenders the right to community-based residential treatment (Wells v. Killough, 1980). Cumulatively, these developments indicate that a growing number of delinquent mentally retarded youth, including those that are highly maladaptive and antisocial, will be diverted into residential programs located within the community. Unfortunately, the requisite technology for such treatment has not kept pace with developments in the legal arena.

The selective use of physical activity in the rehabilitation of the mentally retarded is not a new aspect of their treatment. Sequin, Itard and their followers in the 18th and 19th centuries pioneered the concept of sensory-motor deprivation as a contributing factor in mental retardation. Itard (1962) developed a program of
sensory stimulation in order to remediate some of the problems associated with retardation. Based upon his work with Victor, The Wild Boy of Aveyron, Itard justified his use of sensory-motor training on "the intimate relation which unites physical and intellectual man that, although their respective provinces appear and are in fact very distinct... the borderline between the two different sorts of function is very confused. Their development is simultaneous and their influence reciprocal" (Itard. 1962, p.67).

Itard's practices were expanded by Sequin to include molar behavioral units designed to elicit active functional behavior within an individual's environment as a fundamental principle of the training procedure. By today's standards, many of his techniques fall within the domain of physical education, recreation, and physical therapy. Making the mentally defective individual a self-sustaining member of the community was a significant part of Sequin's educational philosophy (Mann & Hilsendager, 1968).

Over the last two decades, major changes in both the life of mentally retarded individuals, and in societal knowledge and acceptance of that population have occurred as a result of the normalization principles advocated in the field of mental retardation (Nirji, 1969;
Wolfensberger, 1972). The application of such principles has necessitated creative programming, education and treatment for the mentally retarded.

The President's Committee on Mental Retardation stated:

The primary purpose of residential services is to enable the retarded individual to develop his physical, intellectual and social capabilities to the fullest extent possible... develop emotional maturity... develop whenever possible, skills, habits and attitudes essential for return to community living... (Richardson, 1971, p.1).

In addition to social pressure and an increasingly more positive stand on the rights and education of the mentally handicapped, analysis of current theories by developmental psychologists such as Piaget (1954) and Bruner (1963) have experimentally and theoretically delineated the body-action origins of thought and affect. Piaget's concept of developmental stages is perhaps the best known of these.

The significance of Piaget's stages for the mentally retarded has been explored by a number of writers, although actual research remains rather limited. Inhelder, however, has suggested that the severely and profoundly mentally retarded individual can be viewed as fixated at the level of sensorimotor intelligence and the retarded, therefore, should be seen as not capable of surpassing the pre-operational intuitive period (Robinson & Robinson, 1976).
The study of self assumes that how one feels about one's self will motivate personal behavior. George Albee (1982) advanced the hypothesis that the primary prevention of mental and emotional disturbances can occur with reduction of unnecessary stress, including powerlessness, and the enhancement of social competence, self-esteem, and support networks. Rogers' self theory (1951) assumes that adjustment is a portion of the function of the self and self-acceptance. In psychological theory the self-concept is developed or modified through experiences and social contact.

Programs by Kephart (1971), Cratty (1972), Delcatto (1963), Getman (1965), and Barsch (1968), have demonstrated that perceptual-motor skills can be developed and improved by means of movement training, exercises and games. However, these programs have not consistently demonstrated that improvement in perceptual-motor skills increases one's awareness of self and of one's environment with subsequent changes in self-esteem and adaptive behavior.

According to Leland (1974), the mentally retarded individual who behaves in an offensive manner will become highly visible and viewed, at best, as an annoyance. When the community has lost its patience, the offending individual is often removed through institutionalization or
social isolation.

Both theory and research suggest that movement causes changes in perception and awareness. An enhancement in perceptual quality and general awareness may, in fact, bring about changes in body image and self-concept. These changes in body image and self-concept are closely related to certain exercise and movement programs. Further, with positive changes in self-concept, development of social competence can occur, enhancing adaptivity in society through improvement in interpersonal and environmental relationships (Ayres, 1965; Barsch, 1968; Bruner, 1963; Chasey & Wyrick, 1970; Cratty & Martin, 1969; Johnson, 1962; Kephart, 1960; Piaget, 1954, 1952; Rogers, 1951; Smith, 1962; Wylie, 1961). These changes are then tested through behavior and are either reinforced or modified.

Rationale for the Study

Westwell (1951) reported that a committee of members of the American Association on Mental Deficiency (AAMD), which met to study the problem of the defective delinquent, arrived at the following definition:

A mentally defective delinquent is any person affected with intellectual impairment from birth, or from an early age, to such an extent that he is incapable of managing himself and his affairs; who is charged with, arraigned for, or convicted of a criminal offense; and who for his own welfare, the welfare of others in the community, requires
supervision, control, or care; and who is not insane or of unsound mind to such an extent as to require his commitment to an institution for the insane (p.285).

The highly varied group of extrapunitive maladaptive behaviors represent one of the most important impediments to deinstitutionalization and adaptation to community living for the mentally retarded adolescent offender (Leland, Shoaee, Vayda, 1972). Subsumed under the heading of antisocial behavior resides a variety of management problems among the mentally retarded. The behavior patterns such as verbal and physical assault, fighting, destructive misuse of property, lying, stealing, and severe disruptions in both classrooms and residential settings, are characteristically social in context and are experienced as usually aversive to others. These particular management problems differ from the more inner-directed and severe behavior disorders like self-injurious behavior and stereotypy in that they are generally directed toward others in the social environment. Their similarity to the above less externally directed behavior disorders are in the fact that their elimination may be prerequisite to acquisition of adaptive behavior skills (Brawley, Harris, Allen, Fleming, & Peterson, 1969; Mulick & Schroeder, 1980). Being aversive to others, the retarded person engaging in this type of antisocial behavior is
additionally handicapped by their frequent exclusion from educational, vocational or community placements (Lyon & Bland, 1969; Plaska & Ragee, 1979; Schroeder, Mulick, & Schroeder, 1979).

If mentally retarded adolescent offenders are to manifest an optimal personal and social adjustment to life outside the institution, it will be necessary for the professionals in the field to devise creative and effective strategies for enhancing adaptive behavioral skills. In relation to this goal, it will be additionally important to explore how these individuals view themselves via their self-concepts.

**Objectives of the Study**

This study was designed to compare the effects of two recreational treatment interventions - judo and socialization games - on the adaptive behavior and self-concept of male adolescent offenders with mild mental retardation living in a community-based residential treatment facility.

The research questions were:

1. Will subjects in either treatment group demonstrate a significant increase in social competence (as measured by the AAMD Adaptive
Behavior Scale (Nihira, Foster, Shellhaas, & Leland, 1969)? Specifically:

a. Will subjects in either treatment group demonstrate a significant increase in personal independence?

b. Will subjects in either treatment group demonstrate a significant increase in cognitive development?

c. Will subjects in either treatment group demonstrate a significant increase in social and personal motivation?

2. Will subjects in either treatment group demonstrate a significant reduction in extrapunitive behavior (as measured by the AAMD Adaptive Behavior Scale)?

3. Will subjects in either treatment group demonstrate a significant reduction in intrapunitive behavior (as measured by the AAMD Adaptive Behavior Scale)?

4. Will subjects in either treatment group demonstrate a significant increase in self-concept (as measured by the Tennessee Self Concept Scale (Fitts, 1965))?
5. Will there be a differential effect between judo and socialization games on adaptive behavior and/or self-concept?

Definitions of Terms

1. Adaptive Behavior - the manner in which an individual copes with the natural and social demands of his environment as measured by the AAMD Adaptive Behavior Scale (Heber, 1959).

2. Antisocial Behavior - a variety of behavior patterns which include verbal and physical assault, fighting, destructive misuse of property, lying, stealing, and severe disruptions in both classrooms and residential settings (Leland et al., 1972).

3. Defective Delinquent - any person affected with intellectual impairment from birth or from an early age; who is charged with, arraigned for, or convicted of a criminal offense; and who is not insane (Westwell, 1951).

4. Extrapunitive Behavior - externally directed antisocial behavior comprised of violent and destructive behavior, rebelliousness, and untrustworthy behavior (Leland et al., 1972).
5. Intrapunitive Behavior - anger turned toward the self by way of self-abuse, stereotyped behavior and odd mannerisms, inappropriate interpersonal mannerisms, eccentric habits, hyperactive tendencies, and sexually aberrant behavior (Leland et al., 1972).

6. Judo - the disciplined, non-aggressive martial art founded by Dr. Jigaro Kano in 1882, which translated into English means "the gentle way." It is an art which integrates physical conditioning and perceptual-motor development within the confines of a non-competitive, structured, and accepting environment that emphasizes self-discipline, self-control, and personal responsibility (Greene & Greene, 1979).

7. Maladaptive Behavior - behavior which is usually aversive to others, taking place primarily in a social context, and frequently interfering with community adjustment (Mulick & Schroeder, 1980).

8. Mental Retardation - refers to significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifested during the developmental period (Grossman, 1973).

9. Perceptual-Motor Development - refers to the perceptual determinants of motor performance involving reasonably
complex adjustments acquired through learning (Cratty, 1969).

10. Residential Treatment - for the purpose of this study, residential treatment describes the full range of services provided to emotionally disturbed and/or mildly retarded male adolescent offenders who live in a community-based treatment setting.

11. Self-Concept - a person's perception of themselves formed through their experience with the environment and influenced especially by environmental reinforcements and significant others as measured by the **Tennessee Self-Concept Scale** (Fitts, 1965).

12. Social Competence - the skills necessary to reduce social visibility and requisite for the successful integration of the individual into society (Leland, 1974).

13. Socialization Games - a specific type of play activity which has socialization goals (e.g. interpersonal distance, knowing about oneself, knowing about others, prosocial behavior, and social competence) as its objective (Moxley, Nevil, & Edmonson, 1981).
CHAPTER II
REVIEW OF THE LITERATURE

This chapter includes a review of the five areas which are pertinent to the present study: 1) the coexistence of mental retardation and juvenile delinquency; 2) mental retardation and self-concept; 3) mental retardation and perceptual-motor development; 4) retardation as related to adaptive behavior; and 5) judo.

The Coexistence of Mental Retardation and Juvenile Delinquency

The early reports on the association of mental retardation and delinquency were indeed cause for alarm. Because of many factors such as uneducability, physical handicaps, cultural deprivation, and lack of facilities for parole, it slowly became apparent that the goals of public institutional care for the mentally defective were less habilitative and more a custodial function.
In 1893, Walter Fernald, the distinguished medical superintendent of the Massachusetts School for the Feeble-Minded, stated, "The brighter class of the feebleminded, with their weak will power and deficient judgement, are easily influenced for evil, and are prone to become vagrants, drunkards, and thieves" (Fernald, 1893, p.211). Throughout the ensuing twenty years, he (Fernald, 1912) contributed such other statements as "dangerous element in the community," "potential criminal," "parasitic predatory class," and "feeble-mindedness is the mother of crime, pauperism, and degeneracy."

In 1913, F.L. Christian described the defective delinquent he encountered at the Elmira Reformatory. He claimed that such an offender is

mentally...usually dull, seems preoccupied, and comprehends slowly. He has not been accustomed to continuous effort, and so has not gained a knowledge of any useful occupation... Their immediate desires must always be satisfied, and they will go to extremes, regardless of known consequences, in order to obtain the moment's desire... They are selfish, vain, and cruel, and act upon neither reason nor judgement, but principally upon impulses. Their mental processes work slowly, and they detest and will avoid, when possible, any sustained mental effort. They are vindictive and revengeful, and are always eager to make a personal attack to right any imagined wrong...

Few are good physical specimens, and practically all have the stigmata of physical degeneracy. They have little or no conception of morals, and will indulge in falsehoods and deceit when the truth would have served better... While they are
frequently able to differentiate between right and wrong as an abstract proposition, they seem utterly unable to follow the principles in their conduct when at large... The future holds no great concern for these defectives; each day is a day unto itself... They are self-centered and some of them are immeasurably egotistic (pp. 279-280).

Since a significant portion of the overall handling of retarded offenders was influenced by how they were defined, one can see that the early descriptions contained substantial amounts of moral content and usually presented this offender in one clinical category.

In a review of the literature up to 1930, Davies (1930) concluded that the mentally retarded "have no innate propensities toward evil doing" and that the pattern of their behavior, "generally depends on what good or bad influences society provides" (p. 132).

Lurie, Levy, and Rosenthal (1944) had proposed that defective delinquents can be shown to have certain pathological characteristics. In their words,

the mental retardation of the defective delinquent is almost always on a hereditary basis. The parents and siblings in the majority of the cases... were feebleminded. A very large incidence of psychoneurotic and psychiatric conditions were also present in the members of the family...

