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UNDER SUCCESS AND FAILURE CONDITIONS.

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THE GOAL-SETTING BEHAVIOR OF CEREBRAL PALSY CHILDREN
UNDER SUCCESS AND FAILURE CONDITIONS

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THE GOAL-SETTING BEHAVIOR OF CEREBRAL PALSY CHILDREN
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THE GOAL-SETTING BEHAVIOR OF CEREBRAL PALSY CHILDREN
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CHAPTER I

INTRODUCTION

Until as recently as 10 years ago cerebral palsy was little known to the general public, and very little experimental work had been done in the area of the psychological functioning of the individual with cerebral palsy. A survey of the Psychological Abstracts by Holden (1952-1953) disclosed only 108 articles dealing with cerebral palsy over the twenty-year period of 1931-1951, 91 of these articles appearing during the five-year period, 1947-1951.

In recent years much attention has been paid to the psychological aspects of physical disabilities. One facet of the psychological functioning of the cerebral palsy individual, goal-setting behavior, has been touched on by many authors, and varied opinion has resulted as to the manner in which the cerebral palsy individual sets his goals.

The setting of goals is perhaps one of the most common and most important endeavors in which an individual engages. For this reason it is an extremely important prob-

lem in the study of human behavior. Goal-setting is involved in an individual's interests and attitudes, in his daily work and play, and in his interpersonal relationships. The setting of goals becomes a vital issue, then, in the study of personality.

In the physically handicapped, where motor defects often thwart goal-attainment, one could reasonably expect to find that the setting of goals is influenced by the severity, the duration, and the psychological meaning of the handicap to the individual. Goals are formulated by an individual on the basis of his psychological needs, and a major alteration of the physical apparatus of the individual will more than likely alter his psychological needs.

The cerebral palsy person, whose whole organism may be directly involved physically, is concerned in every area of endeavor with whether or not he can accomplish what he has set out to do. The simplest achievements for the physically normal person often become momentous problems for the cerebral palsy person. At the same time, the basic desire for goal-attainment exists within each individual. It is important, then, that this facet of behavior, goal-setting, in cerebral palsy children be studied.

Effects of Handicapping on Personality

If one looks over the literature on the effects of handicapping on the personality, one finds general disagreement. In the minority are such conclusions as those of

Barker, Wright, Myerson, and Gonick (1946) and Meng (1953). Barker et al. state, "The nature of the disability is relatively unimportant, within wide limits, so far as behavioral resultants are concerned" (Barker et al., 1946, p. 73).

Meng (1953) goes so far as to maintain that within the crippled individual's incapacity there may be factors which aid him in deriving an integrated personality. He feels that such factors as narcissistic satisfaction and diminished castration anxiety counterbalance the negative environmental factors. There are still other studies yielding negative results concerning behavioral differences between the physically handicapped and the normal individual (Cruickshank, 1949; Landis & Bolles, 1942; Wenar, 1953).

However, in spite of some experimental evidence, most writers on this topic seem to feel that physical handicaps do vitally influence the personality and behavior of the individual. Wenar states, "It follows, then, that a motor apparatus which is met intact should present problems which affect the child's entire personality structure" (Wenar, 1953, p. 123). Phelps (1941), Bender (1949), Landis and Bolles (1942), Cutsforth (1948), and Halpern (1953) essentially agree with Wenar. Halpern states, in speaking of the handicapped child, "His failure to achieve at levels commensurate with the standards he has set for himself in various areas of experience produces multiple frustrations" (Halpern, 1953, p. 228).

In a study of the personality of the athetoid and the spastic, two subgroups of cerebral palsy, Block (1955) found no significant differences in personality between the two. However, he concluded that these people are maladjusted in their self-concepts and attitudes. At the same time, he reported, in an earlier survey of the theories on how physical handicaps affect the individual, that there is no organized and consistent body of theory in this area.

Cruickshank and Dolphin, in a preliminary to their study of a comparison of the needs of a group of crippled and normal children, summarize the conflicting evidence thus:

Accurate knowledge of the degree to which physically handicapped children approximate their non-handicapped playmates insofar as emotional and social characteristics are concerned is not available....Studies are available which, on the one hand, demonstrate that crippled children are less well adjusted than non-crippled children. Similarly, each of these studies can be matched by one which shows that crippled children as a group are equally as well adjusted or better adjusted than their non-crippled contemporaries (Cruickshank & Dolphin, 1949, p. 33).

Effects of Handicapping on Goal-setting Behavior

Further survey of the literature reveals several studies dealing with the more specific problem of the effects of a physical handicap on an individual's goal-setting behavior. The observations made do not follow a consistent course and indicate the need for further research.

Landis and Bolles (1942), in their study of handicapped women, observed that those handicapped since early life usually have goals congruent with their handicaps. However, it appears that their conclusions along this line were based not so much on specific experimental evidence as on subjective impression.

From her experience in evaluating and studying over 300 cerebral palsy children, Lord (1937) has stressed the importance of the problem of goal-setting by these children. She has observed that the disparity between the goals of the cerebral palsy child and his ability to achieve them is an important determinant of his emotional and social adjustment. In her work with these handicapped children she found that very often there was a great discrepancy between the aspirations and the physical capacity to carry them out.

Klapper and Werner (1950) studied three pairs of identical twins, in which one of each pair was a cerebral palsy victim and the other was normal. Although they found one of the handicapped children with a tendency toward overambition, they did not report finding any significant disparity between aspiration and achievement in the other two cerebral palsy children.

Rotter's study (1943) dealing with the nature and stability of personality traits and their influence on differences in an aspiration level situation involved one group of crippled college students including polio, cerebral

palsy, and amputee subjects. Rotter found that this group had significantly lower goal-discrepancy scores than a control group of non-handicapped subjects. (A goal-discrepancy score, often referred to as a D-score, is the difference between the immediately prior performance and the following aspiration level). He had hypothesized that crippled people think of themselves as handicapped and unable to reach as high attainment as other people and, therefore, develop feelings of incompetency as a characteristic approach to life problems involving self-evaluation.

In an extensive study Heisler (1951) investigated the goal-setting behavior of crippled and non-crippled children. Basing her research on a theory of self-concept as related to the body image, she used the level of aspiration technique as a means of studying goal-levels. Both physical and mental tasks were used under success and failure conditions, and measurements were taken in D-scores. Using D-score means, she found no significant differences between groups on either task and no significant differences between success and failure trials.

Heisler's study may be viewed critically in a number of its aspects. Of special significance is the heterogeneity of her subjects from both the standpoint of type of crippling and the age of onset of disability. She included many different types of physical disabilities (cerebral palsy, polio, spinal bifida, etc.) in her sample and for

subject eligibility set only a criterion of at least one year's duration of disablement. Further, she did not control for premorbid emotional adjustment, severity or extent of crippling, or age of onset. The question might be appropriately raised as to the importance and contribution of these variables in goal-setting behavior.

Goal-setting Behavior of Cerebral Palsy Children

The only experimental study dealing specifically with the goal-levels of cerebral palsy children is that of Wenar (1953), who hypothesized that the goal-levels of the handicapped child differ significantly from the goal-levels of the non-handicapped child. He used three groups, a control group of physically normal subjects, a second group of mildly involved cerebral palsy children, and a third group of severely involved cerebral palsy children. Admitting at the outset that he didn't know what to predict, he set up a level of aspiration experiment, using D-scores as his measurement. Although he found no significant differences among his three groups, he found interesting differences in the patterns of goal-setting over the five trials used. He reported that the group of normal children progressively lowered their levels of aspiration on each trial but that the cerebral palsy children initially lowered their goals and then increased them.

The results of the Wenar study, Heisler's, and others, suggest the need for the use of further measure-

ments beyond the D-score. This score seems to be the only one used for the most part, but it may be insufficient by itself as well as an inadequate scoring technique for getting at possible differences in goal-setting behavior.

It may thus be seen that very little research has been done in the area of goal-setting behavior of cerebral palsy individuals. Most of the literature pertinent to this area has reported subjective and uncontrolled observations, and, while this type of theorizing has its place, it seems necessary to study experimentally these observations further. Cerebral palsy subjects provide an experimentally relevant group in studying goal-setting behavior because their handicap exists from birth. Since age of onset of the handicap is at birth, there is no premorbid history to be taken into consideration.

Most of the literature dealing with the topic of goals of the cerebral palsy individual simply conclude that these people differ in their goal-setting from physically normal people. The specific conditions under which goal-setting may vary have not been greatly considered, and the effect on the setting of goals when there is involvement or non-involvement of the person's physical disability has been ignored. Hence, it would appear that investigators need to determine (1) whether the goal-setting behavior of cerebral palsy children is different from that of physically normal children, (2) whether the direct involvement of their handi-

cap is a differentiating factor, and (3) whether success and failure experiences differentially affect their goal-setting behavior.

Level of Aspiration

The most comprehensive survey of the literature and discussion of the concept of level of aspiration is that of Lewin, Dembo, Festinger, and Sears (1944). In this reference is presented an over-view of aspiration level theory, technique, and research.

In explaining the psychological dynamics behind the aspiration level, Frank points out that on the one hand the subject desires as many successes and as few failures as possible and therefore tends to keep the level of aspiration low. On the other hand, "the ego-level tends to be kept high at all costs. Since the level of aspiration in a particular task is part of the ego-level, it may be presumed to have this property also" (Frank, 1938, p. 287). The level of aspiration on any one occasion, then, as Frank views it, represents a compromise between the desire to achieve success (or avoid failure) and a desire to keep the ego-level high.

From a different theoretical framework but with essentially the same rationale as to the nature of the aspiration level, Murphy's theory (1947) converges with that of Frank. He postulates two selves: A "self observed" or the self most realistically viewed; and a self as "some-

thing to be realized," a goal-striving self. For Murphy, it is the interrelation of these two selves which determines or lies behind the concept of aspiration level.

In a less theoretical and more concrete explanation of the level of aspiration, Sears made this observation:

It is obvious that different individuals have had past success in varying degrees in the achievement of ego-gratification with various tasks all possessing ego value. It is a reasonable assumption that these differences in success will influence the individual's anticipation of future gratification in the further performance of these tasks. One way in which such anticipation may be expected to show itself is in the verbally-stated goal of the individual's efforts--the level of aspiration (Sears, 1940, p. 500).

An individual's level of aspiration behavior seems to be a fairly consistent and general characteristic from task to task and from experimental task to real life situations (Frank, 1935; Frank, 1941; Heathers, 1942). Heathers viewed the problem from the standpoint of the effects of success and failure experiences on the level of aspiration. "The studies concerned . . . have, for the most part, reported a high degree of correspondence between reactions to success and failure in the laboratory and in life situations" (Heathers, 1942, p. 392).

Of the many investigations conducted using the level of aspiration in success and failure situations, three deserve special consideration here. Sears (1940) dealt extensively with level of aspiration of school children and

its relationship to their success and failure experiences. She used three groups of children with varying degrees of success and failure in reading and arithmetic. Using an aspiration level technique she then compared these groups under experimental conditions of success and failure on reading and arithmetic tasks. She found that the group of children having had previous successful academic experiences in the subjects concerned had low positive D-scores, more flexible levels of aspiration, and levels of aspiration more responsive to upward and downward directions of their performance. The children with an academic history of failure, however, had higher D-scores, were less flexible, and were less responsive to performance.

Simon, Shaw, and Gilchrist (1954) conducted an aspiration level study in which, through use of bogus scores, they brought about objectively defined situations of successful, failing, and inconsistent performance. They found that where previous performance, as defined by bogus scores, was inconsistent, the subject's level of aspiration was more closely tied to the performance score than when previous performance, successful or failing, was consistent.

The investigation of Heisler (1951), which has been previously discussed at greater length, used the aspiration level technique to determine the goal-levels of the subjects under success and failure conditions. It will be recalled that she found no significant differences between success

and failure trials in her groups of crippled and non-crippled children.