The defective delinquent, as a rule, is suspicious, phlegmatic, depressed, egocentric, and selfish. He has a violent temper, is obstinate and unimpressionable, and is emotionally unstable and immature. The type of child is usually imitative, a definite follower, and lacking in the qualities of leadership.
...He is unable to adjust no matter where he is placed. He is undisciplined, underhanded, untruthful and resentful of authority. His stubbornness is outstanding and he shows no reasoning ability. This type of child is always on the defensive and shows marked feelings of insecurity and inferiority. He feels the world has wronged him, hence his feelings of hostility and acts of aggression toward his environment. His conduct is non-constructive and ineffectual, and the patterns of his behavior definitely antisocial and paranoiac... (p. 102).

Butler (1942), in his presidential address to the AAMD in 1942, diagnosed the defective delinquent as

...an individual of subnormal intelligence, who has decided antisocial tendencies as well as definite psychopathic attributes—in other words, he is subnormal, criminalistic and psychopathic. He must be all of these to qualify as a defective delinquent (p. 8).

On the other hand, Smith (1947) differentiated between the mental defective with delinquent, superimposed antisocial tendencies and the defective delinquent who possesses personality disorganization. According to Smith, the former needs understanding and sympathetic management by the community, while the latter, having a more serious problem and presenting a greater challenge in terms of management, needs institutionalization which would provide opportunities for optimal treatment and readjustment.

During the same year Bijou and McCandless (1944) reported in their study of mentally retarded delinquent boys, that the "mentally retarded pre-delinquents were a
heterogeneous group."

Probably the most rational position to take concerning the mentally retarded adolescent offender was elucidated by Levy (1954). The results of his studies led him to conclude that there is no typical defective criminal. His subjects showed a wide range of differences in background and personality, as well as physical, mental and emotional factors. He stated that "criminality represents a bio-psycho-socio-phenomenon, and that a multiplicity of factors are at work in the causation of criminal behavior of which mental deficiency is one, and of importance only in combination with others" (p. 462).

On the basis of his investigations, Sternlicht (1966) concluded that "there do not seem to be any major personality differences between overtly delinquent and non-delinquent institutionalized mentally retarded adolescents" (p. 821).

At the present time, therefore, only one conclusion regarding the association of mental retardation with delinquency and criminality seems justifiable. The mentally retarded are capable of delinquent and criminal acts as are their intellectually normal peers; however, factors other than intellectual ones appear to be more important in the etiology of such behavior, and these factors are those
commonly cited as important to the development of delinquent and criminal behavior in the general population.

Internal factors may include: mental deficiency (Glueck, 1935; Mann & Mann, 1939; Penrose, 1939; Zeleny, 1933); heredity (Lurie, Levy, & Rosenthal, 1944); poor ability to tell right from wrong (Harrington, 1935); inability to control momentary impulses (Grigg, 1948); poor adaptation to frustration (Kvaraceus, 1944); feelings of inferiority (Ehrenwald, 1945); greater incidence of alcoholism (Grigg, 1948); inability to appreciate dangers of detection and punishment, which lessens the effectiveness of fear as a deterrent (Harrington, 1935); absence of highly-organized thought patterns (Grigg, 1948); and social influences (Bijou & McCandless, 1944; Glueck, 1935; Lurie, Levy, & Rosenthal, 1944; Mann & Mann, 1939; Penrose, 1939; Saenger, 1960; Smith, 1962; Zeleny, 1933).

External influencing factors include: poor home conditions and training (Harrington, 1935; Lurie, Levy, & Rosenthal, 1944; Saenger, 1960); defective parental discipline (Davies & Ecob, 1959; Morris, 1948; Smith, 1962); poor economic conditions (Davies & Ecob, 1959; Grigg, 1948); poor neighborhood environment (Davies & Ecob, 1959; Poucher, 1952); large families (Glueck, 1935);
mistreatment from the community (Grigg, 1948); lack of vocational skills (Ehrenwald, 1945); and inappropriate school provisions (Kvaraceus, 1944).

While the earlier discussion offers support for the position that the mentally retarded are no more of a threat to society than anyone else, the fact still remains that many retarded adolescents do commit crimes. However, there seems to be a difference in the types of crimes they commit. Grigg (1948) found that they are more likely to commit impulsive momentary acts and oligophrenic acts than do those with normal intelligence. He also found that of those with chronic patterns of delinquency, one-half committed crimes against the person. Milner (1949) also found a greater number of crimes against the person and a larger number of sex offenses in the retarded group; in the typical delinquent group, the majority of crimes were those of acquisition.

Recently, Denkowski, Traugott, and Denkowski (1983), in their efforts to create a data-base profile of the mentally retarded adolescent offender, found that of the 59 youths admitted to their community-based residential treatment center, 47 percent were arrested most frequently on theft charges. In 66 percent of the sample, theft was among the top three charges on which this group was arrested most
frequently. Burglary, which is essentially a theft-facilitating activity, accounted for the most frequent arrest charge in 22 percent of the sample. In 42 percent of this group, burglary was among the top three charges that precipitated arrest. The third most recurring criminal charge was for assault. In 32 percent of the sample, assault was among the top three reasons for arrest. They concluded that this population will readily steal in cases when the opportunity presents itself, and often breaks into secured areas to facilitate theft.

Adolescents labeled mentally retarded or delinquent are considered "at risk" for exhibiting maladaptive behaviors. Aggressive behavior among the mentally retarded may be subsumed under the heading of antisocial behavior. The overriding characteristics of behavior patterns such as physical and verbal assault, destructive misuse of property, lying, stealing, fighting and severe disruptions in work, school and living environments are that they take place primarily in a social context and are usually aversive to others (Mulick & Schroeder, 1980).

Little is known about the prevalence of antisocial behavior among the retarded (Mulick & Schroeder, 1980). Ross (1972) reported that over 27 percent of the institutionalized retarded in California had performed some
form of antisocial behavior monthly.

Although there is little statistical information on the prevalence of antisocial behavior among retarded adolescents living in the community, a survey of the literature reveals that community programmers are concerned with their antisocial behavior (Clark, Rowbury, Baer, & Baer, 1973; Greene & Pratt, 1972; Salzberg & Napolitan, 1974).

Theories that have been advanced to account for the development of antisocial behaviors do not clearly indicate which management approaches will be most effective in individual cases. There has not been a great deal written concerning specific educational and treatment practices for retarded delinquents. Furthermore, what has been written deals primarily with generalities. The treatment recommendations do not differ greatly from those proposed by educators of the non-delinquent mentally retarded. A review of the literature suggests that 1) trained personnel are required and a multi-disciplinary approach should be utilized (Bowman, 1957); 2) provisions should be made for complete diagnosis and evaluation (Chandler et al., 1959; Palmer, 1927); 3) treatment should be individually planned, except for rules of conduct (Listella, Prankratz, & Jetmalani, 1965); 4) vocational and academic training
should be provided on the basis of abilities (Dybwad, 1940; Palmer, 1927); 5) all training should be performed in small, homogeneous groups (Bowman, 1957; Morris, 1957; Palmer, 1927); 6) a comprehensive recreation program should be provided (Dybwad, 1940; Harrington, 1935); 7) social group work should be a part of the program (Scheer & Sharp, 1963); 8) psychotherapy should be included (Dybwad, 1940; Harrington, 1935; Snyder & Sechrest, 1959); 9) Speech therapy should be provided (Foale, 1952); 10) provisions for adequate follow-up should be made (Butler, 1948; Dybwad, 1940; Williams, 1956); 11) failure experiences should be reduced to reduce feelings of inferiority (Ehrenwald, 1945); 12) the importance of routines should be emphasized in all areas (Foale, 1952); and 13) programmed instruction and teaching machines should be utilized (Thorne, Tharp & Wetzel, 1966).

In facilities for disturbed children and delinquent youth, there has been fairly widespread trial of token economies, or the contingency of earning and being deprived of privileges consequent to prosocial versus antisocial behavior. Although behavioral improvement has at times been reported within the experimental setting (Burchard & Tyler, 1965; Meichenbaum, Bowers, & Ross, 1968; Martin, Burkholder, Rosenthal, Tharp, & Thorne, 1968), there has
been little evidence of generalization of the improved behavior when the contingencies were withdrawn, or when the subjects were outside of the contingency situation (Kuypers, Becker, & O'Leary, 1968; O'Leary & Drabman, 1971; Wolf, Giles, & Hall, 1968). Levine and Fasnacht (1974) in their review of studies of the use of token economies commented that "there should be no surprise when disruptive behavior bounces back when the tokens are removed... because subjects learn to earn tokens and do not learn to value the task" (p. 819).

Noting the usual failure of generalization of token-induced gains, Drabman, Spitalnik, and O'Leary (1973) involved an "adjustment class" of 8 to 10 year-olds in a carefully designed program to build and sustain ones self-recording of disruptive behavior during the one hour daily school period. Observational data from trained observers showed a marked decrease in disruptive behaviors and a marked increase in academic performance without back-up reinforcement. The authors stated, without providing data, that appropriate behaviors were maintained.

The contingency of overcorrection or restitution was reported as reducing aggressive and disruptive behavior among retarded females in an institutional setting. As described by Foxx and Azrin (1972) the rationale is "To
educate the offender to assume individual responsibility for the disruption caused by his misbehavior by requiring him to restore the disturbed condition to a greatly improved state" (p. 16). The authors, without presenting data, indicated the effects "endured over several months" (p. 25).

Behavioral techniques used to limit the inappropriate social responses of the retarded usually have involved the application of a negative consequence following the target response in combination with attempts to positively reinforce relevant appropriate behaviors (Ball, Sibbach, Jones, Steele, & Frazier, 1975; Brandsma & Stein, 1973; Doleys, Wells, Hobbs, Roberts, & Cartelli, 1976; Sajwaj, Twardosz, & Burke, 1972; Spitalnik & Drabman, 1976). Hutchinson (1973) has noted that many of the negative consequences used by therapists have involved the very kinds of stimuli (e.g. painful electric shock, time-out, extinction, and the withdrawal of positive reinforcement) that have been used to elicit aggressive responding in the laboratory.

Time-out procedures have been cited as effective treatment approaches in reducing disruptive and aggressive behavior (Tyler, 1965; Denkowski & Denkowski, 1985), particularly when combined with some form of token economy
system to increase social behavior. No data on the
generalization of the effect to other settings are given.

A basic defect of the conditioning approaches is that
prosocial behavior is often not maintained in situations in
which the "pay-off" is no longer present. It also requires
the collaboration of other individuals in the treatment
setting.

It would appear that the use of social group work
practices might result in better generalization of specific
alternative behaviors than has occurred with traditional
operant approaches. Friedman's review of studies (1972)
distinguishes between role playing, as a device to rehearse
new behaviors in replacement for less adequate responses,
and psychodrama, as a device to focus upon the re-enactment
of conflicts. Friedman's review, though suggestive of a
fair degree of post-experimental retention of behavioral
change induced through observation of models and role play,
concluded with the need for more information about the
extent of generalization.

The behavioral change which results from observing
models has been shown by Bandura (1965, 1969) to differ
from pure imitation. There seems to be an evaluative or
cognitive response which determines the extent or nature of
the observer's reactivity and, presumably, of his
retention. Bandura explains this by saying that observed behaviors can become covert images and responses which may serve as covert cues for overt behavior.

Blackhurst (1966) suggested sociodrama or role playing as a means for providing retarded adolescents with skills for dealing with social problems.

Scheer and Sharpe (1963) employed social group practices with institutionalized retarded delinquents in a summer camp setting. One of the main objectives of this program was to provide training, within the social group, directed toward helping the residents to relinquish their traditional institutional roles and to develop more appropriate ones. Although there was some regression upon returning to the institution, the authors were of the opinion that the program was successful, as delinquent acting-out behavior was minimized, group loyalty strengthened, and social responsibility improved.

It seems reasonable to believe that any conscientiously-applied treatment program will yield some results. Fortunately, several reports have indicated that retarded delinquents can return to the community and adjust successfully (Foale, 1952; Kinder & Buck, 1941; Morris, 1957).
Mental Retardation and Self-Concept

Many psychologists and researchers consider self-concept an important motivational factor in a person's behavior. Among the myths too seldom challenged in the field of mental retardation is the belief that adolescents so classified accrue to themselves a negative self-concept. In view of the failure and frustration which appear to be the lot of the retarded, the concomitant presence of low self-esteem seemed a reasonable assumption. Illustrative of this point of view is the statement by Phelps (1966).

Mental retardation in our present society, often foredooms an individual to many embarrassing failures and disappointments. The feelings of confusion, failure, and frustration resulting from the scorn of others, who see the child's failures, only add another brickbat to those of the already disturbed and confused child (p. 296).

Twenty years of study into the phenomenological aspects of self-concept theory has left the psychological and educational literature immersed in controversy. In spite of such controversy, many professionals accept the position of Snygg and Combs (1949) when they stated, "What a person does and how he behaves are determined by the concept he has of himself and his abilities" (p. 78). The apparent harmony of this position with psychological theory and practice may partially explain the paucity of research into
G. H. Mead (1934) felt that the individual internalizes the ideas and attitudes expressed by key figures in his life toward himself. Thus he carries with him an attitude of how he feels others are or will react to him.

Kaplan (1975) sees three determinants of a person's self-concept. He states that a person will tend to develop negative self-attitudes to the extent that 1) he has a history of possessing attributes and performing behaviors that, according to the criteria of high priority values, in his personal system of values, he evaluates negatively; 2) he has a history of perceiving and interpreting the behavior of highly valued other people as expressing negative attitudes toward him, either directly or indirectly, and/or 3) he is unable to protect himself from possible self-devaluing experiences.

Coopersmith (1967) suggests that a negative self-attitude reflecting the individual's conviction that he is weak and inferior may lead him to conclude that his opinions are not worth stating and that he cannot affect the causes of action. Expectations of failure may lead, therefore, to apprehension, anxiety and a lack of persistence.
At best, the connection between self-concept and behavior among the retarded is speculative and often contradictory. Furthermore, developmental information on the emergence of self-concept in the mentally retarded is unavailable to date, and it is clear that such information will not be forthcoming in the absence of longitudinal studies. Indeed, the very existence of the "self-concept of the retarded" as a unique and generalizable construct is questionable.

The historic tendency to study the mentally retarded in comparison with the non-retarded has manifested itself in research on self-concept. Meyerowitz (1962) administered the Illinois Index of Self-Derogation (IiSD) to 180 children completing their first year of school. The sample consisted of 120 retarded children - 60 of whom were randomly assigned to special classes and 60 of whom were retained in the regular classes - and 60 children of average intelligence, also in the regular grades. The retarded children demonstrated a significantly larger number of self derogations. According to the author, the study indicated that "even during the first year of school, significant differences can be shown between the self and personality adjustment" (p. 449). Snyder (1966) used the Laurelton Self-Attitude Scale (LSAS) and the California Test of
Personality (CTP). The LSAS was employed specifically to demonstrate that the variables measured by the CTP— and which differentiated levels of achievement— actually focused on self-concepts. Of particular interest in the comparison of retarded with non-retarded subjects was the finding that even the highest achieving retarded youngsters scored only in the 30th percentile on the CTP as compared with normative data from the non-retarded of comparable chronological or mental age.

The counseling form of the Tennessee Self Concept Scale was employed by Collins and Burger (1970) to study the self-concepts of middle class adolescent subjects, both retarded and non-retarded. Significant differences between the two groups were obtained on the Self-Criticism and Social Self subscales only. The educable retarded subjects were more defensive than the non-retarded and less able to accept self criticism. The caution with which these results need to be interpreted is suggested by the finding that means on the Total Positive Score, which according to Fitts (1965) is the most important single score of the TSCS, for both the retarded and non-retarded groups were well below the 50th percentile as compared with normative data. These results were largely supported in a similar study by Collins, Burger, and Doherty (1970), although additional
differences favoring the non-retarded subjects were noted on the Identity and Moral-Ethical Self subscales. These authors stated,

...significant subtest differences, coupled with the lack of significant difference for the total positive score, suggest that the effects of mental retardation are not global, but are specific to various aspects of the self-concept (p. 288).

The above studies are tentative rather than conclusive in their implications. The weight of the evidence suggests the likelihood of differences in self-concept between normal and educable mentally retarded children. It is even possible that such differences may be discerned as early as the first year of school. On the other hand, no such differences were apparent to Mayer (1966), Guthrie, Butler, Gorlow, and White (1964), and Gorlow, Butler, and Guthrie (1963), who found that the self-concept of their retarded subjects did not differ from those of the non-retarded.

McGarvie (1971) studied 50 students enrolled in secondary classes for educable retarded children. Subjects with higher IQ's were found to have more positive self-concepts. This finding is in agreement with the earlier reports of Gorlow, Butler, and Guthrie (1963), Curtis (1964), and Lo Bianco (1966). It should also be noted that Knight (1968), using a modified version of the Sears Self-Esteem Inventory, found no relationship between
I.Q. and self-concept. An explanation of this finding in light of the above reports is not readily available.

Consistent evidence has been reported on the relationship of self-concept and the academic achievement of retarded children. McCoy (1963), Wink (1963), Snyder, Jefferson, and Strauss (1965), Snyder (1966), and Marasciullo (1969) reported that the more positive the self-concept, the higher the achievement level. Gorlow, Butler, and Guthrie (1963) reported similar results even when the effect of intelligence was parceled out. In commenting on similar findings from research with non-retarded children, Purkey (1970) stated,

> Although the data do not provide clear-cut evidence about which comes first- a positive self-concept or scholastic success, a negative self-concept or scholastic failure- it does stress a strong reciprocal relationship and gives us reason to assume that enhancing the self-concept is a vital influence in improving academic performance (p. 27).

The relationship of self-concept to vocational adjustment is less clear. O'Neil (1968) and Daniels and Stewart (1970) failed to find significant relationships between vocational adjustment and self-concept. Katzen (1966) found that educable retarded adolescents who tended to be self-rejecting had a more realistic vocational preference. Unfortunately, although there is an intuitive
sense among professionals that self-concept is related to job adjustment, the research is scarce and inconclusive.

Sarason (1959) was largely responsible for dispelling many of the myths that presumed the inability of the mentally retarded to benefit from psychotherapeutic relationships. A number of studies have reported on the effectiveness of psychotherapy, counseling, and other treatments in improving the self-concept of retarded subjects. Maternal group counseling was the treatment of choice by two investigators, Schleicher (1969) and Wechsler (1971).

The usefulness of psychotherapy in improving the self-concept of retarded subjects has been examined by Gorlow et al. (1963), Humes, Adamaczyk, and Myco (1969), and Mann, Beaber, and Jacobson (1969). In the latter study, educable retarded boys receiving counseling developed more positive self-concepts as indicated by scores on the Lipsitt scale when compared with a control group.

Two studies in which somewhat unique treatments appeared effective in modifying the self-concepts of retarded subjects are reported by Ghannad (1969) and Corder (1970). Ghannad found that a planned program of interaction by men had a favorable effect upon the self-concepts of institutionalized boys. Corder obtained similar results
with retarded girls following a planned program of physical education.

Several other factors are reported in the literature which may bring about changes in self-concept. Maturation, school environment, the home atmosphere, and positive reinforcement may each contribute to changes in self-concept (Bills, 1956; Dyson, 1967; Jersild, 1952; Ludwig, 1967; McCallon, 1967; Perkins, 1958). These changes may be either positive or negative depending upon whether the student sees himself in a setting which promotes feelings of success or failure.

It is this same theme, success begets success, which might be used to partly explain the relatively few studies in the area of physical education which have reported change in self-concept. Gourley (1968) found enhanced self-acceptance in adolescent girls following the acquisition of beginning swimming skills. Read (1969) found that consistent losers have lower self-concepts than consistent winners. Similarly, normal boys have more positive self-concepts than boys with coordination problems. However, there was no significant difference in self-concept of girls using this criterion (Cratty, Ikeda, Martin, Jennett, & Morris, 1970). It also has been found that a structured traditional physical education program
produces significant positive change in self-concept of fourth grade children (Cochran, 1965). The movement exploration method of teaching physical education has also produced a significant increase in the self-concept of elementary school children when compared to a control group not taking physical education (Ball, 1967). However, the professional preparation of the physical education instructor seems to have little effect upon the self-concept of the students under his guidance in a planned physical activity program.

It would seem from these studies and those in which movement modalities may produce change in perceptual-motor proficiency, self-concept and behavior, that further investigation is warranted (Auxter, Zahar, & Ferrini, 1967; Chasey, 1970; Doudlah, 1962; Johnson, 1969; Vaughn, 1966; Zion, 1965).

The validity and standardization of many of the measuring instruments used for evaluating one's self-concept can be questioned. If one confronts the the problems in the measurement of personality variables with the mentally retarded, it is not surprising that so little in the way of empirical evidence has been forthcoming. These measurement problems have been underscored by Gallagher (1959). In particular, as it relates to self
report instruments, he noted the difficulties presented by the retarded reporter who may also exhibit poor reading ability, poor perceptions of inner feelings, and deficiencies in relating these feelings.

According to Fitts (1972), to enhance the effectiveness of a rehabilitation program, professionals should assess the client's self-concept. While a listing of the numerous self-concept scales used in studies of the retarded is beyond the scope of this review, several measures bear mention either because of the frequency of use or the uniqueness with which they have been employed. The Laurelton Self-Attitudes Scale (Guthrie et al., 1961) is a 150 item self-attitude questionnaire developed for use with retarded girls; The Way I Feel About Myself is an instrument developed by Piers and Harris (1964) on a population including institutionalized retarded youngsters and noninstitutionalized fourth, sixth, and tenth graders from a cross-section of socioeconomic levels; The Children's Self Concept Scale is an instrument developed by Lipsitt (1958) and was standardized on a sample population of fourth, fifth, and sixth graders. This particular scale appears to be one of the most frequently employed in studies with retarded children; the Illinois Index of Self-Derogation is a scale developed at the University of
Illinois for use with young primary aged children (Goldstein, 1964); and the California Test of Personality, widely used by investigators over the years and employed by Snyder, Jefferson, and Strauss (1965).

Of particular interest to this study is the Tennessee Self Concept Scale (TSCS) developed by Fitts (1965). The instrument contains 100 self-descriptive statements of which ninety items form a 3 X 5 self-esteem matrix. The rows (3) and columns (5) are indicative of the frame of reference the respondents use to convey their self-image. The items are responded to on a five-point scale and are equally distributed within the scheme and balanced within each cell in terms of a statement polarity, i.e., there are an equal number of negative and positive self-descriptions. Additionally, the instrument allows the user to generate various scales which reflect intra-self attributes (e.g., conflict) of the respondent.

The 12 scales which compose the self-concept of the TSCS can be grouped into three areas: Total Self Esteem, Self Criticism, and Self Consistency. The Total Positive (i.e., Total Self Esteem) is composed of, and equal to, the sum of the Row scales: Identity, Self-Satisfaction and Behavior, or the Column scales: Physical, Moral-Ethical, Personal, Family and Social Self. The Self Criticism scale
is composed of ten items that were taken from the L-Scale of the Minnesota Multiphasic Personality Inventory and are measures of defensiveness. Self Consistency is measured on three scales: Total Variability, the variance of the self-image from one area of self-perception to another; Total Conflict, differences in self-perception within the same area; and Certainty, the certainty respondents have of their self-image.

**Mental Retardation and Perceptual-Motor Development**

In a working copy of the White House Conference on Children Report it was stated,

> The child's discovery and development of his physical prowess is crucially important to the development of his identity. To a child, his body and what he can do with it is his identity. Most of his activities—play, artwork, dance, self-expression—depend upon physical motion and aid his development of confident, skilled muscular movement and control (Johnson, 1970, p. 4).

Developmental psychologists agree that perceptual-motor integration is important in the total development of the child (Ayres, 1965; Jersild, 1954; Millard, 1958; Piaget, 1954). After careful analysis of organized movement patterns, Smith and Smith (1962) state, "The development of perception in the child is the development of motion" (p. 7).
Several developmental hypotheses have been proposed by psychologists which emphasize perceptual-motor learning as a basic aspect of cognitive growth. Within each hypothesis the developmental nature of perceptual-motor ability and learning is carefully delineated. Siegal (1953) has proposed that infants progress from motor-somesthetic to motor-visual and then to visual-motor perception. Piaget (1952) has outlined four stages in cognitive development. Use and development of reflex patterns emerge in the first stage. Adaption of simple sensorimotor patterns is acquired in stage two. In the third stage coordination between visual schemata and other activities is initiated. The fourth stage is mainly one of consolidation of established patterns.

A series of studies by Elkind et al. (1964) provides supporting evidence for the Siegal and Piaget hypotheses. In particular, they found a rather direct variation of age with ability to perceive part and whole. The integration of whole-part had occurred in 75 percent of the developmentally normal children by nine years of age.

Several theorists maintain that the use of a structured perceptual-motor training program with handicapped children is an essential antidote to the serious developmental deficiencies of this population. Most prominent among
modern proponents have been Barsch (1967, 1968), Kephart (1964, 1971), Delcato (1965, 1966), and Getman (1962). Their ideas are often reminiscent of those advanced 75-100 years ago by Itard, Seguin, and Montessori.

Although a number of different motor-based theories have been espoused to explain serious deficits in the development of children, they are often remarkably similar in their training principles and strategies. Generic to most programs are the assumptions 1) that early learning is essentially motoric, 2) that motor learnings must precede perceptual and symbolic learning, 3) that motor learnings follow a hierarchical course of development, 4) that failure to develop satisfactory perceptual-motor patterns and generalizations lead to asynchronous development and problems in symbolic learning, and 5) that remediation of perceptual-motor deficits must be accomplished before children can cope with the learning demands of traditional school environments.