Symonds drew the following conclusions in his discussion of the effects of success and failure upon the aspiration level:

Those with habitual failure tend on the average to set higher levels of aspiration (in terms of goal discrepancy) than those with habitual successes. Those with habitual success, being under no pressure to have to prove themselves, can set their goals very much on the same level as past performance. Those who have failed, however, feel the necessity for greater striving in order to overcome the failure and consequently set their goals higher in relation to past performance (Symonds, 1951, p. 96).

He observed that some individuals with habitual failure tend to give up and to accept their poor achievement as representative of the extent of their capabilities. In so doing, such people lower their level of aspiration. Thus, according to Symonds, two attitudes and subsequent approaches may be taken by individuals who have failed extensively.

Theory of Goal-setting Behavior of Cerebral Palsy Children

One of the major factors determining an individual's goal-setting in any specific area of endeavor is his background of experiences in that general area. Only through adequate and sufficient exposure to general areas of activity, running, throwing a football, jumping rope, etc.,

can an individual build up a backlog of experience, a frame of reference, from which to make an appropriate self-evaluation as to performance in a forthcoming situation. Lewin has observed that, "Objectivity cannot arise in a constraint situation; it arises only in a situation of freedom" (Lewin, 1935, p. 177).

One of the primary problems faced by the cerebral palsy child is lack of physical adeptness. Cerebral palsy is most usually defined as a physical impairment: "A condition, characterized by paralysis, weakness, incoordination, or any other aberration of motor function due to pathology of the motor control center of the brain" (Perlstien, 1949, p. 128). The problem of physical limitation seems to be a crucial determinant of the capacity with which the cerebral palsy individual can make an accurate self-appraisal. The cerebral palsy child commonly has limited motoric and often limited verbal skills and therefore has limited opportunities for locomotion in, or verbal communication with, his environment. Because he is more limited in everyday activities than the physically normal child, he has relatively less opportunity to succeed or fail on a variety of tasks, to compare and align many of his aspirations with his abilities, and to experience social reactions to many of his goal-strivings.

In writing about the development of a realistic approach to the environment, Frumkes says,

This process requires the development of attention, memory, thought, and the ability to make impartial judgments. This means that motor discharge must be postponed, restrained, and otherwise converted into action directed towards changing reality rather than merely discharging tension (Frumkes, 1953, p. 123).

Meng (1953) feels that physically crippled people have to become "virtuosos" in the activities in which they are limited in order to fulfill the demands made upon them. At the same time he believes these individuals live in fear that they will not achieve to perfection. Such pressures and fears may result in difficulty in the selection of suitable and attainable goals.

Meng develops the point that the handicapped child, because of his difficulty in engaging in normal play activities, is impeded in his development from the pleasure principle to the reality principle. His observations lead him to conclude that these children "mature" too early, and thus their understanding of themselves and the world about them is superficial. He feels that they have little contact with reality.

Block, in his study of two subgroups of cerebral palsy patients, found that these children have compulsive needs to enhance self-esteem in order to compensate for their feelings of inadequacy. In reference to goal-setting specifically, he theorizes that in order to meet their needs of enhanced self-esteem they live in fantasy "which may be bolstered by the barrier to real accomplishments posed by

the disability" (Block, 1955, p. 81). Contrary to the findings of Landis and Bolles (1942), he found that his subjects tended to show unrealistic levels of aspiration.

It would seem, then, according to most observations in the literature, that many of the cerebral palsy child's aspirations and goals are formulated and held without regard to performance or to appropriateness. Because the child does not have ample opportunity or adequate physical skills and because of demands, either real or imagined, placed on him, he may not test the appropriateness of his goals against his performance.

At the same time a review of the literature reveals that, while he finds himself limited in his ability to perform some tasks, the cerebral palsy child often can perform with a high degree of competency tasks which call upon skills outside the areas of his handicap. On such tasks he has had more opportunities to make a comparison between his aspiration and his performance. Additionally, he has experienced more successes to reinforce his goal-settings or more failures to discourage his inappropriate goals. Landis and Bolles in particular have recognized this difference of ability in their study of handicapped individuals. They state, "Most handicapped persons have several fields of activity in which they can compete adequately with normal people of their own age" (Landis & Bolles, 1942, p. 40).

In this same connection Barker et al. present a somewhat detailed summary of the social and behavioral history of two girls, Beverly and Marcia, both handicapped by poliomyelitis from early age. Although both girls were found to have several activities in common with non-handicapped people, Beverly, because of her lesser physical disablement and the greater overlap of activities in which both a non-handicapped individual and she could participate, was described as in an "overlapping" situation. In summarizing the overlapping of the handicapped individual's performance-abilities these authors state, "A more or less extensive range of activities is open to both the physically normal and the physically defective on equal terms, and it is possible for an individual to pass from one group to the other under some circumstances" (Barker et al., 1953, p. 102).

Thus, it is seen that cerebral palsy children have greater opportunities in certain areas of endeavor than in other areas for experiencing active goal-setting and for learning which are more appropriate or inappropriate aspirations. At the same time, it is not known how this inconsistent and often times erratic physical functioning influences their choice of goals. There seem to be no studies which have investigated experimentally what differences may exist in goal-setting in the areas where physical disabilities hinder performance as compared with

goal-setting in those areas in which physical disabilities do not interfere with performance. Conceivably, their manner of setting goals could be a general characteristic of the cerebral palsy child or a characteristic determined by specific conditions. That is to say, the cerebral palsy child may go about the setting of goals for himself in the same manner both in the situation where his handicap is involved and in the situation where it is not involved, or he may have different approaches in his setting of goals dependent upon the involvement or non-involvement of his handicap in a situation.