In Kephart's perceptual-motor learning program (1964, 1971) an emphasis is placed upon education of the peripheral functions rather than specific central nervous system functions. It is his hypothesis that because of today's complex society the child does not have the opportunity to explore his environment and is therefore not
able to develop an adequate perceptual-motor match. With an inadequate perceptual-motor match, difficulties in motor patterns, reading and writing occur. Kephart's perceptual-motor learning program is designed to improve perceptual-motor skills, laterality, directionality, and spatial awareness. Kephart's hypotheses have received support from special educators, psychologists and physical educators (Bolen, 1970; Cratty, 1969; Dubnoff, 1968).

A number of studies have investigated the efficacy of training procedures recommended by Kephart with mildly retarded children. Fisher (1971) studied the effects of training exercises on mildly retarded children enrolled in elementary school special classes. Pretest and posttest comparisons on WISC-IQ scores, measures of achievement, and scores on the **Purdue Perceptual-Motor Survey** failed to yield any results favoring the experimental treatment. Post hoc comparisons involving a small number of children under 10 years yielded some significant differences in favor of the experimental group in perceptual-motor skills.

Other studies using perceptual-motor training with mildly retarded school children have yielded conflicting results. Haring and Stables (1966) provided 30 minutes of daily instruction for 7 months to 13 children. The treatment was planned and administered to remedy specific
perceptual-motor deficiencies of each child. Experimental children gained significantly more than control children in perceptual-motor functioning and maintained their superiority on the follow-up test. Unfortunately, no control for the attention received by experimental children was provided for the contrast group.

The most extensive and best controlled studies using Kephart's perceptual-motor training procedures have been conducted with severely retarded subjects. Edgar, Ball, McIntyre, and Shotwell (1969) tested the effects of perceptual-motor training with 11 organically impaired, moderately, and severely retarded institutionalized children between the ages of three and eight years. An attention-control group was constituted and equated with the experimental group on age, IQ, physical development, and the ability to use sensory equipment. Experimental children received 15- to 20- minute daily lessons, three times a week for a period of six to eight months, while control subjects participated in games and activities for an equivalent period of time. The results revealed that experimental children made significantly greater gains than control children on total scores and on all but one subscale of the Gesell Developmental Schedules.
In order to isolate some of the factors relative to perceptual-motor ability, Ayres (1965) administered 35 perceptual-motor tests to two groups. One group was selected from regular public school classes, while the second group exhibited perceptual-motor deficits. Twenty-three factors were obtained from the factor analysis of the data from the dysfunctional group of which six accounted for most of the variance. Of the six factors, five were interpreted as behavioral correlates related to neurological dysfunctions. Ayres concluded that these five factors were expressive of mechanisms "...by which intersensory and (sometimes) motor information is coordinated to permit development and manifestation of perceptual-motor ability" (p. 366).

Research by Kephart (1960) and his associates, and Cratty and others (1967, 1969, 1970), has established that perceptual-motor learning does, in fact, improve perceptual-motor skills. It has been demonstrated that an eight week Physical Development Clinic which provided no direct visual perception practice resulted in an increase in the motor-oriented perceptual-motor tasks (Johnson, Fretz, & Johnson, 1969). Similarly, Cordor (1966) found significant improvement in verbal scale and full scale IQ's on the Wechsler Intelligence Scale for Children for eight
educable mentally retarded boys following a 20 day physical education program.

Closely related to I.Q. score is school readiness. Chasey (1970) found significant improvement in Number Producing on the Anton Brenner Developmental Gestalt Test of School Readiness. He retested 18 educable retarded children following a 15 week physical education program. None of the other subtests or total scores improved significantly when compared with the control group. However, the adjusted mean on the total test score approached significance.

Contrary to the above findings, Chasey and Wyrick (1970) found that a gross motor development program did not significantly improve the performance on the Winter Haven Perceptual Form Test for 20 educable retarded children. O'Connor (1969) and Slacks (1969) also found that a general physical development program failed to bring about significant improvement in cognitive abilities of normal children.

The central tenet of the theory of neurological organization, advanced principally by Doman and Delcato (1963, 1966), is that "ontogeny recapitulates phylogeny." This means that human neurological development progresses through the same developmental stages the species undergoes
in the process of evolving from simple to complex neurological organization (i.e., from spinal cord to midbrain to cortex to complex organization). It presumed that failure to pass through an invariant sequence of development, assessed ostensibly by means of movement patterns, indicates poor neurological organization and leads to serious problems in development.

Few studies have systematically examined the efficacy of Doman-Delcato training procedures with retarded children. Professional medical groups and neurological research seriously question the validity of the theory of neurological organization (Cratty, 1970; Freeman, 1967). However, procedures recommended by Doman and Delcato may have value for improving the perceptual-motor functioning and related behaviors of children with serious sensory-motor defects (Balow, 1971).

Chaney (1970) studied the effects of a dance program on the intelligence test scores, social adjustment, and physical coordination of educable mentally retarded adolescents. At the conclusion of the eight week program, the researcher reported an increase in intelligence scores and physical coordination but was not able to reject the hypothesis of no difference in the area of social adjustment.
Seaman (1972) studied the effects of a 10 week bowling program upon bowling skills, number concepts and self-esteem of 22 moderately retarded children. The researcher concluded "that it appeared levels of physical fitness, IQ, and social maturity can be improved in the trainable mentally retarded by the application of either a traditional physical education program or a movement exploration program" (p. 56).

The limited data available suggest that structured perceptual-motor training may enhance the motor development of young, severely retarded children.

Although serious limitations are common to the design of most reported studies, a number of tentative conclusions appear justified regarding the physical and motor development of retarded persons.

1. A few studies suggest that the structure of motor abilities among samples of retarded persons is similar to that of non-retarded persons. However, the factor structure appears less differentiated among mildly retarded school students than among samples of non-retarded subjects. This speculation is based upon the results of factor analytic studies and the generally higher correlations found between intelligence test scores and measures of motor proficiency with retarded as compared to non-retarded subjects.
(Clausen, 1966; Kral, 1972; Malpass, 1963).

2. Retarded children and adults have been consistently found markedly inferior to non-retarded persons on measures of physical development, gross motor, and fine motor abilities. As the severity of intellectual defect increases, motor function correspondingly decreases. Furthermore, deficits in performance of retarded compared to non-retarded subjects become progressively larger with age, although data to support this conclusion have been derived from cross-sectional rather than longitudinal studies (Combs, 1986).

3. Although little continuity exists among studies in sampling and instrumentation, deficiencies in the development of motor skills for retarded adolescents and adults appear to be of approximately the same magnitude for gross and fine motor abilities. Fine motor abilities of retarded children are probably more impaired than gross motor abilities, since motor development proceeds from gross to fine. However, the growth of fine and gross motor abilities in retarded children of widely varying ages has not been systematically explored in any single study (Cratty, 1972).

4. The motor proficiency of retarded persons seems most deficient in areas of equilibrium and performance balance,
locomotion, complex coordination, and in measures of manipulative dexterity. Compared to non-retarded peers, samples of retarded school-age students appear least deficient in areas of physical fitness if they are provided an ample opportunity to engage in a structured program of physical education (Combs, 1986).

5. Researchers have often concluded that retarded children are closer to chronological age peers in motor than in intellectual development (Francis & Rarick, 1959; Rarick & Dobbins, 1972; Stein, 1968). Possibly some mildly retarded children are developmentally less motor impaired than intellectually impaired, whereas other mildly retarded and more severely handicapped children are equally deficient in both areas. Some support for this suspicion may be found in studies reporting greater variability in performance among mildly retarded than non-retarded subjects and overlap in the distributions of performance of the two groups on tests of motor proficiency (Howe, 1959; Rarick & Dobbins, 1972; Sloan, 1951). Adoption of the suspect conclusion that retarded children are least impaired in motor abilities may lead practitioners to erroneously conclude that many retarded students are less in need of training in motor skills than in academic and communication skills.
Although Itard, Seguin, and Montessori made early efforts to improve the sensorimotor abilities of retarded persons, little scientific study of the effects of motor training upon retarded subjects was conducted prior to 1960. Most investigators have researched the effects of structured experience in physical education on measures of physical fitness, social development, and intelligence. Consistent, statistically reliable gains in measures of physical fitness are uniformly reported for retarded students following short-term experiences in physical education activities. However, more controlled studies have not substantiated findings of Oliver (1958) on the generalization of training to improved performance on intellective measures.

Since nothing in adaptive physical education activities is designed specifically to effect changes in intelligence test performance (Cratty, 1972), a plausible explanation for increases is that experimental subjects changed other behaviors which contribute to overall efficiency involved in taking tests. Increased self-confidence and achievement motivation, improvements in attention span, and rapport with examiners have been observed as concomitants of experiences in structured physical education (Oliver, 1958; Solomon & Pangle, 1967). An affective explanation of
changes in I.Q. scores through training is given indirect support by the well-documented conclusions that motor abilities are highly specific (Fleishman, 1964), that the effects of motor training are task specific rather than general (Seashore, 1942), and that mild exercise appears to facilitate performance in learning tasks (Cratty, 1967). Apparently structured experiences in physical education improve the motor fitness of retarded students and may, indirectly, positively change affective and physical characteristics which contribute to improved performance on unpracticed tasks.

Substantial increases and improvements have been recently evidenced in the study of physical and motor development of retarded persons. With sustained effort and improved methodology, it is anticipated that more definitive findings will emerge to support the development of viable educational and training programs.

Retardation as Related to Adaptive Behavior

One aspect of individual competency entails the ability to adapt to one's environment (Phillips, 1968). The criterion of adaptive behavior for the mentally retarded, therefore, is whether their behavior can be tolerated by the community. The individual is able to survive; and may
even succeed, if the community is tolerant. Such an individual does not need to be classified as retarded. If the individual does not demonstrate the ability to meet societal expectation and is therefore a constant annoyance to the people around him, and if he is constantly dependent on them for most of the things that he has to do and if he must be under their constant surveillance, he will not survive in the community and will have to be cared for at a more restrictive level (Leland, 1978).

Recognition of the importance of adaptation to environmental demands is not a new concept in the field of mental retardation. Doll (1953), clearly reflecting the biological assumptions underlying his view of social competence, believes that "social competence is a universal human attribute" (p. 1). However, the integration of what has been termed "adaptive behavior," both as a component of assessment and as a classification dimension of mental retardation is a more current development (Coulter & Morrow, 1978). Heber (1959) noted:

The discreditation of the I.Q. as a single basis of classification has become increasingly popular in the past few years, presumably because people are finding out that it does not have adequate predictability for the ultimate social and vocational adjustment that one is concerned with in mental retardation (p. 218).

Adaptive behavior is a term that the American Association
on Mental Deficiency has defined as "the effectiveness or degree with which individuals meet the standards of personal independence and social responsibility expected for age and cultural group" (Grossman, 1983, p. 1).

In 1961, adaptive behavior was included in the definition of mental retardation (Heber, 1961): "... subaverage general intellectual functioning which originates during the developmental period and is associated with impairment in adaptive behavior" (p. 3).

The joint problem of psychological evaluation and differential diagnosis has created much discussion within those disciplines dealing with the mentally retarded. There are a number of major approaches to the measurement of adaptive behavior. One approach is reflected in the revision of the Vineland Social Maturity Scale (Doll, 1965) which has taken a unique direction in terms of norm referenced material. Doll sees his measure of social competence as "a standardization method for the quantitative estimation of personal social maturation which presents a unique device for the overall evaluation of behavior" (p.1). This direction does not seem appropriate for use in the present study. A second approach arose cut of a project undertaken in 1954 at the Pacific State Hospital in California, which would later be directed by...
Jane Mercer (Coulter & Morrow, 1978). A third approach, established in 1965 at Parsons State Hospital (Kansas), was sponsored by the AAMD and NIMH (Leland, Shellhaas, Nihira, & Foster, 1967).

The Pacific State Hospital project's objective was to identify those people in the community who were mentally retarded, regardless of whether social agencies had identified them as such (Dingman, 1973). Emphasis was placed on the consideration of the social sphere of the individual. Results of the study demonstrated that persons from ethnic minorities and lower socioeconomic statuses tended to be "over labeled" as mentally retarded. For Mercer, the central issue regarding adaptive behavior measurement is its inclusion as part of a System of Multicultural Pluralistic Assessment (SOMPA) in which adaptive behavior is conceptualized from a social-system model. It defines adaptive as the individual's social-role performance in a variety of social systems in which he is participating: the family, the peer group, the community, nonacademic school roles, earner/consumer roles, self-maintenance roles, and academic school roles (Mercer, 1978).