Another problem, in addition to the lack of physical adeptness, influencing the formation of the cerebral palsy child's goal-levels is that of inadequacy, particularly within his own family, of interpersonal relationships essential for stable personality growth (Barker et al., 1953; Bice, 1952; Cruickshank & Dolphin, 1949; Cruickshank & Raus, 1955; Wrightstone, 1957). Within the family of the cerebral palsy child often exist frustrations, disappointments, pressures for achievement, over-protection, the setting of his goals by adults, and other similarly emotionalized attitudes and behaviors related to the child's lack of "normal" achievement and productivity. His friends and family may fail to allow the crippled child ample time or opportunity to make use of his physical capacities, or they may ridicule or pay little attention to his aims and goals.

Lord (1937), Kammerer (1940), Oettinger (1938), and Rosenbaum (1943), among others, have made comments regarding the intimate relationship between unfavorable parental attitudes toward crippled children and the development of emotional attitudes in such children. In summarizing these authors' comments, Cruickshank states:

The closeness of the relationship is of such importance as to demand that in the study of the growth and development of crippled children, the parental attitude, the cultural attitude, and the attitude of peers and siblings must be carefully evaluated. The impact of these attitudes on the maturation of the child must be noted and ascertained as one undertakes to provide the crippled child with experiences and activities which purport to enrich the child's life and to further his adjustment (Cruickshank, 1955, p. 319).

Roe (1952), in interviewing 80 parents of cerebral palsy children found, of the 66 parents willing to discuss why they felt their child was handicapped, that all had some guilt feelings in reference to their handicapped child. From among 30 cerebral palsy adults interviewed, he elicited statements to the effect that they felt they were bad as children and thus were punished by being handicapped. Twenty-four percent of the parents openly admitted they babied their cerebral palsy children. Since simple, straight-forward questions were used in Roe's interview, some of the parents either might not have been consciously aware of their manner of approach to their children or on negatively charged questions were unable to admit openly their behavior. Therefore, the percentage of parents

babying their cerebral palsy children actually may be higher than he found. He discovered, too, that only 2.5% of the parents thought their children should have handicapped friends, the attitudes of the other parents suggesting a denial of the child's "abnormality" and a pressure for physical conformity.

In some of the earliest literature in the area of parental attitudes toward crippled children, Allen and Pearson (1928) set forth three types of response which they consider detrimental to the child's development. Overprotection of the child, outright rejection, and resentment of the child for the burden he imposes are the attitudes they have noted in parents of crippled children.

Lord (1937) notes that parents try to compensate for the child's physical incapacities by stressing intellectual achievement. Meng (1953) maintains that parents of handicapped children tend to thwart the normal narcissistic needs of children by spoiling, overindulging, or rejecting. Cruickshank and Raus state, "Many parents of the cerebral palsied acknowledge that they overprotect and pamper their handicapped children. In group or individual counseling this is a most common admission to both present authors" (Cruickshank & Raus, 1955, p. 122). In the same context these authors also point out, "Only a minority of parents deny that they have felt guilty because of the condition of the child" (Cruickshank & Raus, 1955, p. 122).

Barker et al. (1953) summarize the findings of a number of studies on the attitudes toward handicapped individuals. They report rather clear evidence that parental attitudes toward the handicapped child center about oversolicitude, rejection, inconsistency of attitudes, overprotection, and pressures for the child's accomplishing beyond his abilities.

Prejudices and negative reactions toward the person afflicted with cerebral palsy are often found outside of the immediate family. Members of the general public as well as the child's friends quite often view him with curiosity, pity, or disgust, and they may relate to him very cautiously or solicitously because of their own fears and guilts. Cruickshank and Raus observed, "Basically different attitudes are expressed towards the cerebral palsied child by the members of the society of which he is a part from those expressed towards physically normal peers" (Cruickshank & Raus, 1955, p. 120).

Meng (1953) believes that even today many physically normal people have intense fear of handicapped individuals. He feels that such fear results from an unconscious belief that the disabled are evil and dangerous. Thus, whatever the superficial response may be to the handicapped person, the underlying attitudes, according to Meng, are those of rejection.

An illustration of the extreme attitudes often held

toward handicapped individuals is the description given by Oman of an ancient oriental society's reaction to such individuals in time of stress.

When a city suffered from plague, famine, or other public calamity, an ugly or deformed person was chosen to take upon himself all the evils which afflicted the community. He was brought to a suitable place, where dried figs, a barley loaf and cheese were put into his hand. These he ate. Then he was beaten seven times upon his genital organs with squills and branches of the wild fig and other wild trees, while the flutes played a particular tune. Afterwards he was burned on a pyre of wood of forest trees; and his ashes were cast into the sea (Oman, 1908, p. 12).

Experimental findings and personality theories point to the necessity of an individual's having sufficient positive relationships with other people in order to develop an adequate contact with reality (Horney, 1937; Ribble, 1944; Sullivan, 1947). It is conceivable that the cerebral palsy child often finds it necessary to set his aspirations unduly high in order to keep his goals on a level with his non-handicapped peers and to gain social recognition and approval. In this respect the attitudes of the family and the public might be expected to contribute to the child's incapacity for realistic appraisal of his potentialities and, therefore, to his selection of inappropriate goals for himself. On the other hand, the reaction to the child may be more positive when he is performing in areas in which he has some proficiency and more negative when his handicaps exhibit themselves more fully. Faced with potential incon-

sistent family and public acceptance or rejection, the variability and manner of the goal-setting behavior of the cerebral palsy child may be determined in part by the extent of involvement of his handicaps.

The peculiar psychological situation of the cerebral palsy child brought about by his lack of physical adeptness and by the inadequacy of his interpersonal relationships might be studied within the framework of current perception-personality theory. Much experimental evidence has come forth in recent years on the nature of perception as related to the extent of structure in the stimulus field and the condition of the perceiver's needs (Bruner & Goodman, 1947; Bruner & Postman, 1947; Levine, Chein, & Murphy, 1942; Sanford, 1936). In the clinical field, use is made of these findings in the design and interpretation of the Rorschach test and other projective instruments. One of the underlying assumptions of projective techniques is that the less definitive the stimulus material, the greater the opportunity the perceiver has to provide and fill in the structure on the basis of his own individual personality.

Central in this aspect of perception-personality theory is the postulation of needs or tension-equilibrium processes within the individual which determine, together with the external stimulus material, what is perceived and how it is perceived.

Most personality theories treat the appraisal and mastery of reality. This function of reality

testing mediates between inner demands and outer imperatives. The placating formulae which a person develops--his equilibrating mechanism--are his ego-control system. It is this that perception can tell us most about. All theories of adaptation assume in one way or another that functioning is directed to resolve tension and to reach an equilibrium between the inner and the outer, and perception helps to accomplish this (Klein, 1951, p. 330).

Krech (1950) refers to "Dynamic Systems" as the major hypothetical construct of his theory, Bruner and Goodman (1947) refer to needs and values, while Lewin (1935; 1936) has personality and perception emanating from psychical systems. It is to Lewin that the theoretical orientation of this study turns, for he has perhaps unified most completely the concept of goal-directed behavior in its relationship to perception and personality.

Lewin conceives of personality as a "differentiated region of life-space" (Lewin, 1936, p. 216), "an organization of interrelated psychical systems" (Bronfenbrenner, 1951, p. 212), a psychical system denoting a disposition to respond in a particular way to selective aspects of the psychical field. "The person, dynamically, is a totality of systems" (Lewin, 1935, p. 186). In the early stages of personality development the systems are relatively undifferentiated and few in number.

Lewin believes that the first consideration for the understanding of the child is the determination of his regions of freedom of movement, those regions which are accessible to him and those regions which are not because

of his physical or intellectual limitations. "Whether his region of freedom of movement is large or small is of decisive significance for the whole behavior of the child" (Lewin, 1935, p. 80). He recognizes that many goals set up by the physically handicapped individual can not be attained because of his limited physical ability and, at the same time, that the extension of the region of freedom of movement in the child is one of the major aspects of growth.

Lewin theorizes that the way in which adults structure the life-space of the growing child, his world of awareness, dictates the degree of his intrapsychic structure. The cerebral palsy child whose physical disabilities necessitate the more extensive structuring of his environment for him may have less opportunity for the expansion, differentiation, and stabilization of his psychological systems. The parents' world of frustration, of pressures for achievement, and of goals for him is more definitively his world. His own physical incapacities limit his experiencing and expanding his field of awareness.

In regard to this aspect of the child's functioning, Lewin is very explicit in his system. If there is a growing differentiation of personality, then there is a greater richness of conceiving and observing, and the child learns increasingly to control his environment. Lewin observes that the more differentiated individual has more possibilities of conceiving differently a situation. He

maintains that if a situation is unsatisfactory, as in non-attainment of goals, a change in the psychological field will occur earlier in the more differentiated child. "Thus . . . there exists a functional equivalence between a higher degree of differentiation of the total system and a greater mobility of the person in the face of a given situation or task" (Lewin, 1935, pp. 233-234).

The physically handicapped child, because of his limited opportunities, thus could be expected to be less mobile, less flexible, less reality-bound in his setting of goals. It is conceivable that his goal-setting behavior may be dependent upon, or may be a function of, his specific areas of limitation or may result from a general personality characteristic or may depend on whether or not he were functioning in areas where his physical handicap is involved.

Lewin's views on interpersonal relationships of children in general are directly related to the observations made of faulty interpersonal relationships in which the cerebral palsy child is so often involved.

Too strong or too extensive alien spheres of power may lead to a real oppression of the child or to a particularly violent revolt. This is equally true in cases of too great strictness and of too great fondness. In either case the child has not enough life-space in which the valences and other dynamic properties of his psychological environment may be determined by his own needs (Lewin, 1935, p. 99).

At another point, in talking specifically about

the level of aspiration, he is aware that a goal decidedly at variance with the child's ability may result from "the demands of adults or by the performance of comrades" (Lewin, 1935, p. 100). He stresses the influence of adults upon the nature of the goal-setting behavior of the child through their aims, goals, and the child's identification with the parents.

Another factor of importance to Lewin in regard to the formation of goal-setting behavior in the child is the necessity of opportunities for the child to set goals and to have the freedom to attempt to attain them if he is to learn to set realistic goals for himself (Lewin, 1935; Lewin, 1948). "To be sure, it is necessary that the child who has chosen his own goal be not spared the difficulties of attaining it, neither the difficulties of social life nor those of physical materials" (Lewin, 1935, p. 177).

It is in the experiencing of the barriers to the attainment of a goal, in part, that the child develops an objective reality. In another context Lewin states that, after the child has met with such a barrier several times and has faced the consequences, the barrier takes on a negative meaning and casts its influence for adjustive behavior. Lewin recognizes also the necessity for a variety of goal-striving experiences.

Only in a sufficiently free life-space in which the child has the possibility of choosing his goals according to his own needs and in which, at the same time, he fully experiences the ob-

tial to the development of personality. These three kinds of activity are goal-projecting activity, the activity of selective perception and the appropriation of objects related to life-goals, and the use of all one's facilities toward the fulfillment of goals. He stresses that, for a healthy concept of reality, the individual must be given the opportunity for the imagining and pursuit of goals.

"The individual can formulate his personal goals in the private realm of free imagination . . . but he must seek and find the material and content of his life outside himself in the real world of people and things" (Wright, 1937, p. 227).

Wright feels that the discrepancy between one's goals and his abilities must be resolved at the outset if the individual is to function in the most integrated manner. He summarizes this whole problem thus:

Some conflict is bound to arise between the goal of the individual's desire and ambition and the hard fact of his capacity and situation in life--and frequently this conflict is severe. Such conflict must be dealt with and overcome at the start if the individual is to escape disaster in later life He must discover among social-behavior patterns and physical event sequences which thus present themselves, possibilities of pursuit and attainment in harmony with his life-aims, must respond to these and reject or neglect others. In so doing he must proceed . . . by direct perception (Wright, 1937, p. 226).