While Mercer's concern was identification of cultural differences in the community, the Parsons State Project's
assessment of adaptive behavior originated as an attempt to gather information regarding intervention and programming, and thus began its study with a focus on the residential population (Coulter & Morrow, 1978).

This investigation produced the AAMD Adaptive Behavior Scale (ABS) (Nihira, Foster, Shellhaas, & Leland, 1969, 1975), which was designed to measure the current observable functioning of the individual. The scale which is divided into two parts are seen to be represented by three behavioral formations: 1) independent functioning, 2) personal responsibility, and 3) social responsibility (Leland, 1978).

The construction of Part I was based upon a comprehensive review of existing behavior rating scales from which a pool of behavior items were derived. Items were evaluated and selected on the basis of 1) inter-rater reliability, 2) the degree of discrimination between institutionalized individuals who had been previously classified at different adaptive behavior levels according to the AAMD Manual recommendations, and 3) the degree of discrimination between adaptive behavior levels while the variance due to measured intelligence was controlled (Nihira, 1972). This part of the scale assessed performance in the domains of independent functioning, physical
development, economic activities, language development, number and time concepts, occupation-domestic, occupation-vocational, self-direction, responsibility, and socialization. These ten domains were designed to evaluate skills and habits reflective of personal independence, cognitive development, and social and personal motivation (Leland, Shoae, & Vayda, 1972).

The second part of the scale assessed performance in the domains of violent and destructive behavior, antisocial behavior, rebellious behavior, untrustworthy behavior, withdrawal, stereotyped behavior and odd mannerisms, inappropriate interpersonal manners, inappropriate vocal habits, unacceptable or eccentric habits, self-abuse behavior, hyperactive tendencies, sexually aberrant behavior, psychological disturbances, and the use of medications. The thirteen domains of maladaptive behavior was based upon an extensive survey of problem behaviors of retarded individuals in residential care, special education classes, and day-care centers (Nihira, 1972). The fourteenth domain, that of "Use of Medication," is not, of course, a behavioral domain, but does provide information as to an individual's adaptation (Coulter & Morrow, 1978).

The ABS lends itself to three types of uses. The first involves planning programs or training procedures, designed
on the basis of the reported skills and coping strategies which the individual currently manifests. In a second usage, the scale can evaluate the effect of the implemented programs. With the information gained through successive or follow-up administrations of the instrument, an appraisal of the initiated program can be made in view of the goal objectives. If the desired behavioral changes did not occur, a reevaluation of the goals and/or reappraisal of the program may be warranted. The third use of the scale is as an aid in the diagnosis and classification of the individual. Interpretation of the relationship between Parts I and II, and between the domains and subdomains, often lead to the recognition of logical patterns of behavior typical of particular handicapping conditions (Leland et al., 1972).

As mentioned previously, observation of Kephart's techniques, suitably modified, with very young subjects suggests that these are promoting primitive cognitive concepts of space, time, causality, and object permanence. Edgar, Ball, McIntyre, and Shotwell (1969) believed, therefore, that generalization from improved sensorimotor integration during the sensorimotor period might be shown by advances in cognitive development. Hence, their research question was whether the improved sensorimotor integration
presumed to follow from sensorimotor training does lead to changes in cognitive (as well as perceptual) development, and thus to gains in adaptive behavior. Eleven mentally retarded, organically impaired young children, with a mean mental age of 15 months, were given individual sensorimotor training. The experimental group met for 15- to 20- minutes three times per week for adapted Kephart sensorimotor activities. They met a fourth time each week for traditional activities used on a training ward (e.g. finger painting, swinging, sliding, and play with educational toys). The control group also met four times per week for traditional activities with the same persons who had conducted the experimental sessions. The learning period was for eight months.

The Gesell Developmental Schedules were administered pre- and post-experimentally. The total score and the four subtest scores were subjected to a two-way analysis of variance. Their results indicated that the experimental group showed significant gains on the Motor, Language, and Personal-Social Schedules, as well as in the total score. The gain on the fourth subtest, Adaptive Behavior, approached significance (Edgar et al., 1969).

While no other similar studies with the mentally retarded has been located, a study conducted by Vaughn
with institutionalized male psychotics found that exercise and game activities resulted in significant improvement in behavior, strength, and stamina, when compared with the attention and control groups. Similarly, the exercise group and the games activities group were judged to have shown greater improvement than either the attention group or the control group in measures of body image and self-image.

These previous two studies are important for yet another reason. They demonstrate that movement modalities may be effectively used to improve perceptual-motor skills, self-concept and adaptive behavior.

The development of appropriate interpersonal skills through play and games in retarded individuals could enhance various skills from basic gross and fine motor skills to the complex cognitive skills.

In recent years many researchers have witnessed early success using games as a teaching or training medium for retarded persons (Ross, 1969). In fact, Han (1980) examined the effects of brief participation in socialization games (Moxley, Nevil, & Edmonson, 1981) by two groups of retarded female residents of a state institution. The purpose was to test hypotheses that activities specifically designed to promote friendly interaction would have a more positive
effect on the behavior of the typically self-centered and frequently aggressive women than the task oriented group activities (vocational training, arts and crafts, gross motor recreation, and academic classes) that are offered in the institution.

Subjects were randomly assigned to two groups which were socialization games and placebo activities (arts and crafts or illustrated story session) on a random schedule to provide equal exposure to both, over three days a week for an eight week period. The sessions were also scheduled randomly over a morning and an afternoon time block.

At the conclusion of the treatment period, subjects were administered a peer knowledge and a peer performance questionnaire. The author stated that, "The results were a clear indication that at least a short term effect was a significantly higher rate of friendly interaction favoring the socialization games over the placebo activities" (p. 82). The simplicity of the games and the ease of presentation suggests that this medium would be a useful component of institutional programming.

**Judo**

Originally, the martial arts were simply methods of defense and attack used in serious combat that consisted of
primitive hand-to-hand and stick fighting techniques. At times a small and comparatively weak man would overcome a bigger opponent, and when the reason for his victory was appreciated, a new method would be formulated. Thus, over the years, teachers and practitioners of the arts—sometimes at considerable risk to themselves—have refined and developed these techniques which, today, stand up to scientific scrutiny (Random, 1978).

However, as the martial arts became influenced by Buddhist concepts, they were transformed from mere collections of techniques to philosophical "ways." Their dimensions grew until they went beyond the simple objective of killing the enemy to embrace many elements concerned with day to day living. In other words, they changed from ways of killing to ways of life. Particularly after the demise of the samurai class, the martial "arts" became martial "ways", and great value was placed upon them as a means of generating the moral strength necessary to build a sound society (Kano, 1937).

In the late 1870's, a young Japanese, Jigaro Kano, who was studying to be a teacher, became interested in the ancient martial arts. One of these arts was jujitsu, "the gentle art." This theory of gentleness appealed to Jigaro Kano, but he found in his studies of jujitsu that,
unfortunately, the general practice was a long way from its theory of gentleness.

In 1882, Kano started his own school founded upon his theory of "maximum efficiency with minimum effort in mind, body and social circles, which can benefit not only the judo student, but society." A classic tale describing the origins of judo sounds very much like Jean de la Fontaine's famous fable La Chêne et le Roseau (The Oak and the Reed) where non resistance (giving way) and equilibrium (balance) greatly economizes energy and lend to victory or achievement.

With this principle as a guide, he reexamined the techniques of jujitsu. He rejected all moves not in keeping with this principle, utilized the best of the jujitsu techniques, eliminated the harmful ones, modified others, and added rules and regulations for safety in practice sessions. He refined and systematized these techniques and welded them into the ideal of "world benefit through self-perfection." He then added the second principle, that of "mutual welfare and benefit." He called his system of attack and defense, judo, which literally means "the gentle way" (Random, 1978, pp. 236-238).

Judo, unlike jujitsu, embodies the principles of physical education, moral and intellectual training which
results in behavior that exerts a molding influence on the personality of the practitioner (Duthie, Hope, & Barker, 1978; Kroll & Carlson, 1967; Rothpearl, 1979, 1980).

Kano (1937) said that three areas aided through physical education should include the body, character and intellect. Judo is a form of education which may be applied to life. It is a contact sport with rules where the spirit of combat is maintained, but where courtesy and respect for one's opponent is crucial.

Judo, the sport and vehicle of education, was to be the training method to equip one's mind and body in the most efficient use of energy, not only in combat but also in every day life. Judo was regarded as the "harmonious development and eventual perfection of human character" (Kano, 1937, p.6). In essence, the judo student endeavors to become a valuable asset to society.

To Kano's idea of development of the three areas of physical education may be added his belief that "good things go together and that intelligence may be associated with other superior qualities" (Nishioka, 1979, p. 33). This theory implies the idea that self, in attempting to reach its potential, may emanate and grow in other areas. This is the pattern many martial artists have exemplified. With the passage of time, they continue to grow beyond the
level of mere physical activity.

The literature is replete with anecdotal accounts of how the principles gleaned from the martial arts have been used to enhance one's everyday life. Thus far, research into judo has been almost exclusively limited to medical aspects (Norton, Safrin, & Cutler, 1967). Very few rigorous studies have been published which would validate the professed positive effects.

What is known, however, is that judo and the martial arts have been used as a therapy with mentally, emotionally, behaviorally, and physically disabled populations of all ages and genders. Proponents of judo claim that participation will result in improvements in components of physical fitness (Pohl, 1970); self-confidence, self-esteem and self-concept (Baake, 1978; Greene & Greene, 1979; Van Krevelen, 1974; Nosanchuk, 1981); academic achievement (Cocoran, 1982; Greene, Arnold, & Greene, 1980); and psychosocial adjustment (Davis & Byrd, 1975; Nosanchuk, 1981; Pohl, 1970; Pyecha, 1968).

Portuondo and Landry (1974) at a hospital for disturbed children, aged 12 years and under, reported on their trial of judo as an activity for therapy. Classes were taught by a qualified judo instructor supervised by the chief recreation therapist. Using staff observations, results of
the program were assessed in terms of behavior on the ward and in the hospital's school, behavior with peers, and in performance during the judo sessions. The number of fights were recorded daily. Precise behavioral data were not presented in the published article, but of 50 children in the program, all 8 of the aggressive girls and 13 of the 15 aggressive boys were considered improved, and in the passive group, 3 of the 6 girls and 16 of the 21 boys were considered to have developed more confidence and were less withdrawn. Forty of the 50 residents were deemed to have benefited from the program. With respect to fighting, there was no reported incident of improper use of judo techniques outside of the classroom, and there was a clear decrease in the number of fights instigated by aggressive judo students. As two of the club members were passive, a recorded increase in their fighting was considered favorable to adjustment.

Barbara Ross (1975) described frequent teaching of the martial arts to various populations of persons with disabilities, indicating that the mentally retarded have often been excluded from such programs as incapable of acquiring the necessary judgement for self-control; an opinion that she does not share from her experiences in teaching karate. The effective elements of karate appear
similar to those attributed to judo— an avenue to emotional and physical control and desirable attitudes achieved through practice and the emulation of the karate ideals. Classes are formal and ceremonial, beginning with the bow, disciplined line-up, warm-up exercises, and then instruction. Students are respectful and must behave seriously while in the special setting. Ross states her affirmation of the rehabilitative value of the martial arts for the mentally retarded, cautioning only that the teaching must be conducted by a person committed to the philosophical implications of the origins of these arts. The teacher must be an example, and must adhere to the traditional formality which conveys that the activity is not a game and that self-control is the goal.

Research projects carried out at the "Sportbelange fur das behinderte Kind" (Van Krevelen, 1974), an institution interested in furthering the sports activities of children with physical and mental difficulties, demonstrated an increase in motor control, improvement of self-defense and enhanced self-esteem in mentally retarded youth following training in judo. They add, however, that community residences for the "feeble-minded" do not reject judo activities, but medically supervised institutions for the feeble-minded refuse to apply it to their patients in
Amirpour and Shurawski (1979) investigating the efficacy of judo as an adjunct to rehabilitation, formed a judo group with twenty children, 9 to 15 years old, who received treatment at a center for developmental diagnostics and pediatrics. The children suffered primarily from more or less pronounced cerebral motor disturbances. Other functional disturbances such as perceptual disorders, language and reactive behavioral disturbances completed the picture of minimal brain damage. The training program attributed more importance to functional judo exercises than to perfect judo techniques. After 15 months of judo training, the authors reported that improvements were observed in the motor, psychological and perceptual fields.

Greene, Arnold, & Greene (1980) tested the effectiveness of judo for improving the academic performance of disabled youth on arithmetic, spelling, and reading scores. Seventeen middle school students, consisting of 12 males and 5 females enrolled in the same learning disability program were assigned to either a judo group or control group. The treatment group received the regular LD school program and was treated with one hour of judo per week. The control group also received the same LD programming and one additional hour of unstructured
attention per week. The treatment lasted for 18 weeks—a span of three grading periods. A time by treatment analysis of variance was performed on the subject's grade point averages in the three academic areas of interest. The authors report that the group treated with judo showed significant increases in both arithmetic and spelling performance. Of further interest was the finding that the control group showed an overall decrease in spelling and arithmetic performance. Reading performance, however, did not appear to change as a function of judo.