Hart has the same basic theoretical orientation in respect to need-tensions and the actual experiencing and mastering of the environment. He approaches the problem of

reality-stabilization through the pleasure principle and libidinal cathexes theories of Freudian psychology. For Hart, it is the libidinal attachment and fantasy of ultimate obtainment of objects and goals and the person's belief in the pleasure-giving quality of the real world which holds him to reality. "The child must content himself with fantasy knowing fully that the real pleasure is greater" (Hart, 1946, p. 293). However, the individual must be capable of obtaining the pleasures of the real world. Hart says, "All of this, however, involves mastery which is in itself a means of pleasure. Learning to walk at one year may give as much pleasure as learning to ride a bicycle at ten or to drive an airplane at twenty" (Hart, 1946, p. 293).

On the basis of a summary of the literature, it would seem, then, that the cerebral palsy child might differ in his goal-setting behavior from the physically normal child. The major factors which have been set forth as determining the child's goal-levels, that is, experiences of goal-setting and active goal-striving and primary group influences, are those factors so importantly involved in the cerebral palsy child's life.

If presented a task with minimal cues as to quality of performance, the cerebral palsy child will be provided with a situation where his inner needs may more completely express themselves as aspirations. Such a task should provide more opportunity for the child's limited experiences and

the incorporated parental attitudes to reveal their influence on the formation and pattern of his goals. If these children are less differentiated, less flexible, and have a narrower range of experiencing, then a less structured task rather than a more structured task will allow for a greater influence of these factors.

It would seem important also to determine how success and failure experiences might affect the cerebral palsy child's setting of goals. In light of his physical limitations and his frequent involvement in negatively toned interpersonal relationships and from observations made by this experimenter and others (Block, 1955; Cutsforth, 1948; Rotter, 1943; Siegel, 1954; Wenar, 1953), the cerebral palsy child seems to be an individual experiencing fewer successes and more failures than the non-handicapped child. For the purposes of this study, a success experience is defined as one in which the individual's self-esteem is enhanced; a failure experience is defined as one in which the individual's self-esteem is threatened or lowered; and a neutral experience is defined as one in which the individual's self-esteem is neither raised nor lowered to an appreciable degree.

Siegel's findings (1954) that the cerebral palsy child will persist longer in his efforts under frustrating failure conditions than the non-handicapped child suggests a lack of his ability to set appropriate goals for himself

when faced with failure. In addition, the fact that success and failure for the cerebral palsy person are so erratically experienced (i.e., in some areas of endeavor his performance is adequate and in other areas it is not) leaves open to question the impact of these success and failure experiences on his capacity for self-appraisal of his abilities. Siegel (1954) concluded that cerebral palsy children are so used to failure that further failure experience has less impact on them than on normal children under such experiences.

Research in this area is of great importance, for experimental findings on the goal-levels of cerebral palsy children under varying conditions can make a contribution toward planning their treatment program. The results of this study could potentially offer to those who work with cerebral palsy children greater awareness of some of the problems these children face in attempting to adjust to their environment.

Problem

The problems with which this study concerns itself are (1) how cerebral palsy children compare with physically normal children in the setting of goals, (2) how cerebral palsy children whose handicap is involved in performance compare with cerebral palsy children whose handicap is not involved in performance in the setting of goals, and (3) how success and failure experiences influence the setting

of goals in cerebral palsy children as compared with non-handicapped children.

In order better to study extreme experiences of success and failure, the addition of an intermediate or neutral experience seemed desirable for purposes both of defining the relative position of success and failure on a continuum of experience and of studying the nature of goal-setting under conditions which ordinarily would not arouse extreme emotional reactions.

These hypotheses were tested:

1. Cerebral palsy children are less responsive to their past level of performance in the setting of goals than are physically normal children following neutral, success, or failure experiences.

2. Cerebral palsy children whose physical disabilities are little involved in performance of a task are more responsive to their past level of performance in the setting of goals following neutral, success, or failure experiences than are cerebral palsy children whose physical disabilities are more greatly involved in the task.

3. When setting goals, both cerebral palsy and physically normal children are less responsive to their past level of performance following a failure than following a success experience.

4. When setting goals, both cerebral palsy and physically normal children are more responsive to their

past level of performance following a neutral experience than following a failure experience but are less responsive than following a success experience.

Responsiveness, as used in the hypotheses, refers to the subject's reaction, in terms of goal-setting, to his prior performance. Such goal-setting reactions might include the subject's frequency of change of his goal-levels in the face of a series of successful, failing, or neutral performances, the adherence or non-adherence to a particular goal-level over a period of experience condition, the degree of difference between past performance and goal-level, and the over-all level of the subject's goals.

CHAPTER II

METHODOLOGY

In order to test the hypotheses in this study, the experimental method used was the level of aspiration technique. That is, on the task employed in this study, the subjects performed, they set their aspiration level, and then they performed again. The experimental design allowed the comparison of the performances of one group of non-handicapped children, serving as a control, with two groups of cerebral palsy children, each group having a different degree of handicap involvement in performance of the task used. All three groups performed on the same standard task under neutral, success, and failure conditions.

In the design each subject appeared once under each condition. The order of conditions was systematically varied, thus resulting in six condition-orders, to control for the differential effects of any one condition following or preceding any other condition. This design was duplicated once, so that two subjects in each of the three groups performed under each of the six condition-orders. Thus, six subjects performed under each sequence of conditions for a total of 36 subjects.

Apparatus

It was necessary for purposes of this study to employ a task on which all subjects could perform but, at the same time, one on which performance would be adversely affected by specific physical handicaps. Such a task had to have some type of scoring system whereby an aspiration level could be set and an objective score, either fictitious or real, could be obtained. In addition, the nature of this study required a task having minimal cues which would influence objectively the subject's aspiration level. Further, it required a task in which performance scores could be manipulated by the experimenter to allow subjective factors to influence more strongly the setting of goals.

McClelland, in his discussion of the theory of aspiration level, suggests some of the above latter criteria for a task in which the individual's goals are sought. "Asking for levels of aspiration in a task situation in which the subject does not know how well he is performing might give a better picture of his true 'goal-levels'" (McClelland, 1951, p. 566).

Rotter (1942) lists for the selection of a level of aspiration task several criteria which were incorporated into the task of the present study. Of these, the major attributes of the task were its novelty, so that the subjects had no previous experience with the task; its medium difficulty, so that no subjects found it too easy or too

hard; its interest value; its variable performance scores, so that the subjects were "forced" to move their level of aspiration up or down; and a negligible learning factor in the performance of the task.

If these criteria as suggested by McClelland and Rotter and as made necessary by the purposes of this study were used, such a task would then provide an opportunity for the subject's perceptual organization to contribute more completely to the setting of his aspirations than would his skill, kinesthetic feeling, or observation of actual performance. Of additional importance in the treatment of results, all subjects' "performance" in terms of extent and number of successes or failures were made the same, so that all subjects' levels of aspiration were based on an equal number of successful or failing scores.

To meet these requirements and criteria, the experimenter designed a task in which the subject was to throw a golf ball through a hollow tube. This tube was 28" long and approximately 3 1/2" in diameter at the end into which the subject was to throw the ball, narrowing down to 3" in diameter at the opposite end. At the end opposite the subject was an upright movable "backboard" mounted on soft compression-springs and covered with sponge rubber to control for the sound of the ball striking it. This backboard moved against a vertical base under the impact of the ball thrown through the tube. The distance of the possible movement of

the backboard was 6 3/4".

Although the subject was shown briefly the mechanical portion of the apparatus during the preliminary explanation of the task, his view of the backboard and its distance of movement was obstructed by a screen during performance. The subject was told that the screen was necessary to keep the ball from occasionally bouncing out of the apparatus and striking the experimenter. Actually, the subject's view was obstructed because fictitious performance scores were used, and it was felt essential to eliminate all clues as to true scores obtained. In order that the subject might concretely see his fictitious scores, a scoreboard was mounted on the side and front of the apparatus where the experimenter could designate the subject's score on the previous trial.

To add to the appearance of authenticity and accuracy of obtaining scores, a meter was connected by wires to a battery which in turn was connected by wires leading from the springs on the backboard. From this meter was purportedly read the performance score, the extent of movement of the backboard on each trial. Since all performance scores were fictitious according to a prearranged pattern, no true achievement scores were recorded.

Subjects

A total of 36 subjects was used, all between the ages of 8 and 13 with IQ's within the range 75 to 132 as

measured by the Columbia Mental Maturity Scale. No further matching of intelligence and age variables was made inasmuch as it was not felt these variables are related, within these limits, to goal-setting behavior. Twelve of the 36 subjects formed a control group and were physically normal children. The mean age of this group was 9 years, 9 months with a mean IQ of 112.

The experimental group of 24 subjects were children with a medical diagnosis of cerebral palsy. The experimental subjects were divided into two subgroups of 12 each on the basis of rating as to extent of pertinent handicap by staff personnel working with cerebral palsy patients. One experimental subgroup was composed of subjects whose handicaps were not directly involved in their performance on the task (non-involved handicap group), and the other subgroup (involved handicap group) consisted of subjects whose handicaps were such that they were able to perform on the task only with more difficulty and lower efficiency than the first experimental group. The mean age of the non-involved handicap group was 9 years, 11 months, and the mean IQ was 100. For the involved handicap group the mean age was 10 years, 1 month, and the mean IQ was 99.

Because of the limited availability of experimental subjects it was not possible beforehand to equate the degree of severity of general physical involvement of the involved handicap group with that of the non-involved handicap group.

However, as it turned out, the two groups approximated each other in respect to extent of over-all physical involvement.

The experimental subjects were all taken from the population of patients of the Cerebral Palsy Institute in Norman, Oklahoma. This population included both inpatients and outpatients, all of whom received their diagnosis of cerebral palsy from the same physician. The control group was selected from the Woodrow Wilson School in Norman.

Procedure

The procedure involved three experimental sessions one week apart, each subject performing under one condition in each session. The order of conditions was varied systematically, each subject performing individually on the ball-throwing task under each of the three conditions, neutral, success, and failure. Before beginning his trials on the task in each session, each subject was engaged in a six-minute pre-trial task designed to establish the neutral, success, or failure feelings. In this manner each subject may be assumed to have begun the experimental task in each session with the "feelings-experience" desired by the experimenter for the purposes of this study.

In order to control for carry-over of the subject's attitude toward the pre-trial task, as well as to some extent toward the experimenter, from one session to the next, a dif-

ferent pre-trial task was used for each of the sessions. For establishing a neutral experience, the subject was allowed to play with a marble-shooting game; for establishing success feelings, a task of putting pegs in a pegboard was used; and for establishing failure feelings, a task of sorting colored marbles was used.

Under each condition, following the pre-trial task and prior to 20 trials on the experimental task, the subject had a practice period, if it was the first session, or a "warm-up" period if it was the second or third session. At the time of the subject's first session, regardless of condition, the nature of the task was explained to him, and he practiced throwing the ball through the tube to acquaint himself with the proper method to perform the task. Then he was told a fictitious scoring range achieved while practicing and the score of his last practice throw. During the subject's second and third sessions, since he was by then acquainted with the task and the best manner in which to carry out the performance, he had only a few "warm-up" trials upon which, supposedly, were based his scoring range and final score.

Only as few practice, "warm-up," and experimental trials as feasible were given to insure against the subject's "catching on" to the nature of the experiment or gaining cues which might aid in the setting of objective levels of aspiration. At no time during the experiment did subjects make any

comments suggestive of being aware of the nature of the task and, from their reactions to the task, the experimenter felt that all subjects completely accepted as their actual performance the performance reported to them, both on the pre-trial and experimental tasks. At one time or another most subjects expressed a genuine interest in the experimental task, and several subjects expressed the desire to buy this game if it were on sale in a store.