The research by Davis and Byrd (1975) studied the effects of 12 weeks of judo instruction on 16 educable mentally retarded boys enrolled in the occupational education unit of a junior high school. Pre- and post-experimental evaluation of personality, achievement, and physical fitness was accomplished through the use of the California Test of Personality, the Wide Range Achievement Test, and the American Association for Health, Physical Education and Recreation Special Fitness Test. The experimental group participated in a one hour a day, three days per week, twelve week class in judo. Test data were analyzed by analysis of covariance and showed significant changes in total adjustment and some measures of fitness. No significant improvements were made in academic
achievement. The authors concluded that instruction in judo is of value in remediating some of the social, emotional, and physical problems common to the educable mentally retarded.

The Present Investigation

The present study compared the effects of judo training and socialization games on the collateral maladaptive behaviors and self-concepts of mild mentally retarded male adolescent offenders in residential treatment.
CHAPTER III

METHOD

As previously noted, the major objective of this study was to examine the relationship between judo and various aspects of adaptive behavior and self-concept in a population of mild mentally retarded male adolescent offenders living in a community-based residential treatment facility. Self-concept was measured utilizing the Tennessee Self Concept Scale. Adaptive functioning was measured utilizing the AAMD Adaptive Behavior Scale. The research questions were:

1. Will subjects in either treatment group demonstrate a significant increase in social competence (as measured by the AAMD Adaptive Behavior Scale)? Specifically:
   a. Will subjects in either treatment group demonstrate a significant increase in personal independence?
   b. Will subjects in either treatment group
demonstrate a significant increase in cognitive development?

c. Will subjects in either treatment group demonstrate a significant increase in social and personal motivation?

2. Will subjects in either treatment group demonstrate a significant reduction in extrapunitive behavior (as measured by the AAMD Adaptive Behavior Scale)?

3. Will subjects in either treatment group demonstrate a significant reduction in intrapunitive behavior (as measured by the AAMD Adaptive Behavior Scale)?

4. Will subjects in either treatment group demonstrate a significant increase in self-concept (as measured by the Tennessee Self Concept Scale)?

5. Will there be a differential effect between judo and socialization games on adaptive behavior or self-concept?

**Setting**

The study was carried out at a private residential treatment facility in the central Ohio area. This nonprofit organization provides residential treatment for adolescent boys whose behaviors are inappropriate or unacceptable for a variety of reasons: delinquency, parental alienation,
cognitive, educational and social handicaps, mental retardation, or developmental disabilities.

**Subject Sample**

The pool of subjects utilized in this study consisted of male adolescents placed in residential treatment who had been diagnosed as mild mentally retarded, adjudicated as delinquent minors, and who were willing and available to participate in the investigation. Prior to participation in the study, the parents and/or guardian of the subjects were sent a letter explaining the study and were requested to sign a consent form granting their approval regarding the subjects' participation in the investigation. Furthermore, all subjects were also required to sign a consent form, in accordance with research regulations stipulated by The Ohio State University (see Appendix B). None of the subjects had medical or physical disabilities that would have prohibited participation in a supervised judo program and all subjects had medical consent prior to their participation.

20 male adolescent subjects were included in this investigation. These subjects were matched for equivalence on the basis of age and length of residential care. From these matched pairs, subjects were randomly assigned to either the judo or socialization games treatment groups.
The judo treatment group consisted of 10 males aged 16-18 years (M=16.75 years, SD=5.17 months) and who had been in residential placement for a minimum of 6 months (M=10.5, SD=3.51). The socialization games treatment group consisted of an identical number of subjects in the same age range as existed in the judo treatment group (M=16.41 years, SD=6.03 months) and who had been in placement for a minimum of 6 months (M=10.5, SD=3.51), (see Table 1 for a summary of descriptive data).

In addition to the descriptive data mentioned previously, information regarding the nature of the subject's delinquency conviction was also attained (Appendix A presents specific characteristics of each subject relevant to this study).

The study also included information obtained from residential youth care staff who were most knowledgeable in regard to each subject's adaptive functioning, as well as the subjects' self-reported responses to a series of self-concept questions.

**Measures**

Two measures were employed in this study. Adaptive functioning was measured using the AAMD Adaptive Behavior Scale (Nihira, et al., 1969, 1975), a behavior rating scale
### TABLE 1

**SUMMARY OF DESCRIPTIVE DATA FOR TREATMENT GROUPS**

<table>
<thead>
<tr>
<th>Judo Subject</th>
<th>Age (Yrs-Mos)</th>
<th>Length of Placement (Mos)</th>
<th>Games Subject</th>
<th>Age (Yrs-Mos)</th>
<th>Length of Placement (Mos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17-5</td>
<td>9</td>
<td>1</td>
<td>16-1</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>17-1</td>
<td>17</td>
<td>2</td>
<td>16-1</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>16-7</td>
<td>7</td>
<td>3</td>
<td>16-3</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>17-4</td>
<td>16</td>
<td>4</td>
<td>17-2</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>16-9</td>
<td>7</td>
<td>5</td>
<td>15-9</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>16-4</td>
<td>8</td>
<td>6</td>
<td>16-1</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>16-3</td>
<td>10</td>
<td>7</td>
<td>16-3</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>16-1</td>
<td>7</td>
<td>8</td>
<td>17-1</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>17-0</td>
<td>15</td>
<td>9</td>
<td>16-5</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>16-8</td>
<td>11</td>
<td>10</td>
<td>17-3</td>
<td>6</td>
</tr>
</tbody>
</table>

Mean Age = 16.75 years  
SD = 5.17 months  
Mean length of placement = 10.5 months  
SD = 3.51 months

Mean Age = 16.41 years  
SD = 6.03 months  
Mean length of placement = 10.5 months  
SD = 3.51 months
designed to assess the current observable functioning of
the individual. As previously noted, the Scale is divided
into two parts. Part I, composed of ten domains, evaluates
skills and habits reflective of social competence
vis-a'-vis personal independence, cognitive development,
and social and personal motivation. Part II of the Scale
assesses thirteen domains of maladaptive behavior which can
provide an evaluation of an individual's manifested
extrapunitive (overt antisocial) and intrapunitive (covert
antisocial) behavior (Leland, et al., 1972).

For the purpose of this investigation, the ten Part I
domains were divided into three variables, as discussed by
Leland, et al, (1972), enabling a more comprehensive
clinical analysis of each individual's adaptive
functioning. First, each raw domain score was converted to
a decile score, based on the 1975 institutionalized norms
of mentally retarded individuals. The decile conversion
enables a comparison of an individual's adaptive
functioning with the norms for people within a similar age
range.

Second, the decile scores for the domains of
independent functioning, physical development and domestic
activity were averaged to create a score for the adaptive
behavior variable called personal independence. Similarly,
an average was computed from the decile scores for the domains of economic activity, language development, and numbers & time to yield a score for the variable of cognitive development. The decile scores for the domains of self-direction, vocational activity, responsibility and socialization were averaged to create a composite score for the variable of social and personal motivation.

For Part II of the Scale, the raw scores are perhaps more clinically meaningful than their deciled conversion (Leland, et al., 1972), and therefore the raw scores themselves were utilized in the analysis of this study. Part II domains were divided into four variables, and the score for each variable was derived by simply summing scores from the contributing domains. As suggested by Leland, et al. (1975) the domains of violent and destructive behavior, antisocial behavior, rebellious behavior and untrustworthy behavior were combined to create the variable of extrapunitive behavior. The domains of stereotyped behavior and odd mannerisms, inappropriate interpersonal manners, unacceptable or eccentric habits, self-abusive behavior, hyperactive tendencies and sexually aberrant behavior were combined to create a variable called intrapunitive behavior. The domains of withdrawal and psychological disturbances remained intact, and each
represented a unique variable. Information regarding the
domain of medication was not analyzed in this study.

Self-concept was measured using the counseling form of
the Tennessee Self Concept Scale (Fitts, 1965). As noted
previously, each of the items represents three design
facets: external reference (Physical Self, Moral-Ethical
Self, Personal Self, Family Self, Social Self), internal
reference (Identity, Self-satisfaction, Behavior), and
direction (Positive, Negative) (Fitts and Hammer, 1969).
The Scale is an objective Likert-type instrument which
yields a score for three internal and five external
dimensions of self-concept as well as a Total Positive
Score for self-esteem.

As suggested by Maskin and Flescher (1975), the Total
Positive Score was the only score utilized for this
investigation, as it best analyzes the overall self-concept
of the individual.

Procedure

Information regarding the adaptive behavior assessment
of the subjects was obtained from treatment staff
personnel. Both pre- and post-test data were completed by
the same individual. As the study also assessed the overall
self-concept of each participant, the subject was read the
self-concept scale items and chose one of five response options labeled from "completely true" to "completely false." Administration of the self-concept assessment was conducted in a group format.

Demographic information such as length of residential placement, age, and legal history were obtained from the subject's case file at the residential facility.

**Instructors**

Both the judo and socialization games instruction were conducted by the researcher without the presence of residential facility personnel.

**Judo Instruction**

**Pilot Study**

I did a brief pilot in 1975, of the effects of judo on the aggressive and antisocial behavior of two retarded, institutionalized adolescents, who had been selected by the institutional staff as representing residents with sufficient adaptive behavior skills to warrant release, but as having moderate to high antisocial behaviors. I met with the adolescents in training sessions twice weekly for eight weeks. As the institutional administration was concerned about possible adverse results from teaching bodily contact
skills to aggressive residents, I was constrained from teaching those elements of the judo program, and therefore, devised an extremely modified program of judo and other physical fitness exercises to increase strength, endurance, agility and the ability to fall without injury, along with sessions of judo etiquette, and repetitive verbal explanations of prosocial behavior.

When the student enters the judo environment, there are a set of expected behaviors. A judo session begins and ends with a bow, representing mutual respect and friendship between all persons, and gratitude to the protective environment of the mat. All that transpires on the mat must be non-hostile and without malice. In the judo setting, a student progresses toward gentle strength, respectful behavior, and behavioral self-control, at one's own pace, without criticism, without comparison to others, and with the quiet approval of the judo teacher.

In the first training session, only the students and I, as teacher, were present, to exemplify privileged aspects of the training. The rules were explained—that what was taught was confidential, that only fitness exercises could be practiced without supervision, and that misbehavior and failure to follow the rules would result in elimination from the program. Through my interaction with the young
men, I tried to exemplify the judo ideals of being nonjudgemental, respectful, flexibly responsive to intentions and feelings of others, and competent to deal with threat and aggression in a defensive, but non-competitive and non-retaliatory way. These behavioral goals were explained each session.

The boys in this pilot program began to report instances of their failure to live up to the behavioral expectations. Reports from the ward staff were further evidence of change.

One boy's record of weekly cottage restrictions for misconduct changed to a record of no restrictions which continued through a one-week post-session check. Chores were completed without prompting, and sufficient changes were reported to result in his being approved for release to a foster home.

The second youth, rated as highly manipulative and resistant to authority, showed little change until the fourth week. Thereafter, however, with minor exceptions, he earned no restrictions, was reported as completing his chores without prompting, as having ceased school truancy, and as practicing his exercises in his spare time instead of creating disturbances on the ward.
Present Study

In the present investigation, judo instruction occurred for one hour every week over a 20 week period. Early sessions were devoted to acquainting the boys with the judo environment, instructing them on traditional judo etiquette, and teaching them warm-up exercises. Middle sessions involved the learning of coordinated falling and recovery techniques. The later sessions centered around the acquisition of a major throwing technique (major hip throw).

Each training session began with the traditional opening ceremony and was followed by a ten to fifteen minute warm-up period. The judo instructor reviewed the techniques and skills attained in prior sessions, as well as reinforcing the concept that strength through a coordinated mind and body is used only towards positive outcomes or self-defense. New techniques were introduced and practiced, followed by a ten minute question and answer period (see Appendix C). The discussion period was not only a time in which technical problems were analyzed, but was often a forum for the boys to share with one another their successes in appropriately restraining themselves from potentially violent or aggressive episodes. As in the pilot program, the subjects were provided an opportunity to
discuss prosocial behavior. Each judo session ended with the traditional closing ceremony.

Socialization Games Facilitation

Socialization games activity occurred for one hour each week over a 20 week period. Early sessions were devoted to getting group members interested and enthused about the group experience and teaching basic group skills. The group facilitator focused on the fun value of the game while teaching members to sit in a group, maintain attention, follow directions, respect rules and take turns. Middle sessions placed more cognitive demand on members and required the ability to remain seated and wait for a turn because only one or two could play at a time. A variety of socialization goals (e.g. interpersonal distance, knowing about oneself, knowing about others, prosocial behavior, and social competence) were worked on as the program objective was explained as helping each member to interact positively with one another. The later sessions involved more advanced socialization games that were designed to sensitize group members to the approaching end of the games program (see Appendix D).
Data Analysis

In order to compare the differences in the overall performance of the subjects in the judo and socialization games treatment groups, as well as to evaluate the changes in performance shown by the subjects during the experimental period, a repeated measures analysis of variance was executed.

Following this analysis and in order to adjust for differences in pre-test means, an analysis of covariance was executed and the differences in post-test performance of the subjects in both treatment conditions were examined.
CHAPTER IV
RESULTS

This chapter analyzes, interprets and discusses the descriptive data collected during the conduct of this investigation.

The analysis of the first research question, which examined whether there would be a significant increase in social competence by subjects in either the judo or socialization games treatment, involved the measurement of three component parts: 1) personal independence, 2) cognitive development, and 3) social and personal motivation. Examination of the group means showed that over the 20 week treatment period both conditions improved in personal independence, while only the judo treatment improved in social and personal motivation. It must be noted, however, that a repeated measures analysis of variance was conducted on each of the social competence variables in relation to treatment condition and pre- to post-testing (trial). Results of the three analyses
indicated no significant differences for treatment conditions or trials (see Table 2).

The second research question in this study involved the examination of whether subjects in either the judo or socialization games treatment would demonstrate a significant reduction in extrapunitive behavior. As shown in Table 3, the results of a repeated measures analysis of variance revealed a significant main effect for both treatment condition ($F=4.71, p<.05$) and trial ($F=66.52, p<.001$), as well as significance for the interaction of trial by treatment ($F=18, p<.001$). As illustrated in Figure 1, the subjects in the judo treatment demonstrated a greater reduction in extrapunitive behavior than their counterparts in the socialization games condition from the pre- to the post-test. Examination of the initial and final group means indicates that the subjects in both treatment conditions improved in behavior over the course of this study.

The third research question tested examined whether subjects in either the judo or socialization games treatment would demonstrate a significant reduction in intrapunitive behavior. As shown in Table 4, the results of an analysis of variance revealed a significant main effect for both treatment condition ($F=9.81, p<.01$) and trial
TABLE 2

GROUP MEANS OF SOCIAL COMPETENCE VARIABLES
BY TREATMENT CONDITIONS

<table>
<thead>
<tr>
<th></th>
<th>Judo</th>
<th>Socialization Games</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Personal Independence</td>
<td>88.39</td>
<td>91.59</td>
</tr>
<tr>
<td>Cognitive Development</td>
<td>97.02</td>
<td>97.02</td>
</tr>
<tr>
<td>Social and Personal Motivation</td>
<td>82.45</td>
<td>88.23</td>
</tr>
</tbody>
</table>
TABLE 3

A REPEATED MEASURES ANALYSIS OF VARIANCE OF EXTRAPUNITIVE BEHAVIORS ACROSS TRIALS

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>15437.6</td>
<td>39</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Between Subjects</td>
<td>7773.6</td>
<td>19</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Treatments</td>
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<tr>
<td>Within Subjects</td>
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<td>20</td>
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<tr>
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<td>1345.5</td>
<td>18</td>
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</tbody>
</table>
FIGURE 1

Graphic Representation of Treatment Condition Means of Extrapunitive Behavior Scores Across Trials
### TABLE 4

A REPEATED MEASURES ANALYSIS OF VARIANCE OF INTRAPUNITIVE BEHAVIORS ACROSS TRIALS

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
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<th>p</th>
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<td>Treatments</td>
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<td>360</td>
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<tr>
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<td>Trials</td>
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<td>Trials X Treatments</td>
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<td>1</td>
<td>90.0</td>
<td>10.25</td>
<td>p&lt;.005</td>
</tr>
<tr>
<td>Error Within</td>
<td>158.1</td>
<td>18</td>
<td>8.78</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
(F=12.4, p<.005), as well as the interaction of trial by treatment (F=10.25, p<.005). As illustrated in Figure 2, the subjects in the judo treatment demonstrated a greater reduction in intrapunitive behavior than the subjects in the socialization games condition from the pre- to the post-test. Examination of the initial and final group means indicates that subjects in both treatment conditions improved their behavior over the course of the investigation.

With respect to the fourth research question, which examined whether subjects in either the judo or socialization games treatment would demonstrate a significant increase in self-concept, an examination of group means from the pre- to the post-test revealed that only the subjects in the judo treatment condition evidenced an improvement in self-concept (see Table 5). The results of an analysis of variance revealed no significant differences between treatment conditions or trials.

The fifth research question examined whether there would be a differential effect between the judo and socialization games treatments. An examination of the data revealed significant interaction effects (Trials X Treatment) for the variables of extrapunitive behaviors (F=18, p<.001), intrapunitive behaviors (F=10.25, p<.005),
FIGURE 2

Graphical Representation of Treatment Condition Means of Intrapunitive Behavior Scores Across Trials
<table>
<thead>
<tr>
<th></th>
<th>Judo Pre</th>
<th>Judo Post</th>
<th>Socialization Games Pre</th>
<th>Socialization Games Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total P</td>
<td>29.68</td>
<td>30.25</td>
<td>31.10</td>
<td>28.94</td>
</tr>
</tbody>
</table>
and psychological disturbances ($F=27.39$, $p<.001$).

An analysis of covariance was performed on the post-test group means across all variables tested in order to adjust for significant differences in pre-test group mean scores. As shown in Table 6, this analysis revealed a significant effect for the social and personal motivation variable ($F=7.43$, $p<.014$).

In addition to the five research questions noted above that were tested, two other variables measured from the AAMD Adaptive Behavior Scale, withdrawal and psychological disturbances, were subjected to the same repeated measures analysis of variance. As can be shown from Table 7, both treatment conditions demonstrated a significant reduction in withdrawal behavior from the pre- to the post-testing. However, neither treatment condition was more effective than the other.

As illustrated in Figure 3, the subjects in the judo treatment demonstrated a greater reduction in those behaviors suggestive of psychological disturbances than the subjects in the socialization games condition. Table 8 shows a significant main effect for both treatment condition ($F=8.05$, $p<.025$) and trial ($F=46.60$, $p<.001$), as well as the interaction of trial by treatment condition ($F=27.39$, $p<.001$). Examination of the initial and final
## AN ANALYSIS OF COVARIANCE OF SOCIAL AND PERSONAL MOTIVATION

<table>
<thead>
<tr>
<th>Source of Variance</th>
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<th>df</th>
<th>Mean Square</th>
<th>$F$</th>
<th>$p$</th>
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<td>7.43</td>
<td>$p&lt;.014$</td>
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<tr>
<td>Pre-test</td>
<td>4121.45</td>
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<td>4121.45</td>
<td>73.42</td>
<td>$p&lt;.0001$</td>
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<tr>
<td>Error</td>
<td>954.35</td>
<td>17</td>
<td>56.13</td>
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TABLE 7

A REPEATED MEASURES ANALYSIS OF VARIANCE OF WITHDRAWAL BEHAVIOR ACROSS TRIALS

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<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
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</tr>
<tr>
<td>Between Subjects</td>
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<td>19</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Treatments</td>
<td>.1</td>
<td>1</td>
<td>.1</td>
<td>.005</td>
<td>p&gt;.20</td>
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<tr>
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<td>19.75</td>
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<tr>
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<td>98.0</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Trials</td>
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<td>1</td>
<td>22.5</td>
<td>5.87</td>
<td>p&gt;.05</td>
</tr>
<tr>
<td>Trials X Treatments</td>
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<td>1</td>
<td>6.4</td>
<td>1.67</td>
<td>p&gt;.20</td>
</tr>
<tr>
<td>Error Within</td>
<td>69.1</td>
<td>18</td>
<td>3.83</td>
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</table>
Graphic Representation of Treatment Condition Means of Psychological Disturbance Scores Across Trials
TABLE 8

A REPEATED MEASURES ANALYSIS OF VARIANCE OF
PSYCHOLOGICAL DISTURBANCES ACROSS TRIALS

<table>
<thead>
<tr>
<th>Source of Variance</th>
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<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
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<td>-</td>
<td>-</td>
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<tr>
<td>Between Subjects</td>
<td>1676.5</td>
<td>19</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Treatments</td>
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<td>1</td>
<td>518.4</td>
<td>8.05</td>
<td>p&lt;.025</td>
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<tr>
<td>Error Between</td>
<td>1158.5</td>
<td>18</td>
<td>64.36</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Within Subjects</td>
<td>1599.0</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
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<td>Trials</td>
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<td>1</td>
<td>810.0</td>
<td>46.60</td>
<td>p&lt;.001</td>
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<tr>
<td>Trials X Treatments</td>
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<td>1</td>
<td>476.1</td>
<td>27.39</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>Error Within</td>
<td>312.9</td>
<td>18</td>
<td>17.38</td>
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</table>
group means reveals that subjects in both treatment conditions improved in behavior.

**Strengths and Limitations**

The findings presented in this dissertation are subject to customary limitations and restrictions on generalization because of sampling procedure, representativeness of the sample, and sample size.

The research was carried out in a private residential treatment facility. Although the sampling procedure employed and subsequent lack of randomization was necessary due to the limited available subjects, it also meant that the sample may not be representative of any larger public or private populations, thereby limiting the external validity of the results. The small sample size, although sufficient, also impinged on the generalizability of the findings and the ability to detect clinical differences in group means. Concomitantly, due to the paucity of available subjects, a control group was unavailable.

A major limitation of this investigation was the fact that this author was the sole instructor for both treatment conditions. The reasons for this breach in reliability were threefold: 1) to this author's knowledge, there were no other individuals available who were trained in both judo and mental retardation; 2) there were no other eligible
instructors to facilitate the socialization games group; and 3) the need to forward this dissertation. Under normal circumstances this limitation would present as an inappropriate methodology. However, it was felt that due to the exploratory nature of the study, the information to be gained outweighed the inherent limitations and future researchers could effectively tighten the design. Faced with the decision of either continuing this study in spite of the limitations or rejecting such, the dissertation committee believed that the research hypotheses were important enough to be tested.

Due to the fact that a post-testing session following a period of rest after the initial 20 week treatment was not a part of this study, it is not possible to determine whether the results evidenced were the result of a Hawthorn Effect or, if not, how long the treatment effects would be retained by the subjects.

In regard to the testing procedure, one must consider the possibility that a group administered self-concept scale may not be an appropriate method for assessment with this particular population.

While all research is subject to limitations, the present research notwithstanding, this study has several strengths that should be noted. First, research to date on
defective delinquents has been extremely limited and there have been very few empirical studies. The research that does exist has been primarily sociological, while this study examined psychological dimensions. Lastly, this is a unique study in that it is the only study which employed a methodology specifically designed to address the issues posed in this dissertation.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The literature reports many studies examining the effects of movement training on various developmental and adaptive behavior variables. However, there are virtually no studies that have dealt with the influence of judo training on the variables descriptive of defective delinquent populations.

The main purpose of this investigation was to compare the effects of two recreational interventions - judo training to socialization games - on the adaptive behavior (social competence, extrapunitive and intrapunitive behavior) and self-concept of mild mentally retarded male adolescent offenders in residential care. Also of interest was additional information culled from the adaptive behavior data regarding withdrawal behavior and psychological disturbances.
The subjects in this dissertation were 20 mild mentally retarded male adolescent offenders residing in a community-based residential treatment facility. All boys were between the ages of 16 and 18 years inclusive and had been in residential placement for 6 to 17 months. These subjects were matched for equivalence on the basis of age and length of residential care. From these matched pairs, subjects were randomly assigned to either the judo or socialization games treatment condition. Consent to participate was secured from legal guardians and the 20 residents. Medical consent was also obtained although none of the subjects had medical or physical disabilities that would have prohibited participation in either treatment condition.

Each subject was administered the Tennessee Self Concept Scale at the beginning and end of this study. Similarly, information regarding the adaptive behavior functioning of the subjects were also obtained.

Upon the completion of initial testing, both judo and socialization games treatment groups met for one hour every week over a 20 week period. The investigator was the sole instructor in each of these two programs (note discussion in Strengths and Limitations Section). No subjects were lost to attrition.
Both the initial and final tests were scored and analyzed by a repeated measures analysis of variance and an analysis of covariance. Separate analyses were performed for self-concept, personal independence, cognitive development, social and personal motivation, extrapunitive behavior, intrapunitive behavior, withdrawal, and psychological disturbances.

The research questions were as follows:

1. Will subjects in either treatment group demonstrate a significant increase in social competence (as measured by the AAMD Adaptive Behavior Scale)? Specifically:
   a. Will subjects in either treatment group demonstrate a significant increase in personal independence?
   b. Will subjects in either treatment group demonstrate a significant increase in cognitive development?
   c. Will subjects in either treatment group demonstrate a significant increase in social and personal motivation?

2. Will subjects in either treatment group demonstrate a significant reduction in extrapunitive behavior (as measured by the AAMD
3. Will subjects in either treatment group demonstrate a significant reduction in intrapunitve behavior (as measured by the AAMD Adaptive Behavior Scale)?

4. Will subjects in either treatment group demonstrate a significant increase in self-concept (as measured by the Tennessee Self Concept Scale)?

5. Will there be a differential effect between judo and socialization games in adaptive behavior or self-concept?

Since no research report was located by the investigator which dealt with a population of adolescent male offenders in residential care on any of the variables dealt with in this study, it was decided to test each of the hypotheses at the .05 level of statistical confidence.

The data were analyzed by graphic interpretation and a repeated measures analysis of covariance. These findings emerged:

1. Personal independence levels of subjects in both treatment conditions appeared to improve after 20 weeks, but the improvement was not statistically significant at
the .05 level.

2. Social and personal motivation levels of subjects in the judo treatment appeared to improve after 20 weeks, but the improvement was not statistically significant at the .05 level for the analysis of variance. However, the analysis of covariance, which adjusted for significant differences in pre-test group mean scores, revealed a significant effect at the .02 level of confidence.

3. The subjects in the judo treatment demonstrated a greater reduction in extrapunitive behavior than their counterparts in the socialization games condition from the pre- to the post-test at the .001 level of confidence.

4. The subjects in the judo treatment demonstrated a greater reduction in intrapunitive behavior than the subjects in the socialization games condition from the pre- to the post-test at the .005 level of confidence.

5. Self-concept levels of subjects in the judo treatment appeared to improve after 20 weeks, but the improvement was not statistically significant at the .05 level.

6. Both treatment conditions demonstrated a significant reduction in withdrawal behavior from the pre- to the post-testing at the .05 level of confidence. However, neither treatment condition was more effective than the other.
7. The subjects in the judo treatment demonstrated a greater reduction in those behaviors suggestive of psychological disturbances than the subjects in the socialization games condition at the .001 level of confidence.

Conclusions

Within the limitations of this investigation, the following conclusions can be drawn:

1. The use of a two-factor mixed design is appropriate for this type of investigation, since it permits comparison of the differences in the overall performance of the subjects in the two treatment conditions and also permits evaluation of the changes in performance shown by the subjects during the course of the experimental treatment.

2. Judo training may be a more effective vehicle for promoting improvement in maladaptive behaviors (AAMD Adaptive Behavior Scale Part II) than a socialization games program. This may be due, in large part, to the fact that a martial arts-based perceptual-motor training program appears to increase those behaviors which are related to personal and social motivation (Leland, Shoae & Vayda, 1972).
3. Judo training should be seriously considered as an inexpensive experiential treatment modality when program developers are planning treatment programs for mentally retarded juvenile offenders. Not only does the gross motor aspects of judo training appear to connect well with the physical orientation of a delinquent population, but the martial nature of judo appears to institutionalize the delinquent person's behavior and works toward their strength.

Recommendations

1. Future research could examine longer-term effects of judo training. Follow-up data is needed to learn whether judo training makes a cumulative contribution to prosocial behavior.

2. Since both interventions appeared to produce positive changes in behavior and yet, the judo training environment was rigid and disciplined while the games condition was much more loose and less disciplined, future research could examine what environmental arrangements are necessary in order to produce lasting and broad generalization of prosocial behavior.

3. A study, somewhat similar to the present investigation, which compares judo training to physical fitness training
and/or a specific perceptual-motor program.

4. A study utilizing a greater than 20 weeks time span of judo training would be informative, particularly as it relates to effects upon self-concept.

5. Replications of this investigation should be conducted with an increased number of subjects in order to utilize an experimental control group research design.

6. Research should be carried out analyzing the effects of judo training across other environments and different populations.

7. Replications of this investigation should be conducted with other judo instructors and socialization games facilitators.
## JUDO GROUP

<table>
<thead>
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<th>Subject</th>
<th>Criminal Offense(s) Resulting in Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Theft and Substance Abuse</td>
</tr>
<tr>
<td>2</td>
<td>Substance Abuse, Carrying a Concealed Weapon, and Unauthorized Use of A Motor Vehicle</td>
</tr>
<tr>
<td>3</td>
<td>Theft</td>
</tr>
<tr>
<td>4</td>
<td>Homicide</td>
</tr>
<tr>
<td>5</td>
<td>Substance Abuse, Possession of Drugs for Sale, Prostitution</td>
</tr>
<tr>
<td>6</td>
<td>Truancy and Runaway</td>
</tr>
<tr>
<td>7</td>
<td>Substance Abuse and Theft</td>
</tr>
<tr>
<td>8</td>
<td>Vandalism</td>
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<tr>
<td>9</td>
<td>Theft and Assault</td>
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<td>10</td>
<td>Prostitution and Possession of Drugs for Sale</td>
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### SOCIALIZATION GAMES GROUP

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</tr>
<tr>
<td>2</td>
<td>Assault and Burglary</td>
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<td>3</td>
<td>Abduction at Knife Point and Burglary</td>
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<tr>
<td>4</td>
<td>Assault and Theft</td>
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<tr>
<td>5</td>
<td>Substance Abuse and Vandalism</td>
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<td>6</td>
<td>Theft</td>
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<td>Vandalism and Assault</td>
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<tr>
<td>10</td>
<td>Substance Abuse and Theft</td>
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</tbody>
</table>
APPENDIX B

CONSENT TO PARTICIPATE IN STUDY FORMS
CONSENT TO PARTICIPATE IN STUDY

Dear (Parent/Guardian):

As part of the requirements for the completion of my doctorate at The Ohio State University, I have been given permission by (Name of Institution) to solicit the participation of (Name of Subject) in my research project. If you should decide to give your consent, I will be asking him questions related to how he feels about himself. I will also be getting information about his level of social and personal functioning from agency staff personnel. Most importantly, (Name of Subject) will be selected to participate in either a movement training group or games group for one hour every week over a 20 week period. Both activities are intended to improve a person's ability to get along better in placement and in the community.

I would also like permission to obtain information from his case file at the residential facility. The information may include: birthdate, length of placement and legal history. His identity and all information will be kept strictly confidential.

Although it is very unlikely, there is always a risk of injury and all participants will be required to have proof of medical consent. In the unlikely event of an injury, due to movement, bending, stretching, rolling, lifting and body contact, (Name of Subject) will receive immediate medical attention from the Staff Nurse and/or Children's Hospital.

By signing this consent to participate form, you understand what you have read and voluntarily agree. Furthermore, it is understood that you are free to withdraw your consent at any time after notifying the principal investigator without prejudicing future care and that no guarantee has been given concerning this treatment.

Date:____________________ Signed: ______________________

Person Authorized To Consent For Subject

Signed: ________________________

Jeffrey R. Greene, M.A.
Principal Investigator

Witness:________________________
CONSENT TO PARTICIPATION FORM

I would like you to be part of the study I am working on in order to complete my schooling at The Ohio State University. If you decide that you would like to be part of the study, I will be asking you questions about how you feel about yourself. I will also be getting information about you from your case manager. Most importantly, you will be selected to be in either a movement activity or games activity for one hour a week over a 20 week period.

I would also like your permission to gather information from your case file. The information may include: your birthday, how long you have been in placement, medical information, and your legal history. Your identity and all information collected will be kept very private.

Although it is very unlikely, there is always a risk that you may get hurt from lifting, falling or bumping into someone. In the unlikely event of injury, you will receive immediate medical attention from the nurse and/or Children's Hospital.

Please understand that you DO NOT have to participate in this study and you will not be punished or consequented in any way. If you wish to stop at any time, you will be allowed to do so. If you have any questions you may ask at this time.

By signing this form, it means that you understand all that you have read/has been read, and that you agree to be part of the study. A copy of this form will be given to you.

Date:_____________________ Signed:__________________________

Participant

Signed:

Jeffrey R. Greene, M. A.
Principal Investigator

Witness:__________________________
APPENDIX C

JUDO INSTRUCTION PROGRAM
JUDO INSTRUCTION PROGRAM

WEEK 1
1. Orientation to program
2. Proper etiquette
3. Explanation of rules and regulations

WEEK 2
1. Refresher from previous week
2. Introduction to warm-up exercises (stretches and isometrics)
3. Group processing

WEEK 3
1. Refresher from previous week
2. Advanced warm-up exercises (judo push-ups and two-person exercises)
3. Group processing

WEEK 4
1. Refresher from previous week
2. Introduction to falling techniques
3. Mat slaps from a prone position
4. Group processing

WEEK 5
1. Refresher from previous week
2. Back falls from a squat
3. Group processing

WEEK 6
1. Refresher from previous week
2. Back falls from standing position
3. Group processing
WEEK 7
1. Refresher from previous week
2. Introduction to side falls (pancakes)
3. Group processing

WEEK 8
1. Refresher from previous week
2. Review of all back falls and side falls
3. Group processing

WEEK 9
1. Refresher from previous weeks
2. Introduction to front rolls
3. Group processing

WEEK 10
1. Refresher from previous week
2. Continued front roll practice
3. Group processing

WEEK 11
1. Refresher from previous week
2. Front roll practice with obstacle
3. Group processing

WEEK 12
1. Refresher from previous week
2. Introduction to Major Hip Throw (O-Goshi)
3. Group processing

WEEK 13
1. Refresher from previous week
2. Loading (kuzushi and tsukuri) the Major Hip Throw
3. Group processing
WEEK 14
1. Refresher from previous week
2. Executing (kake) the Major Hip Throw from a static position
3. Group processing

WEEK 15
1. Refresher from previous week
2. Major Hip Throw practice - static
3. Group processing

WEEK 16
1. Major Hip Throw Practice - static
2. Group processing

WEEK 17
1. Major Hip Throw practice - static
2. Group processing

WEEK 18
1. Major Hip Throw practice with movement
2. Group processing

WEEK 19
1. Major Hip Throw practice with movement
2. Group processing

WEEK 20
1. Group processing of 20 week experience
APPENDIX D

SOCIALIZATION GAMES PROGRAM
SOCIALIZATION GAMES PROGRAM

WARM-UP PHASE

Socialization Goal Area: Interpersonal Distance

WEEK 1

1. Orientation to group with discussion of rules
2. Play "Guess Who"
3. Play "I Wish"

WEEK 2

1. Play "Imitation Chain"
2. Play "Do This..."

WEEK 3

1. Play "Make Me Laugh"
2. Play "Stare Down"

GAME PHASE

Socialization Goal Area: Knowing About Yourself

WEEK 4

1. Play "Are You Happy or Are You Mad?"
2. Play "Finish The Sentence"

WEEK 5

1. Play "Here's How I'm Feeling Today"
2. Play "I Feel Really Good About..."
3. Play "My Favorite Things"

WEEK 6

1. Play "Name Warm-Up"
2. Play "Stand UP If You Agree"
3. Play "Things We Like To Do Together"
Socialization Goal Area: Knowing About Others

WEEK 7
1. Play "Back-to-Back"
2. Play "Can You Pretend?"
3. Play "Find The Owner"

WEEK 8
1. Play "Find Your Friend"
2. Play "Honk If You Know" II
3. Play "I Know Something About You"

WEEK 9
1. Play "Put On The Thinkin' Cap"
2. Play "The Blindfold Game"

WEEK 10
1. Play "TV Star"
2. Play "We Have A Lot In Common"
3. Play "Whisper"

WEEK 11
1. Play "Who Am I Talking About?"
2. Play "Who's Missing?"
3. Play "Who's Talking?"

Socialization Goal Area: Prosocial

WEEK 12
1. Play "Friendship Chain"
2. Play "Helping My Friend Find His Stuff"

WEEK 13
1. Play "Help[ing My Neighbor" II
2. Play "I Have A Problem. How Can You Help?"
Socialization Goal Area: Social Competence

WEEK 14

1. Play "Being Responsible" I
2. Play "Being Responsible" II

WEEK 15

1. Play "Don't Lose Your Cool"
2. Play "Should I Ask For Help"
3. Play "The Greeting Game"

WEEK 16

1. Play "Who Can Help"
2. Play "Don't Lose Your Cool" I

TERMINATION PHASE

WEEK 17

1. Allow group to decide on game
2. Allow group to invent a game

WEEK 18

1. Play "We Had A Great Group"
2. Discuss feelings about the group

WEEK 19

1. Process the group experience and discuss what members have learned

WEEK 20

1. Play a game designed to communicate "Goodbye"

For the actual game procedures and materials, refer to Moxley, Nevil and Edmonson (1981).
BIBLIOGRAPHY


Covington v. Harris, 419 F. 2d 617 (D.C. Cir. 1969).


Lake v. Cameron, 364 F. 2d 657 (D. C. Cir. 1966).