A scoring range and last score for the subject was provided before his experimental trials for two reasons. First, since the results of his efforts could not be seen directly by the subject, some general scoring frame of reference was felt to be essential. Otherwise, subjects might have chosen the top end of the scale, which was originally 30, as their first aspiration level. Second, there had to be ample room for the subject's goals and fictitious performance scores to move within a scoring scale over the course of 20 trials. Therefore, insofar as possible, the subject had to be "induced" to start goal-setting at that point on the scale from which his goal scores could shift in the direction anticipated on the basis of prior experience with the experimental condition. For example, under the success condition, it was expected that, with a preponderance of successes, the subject would most usually raise his level of aspiration on each trial. Therefore, if he was to be kept from reaching the top of the scale before his

twentieth trial, it was reasoned, he must be started initially at the lower end of the scale.

Pilot studies indicated quite clearly that, on this kind of task, children operate under a frame of reference in which high numbers represent high scores, and low numbers represent low scores. Therefore, this system of scoring was used for this experiment. Although no specific instructions to this effect were given to the subjects, it was clear from their reactions that they were using this system.

In order to contribute to a preliminary success frame of reference, after the subject's "warm-up" period, under the success condition the experimenter told him that he had been scoring between 1 and 5 and that his last score was 5. In order to contribute to a preliminary failure frame of reference, under the failure condition the experimenter told the subject that he had been scoring between 21 and 17 and that his last score was 17. In order to contribute to a preliminary neutral frame of reference, under this condition the experimenter told the subject that he had scored between 8 and 12 and that his last score was 10.

To insure against an artificiality arising from the use of three different sets of scoring ranges and final scores in the "warm-up" trials and from the use of different sets of scores in the experimental trials, additional explanations were made to the subject before the start of his second and third sessions. He was told each of these times that some

changes had been made in the backboard of the apparatus and that a different set of springs had been inserted on the backboard. It was explained that, although he might feel he was throwing the ball just as he had been previously, his scores would most likely now fall within a range different from that during the trials of his previous session. These explanations seemed plausible to all the subjects, and they appeared to accept these explanations in a matter of fact manner as the reason for their different preliminary scoring ranges.

As it turned out, contrary to findings on pilot studies, the very first subject used in the experiment reached the top of the original scale, 30, before his twentieth trial. Therefore, it was decided that no top limit would be indicated on the scale for future subjects, and this subject, eliminated from the study, was replaced by another subject from the same group. Leaving the top end of the scale open actually served to allow more freedom for the subject to set his goal at any level he desired. This procedure did not negate the necessity for a scoring range on the "warm-up" trials, however, but made such a reference frame even more important. Otherwise, a subject would have had no way of knowing, for example, whether 10,000 or 10 was an initial score more in keeping with the design of the equipment.

Following the "warm-up" trials, under each condition the subject was given a set of 20 experimental trials

designed to involve him in a standard performance experience on the experimental task appropriate to the success, failure, or neutral condition. He was given a different set of predetermined fictitious attainment-discrepancy scores under each condition, the set of scores for each condition remaining the same for all subjects. Thus, for each trial the attainment-discrepancy score, the difference between the aspiration level and the following performance score, was already predetermined. This difference, either plus, minus, or zero, when added to his level of aspiration, resulted in the score reported to the subject. For example, if a subject's level of aspiration was 15 and his attainment-discrepancy score was -2, his next performance score reported was 13; if his level of aspiration was 15 and his attainment-discrepancy score was 1, his next performance score was reported as 16. To make this part of the experimental procedure appear as realistic as possible to the subject, each success condition involved 15 success scores (achievement of aspiration level as the result of a zero or a plus attainment-discrepancy score) and 5 failure scores (achievement below aspiration level as the result of a minus attainment-discrepancy score). The failure condition involved 15 failure scores and 5 success scores. The neutral condition consisted of 10 success and 10 failure scores.

The attainment-discrepancy scores in the following sequence were used for the 20 experimental trials under the

success condition: 0, 0, /1, -1, 0, 0, -3, 0, -2, /1, 0, 0, -1, /1, 0, /1, -3, /1, 0, /2. A zero attainment-discrepancy score means that the reported performance score was the same as the previous level of aspiration.

For the 20 experimental trials under the failure condition, scores in the following sequence were used: -3, -1, -2, 0, -2, -2, 0, -2, /3, -1, -4, -2, /2, -1, -1, -2, /1, -3, -2, -5.

For the neutral condition, scores in the following sequence were used: -1, 0, 0, -2, -3, 0, /1, -2, -1, /1, -5, 0, /2, -1, -3, /1, 0, -2, -4, /3.

As a more direct means of determining the extent to which the subjects actually experienced feelings of success, failure, or neutralness on their experimental trials, after the sixth, fourteenth, and twentieth trials the experimenter asked each subject how well he felt he was performing. Upon completion of the 20 trials he was asked what he thought of the task and how well he liked it. The experimenter recorded the subject's comments on the scoring sheet and entered notes of any other behavior relating to his feeling about the task. Such observations included facial expressions, mood tone, motivation with which he approached each trial, ego-involvement with the task, spontaneous comments during the 20 trials, and other behavior revealing attitudes toward the task.

In order to determine whether the subjects actually perceived each session as it was objectively defined, the

behavior notations for each session were later classified as a "success," "failure," or "neutral" experience by the consensus of three judges who did not know the specific conditions under which the expressions were elicited. It was decided that if at least two judges were in agreement in their classification, the subject would be assumed to have perceived the session as it was classified by the judges. This technique allowed the experience constructs (success, failure, neutral) to be defined using both environmental and behavioral variables.

Neutral condition. Under the neutral condition, the subject was allowed to play with a marble-shooting game for six minutes. This was a simple children's game wherein the subject, by depressing a lever, shot a marble on a board trying to place it in one of 11 holes of varying score value. The subject was merely told that the experimenter had found a game with which he thought the subject might like to play for a few minutes. No score was to be kept, and the subject was merely to play with the game as he liked while the experimenter supposedly finished writing some notes. After approximately six minutes, the experimenter commented that, while no score had been tallied, it appeared that the subject had gotten about as many marbles in the holes or about the same score as the other children. Neither negative nor positive comments were made by the experimenter during this fore-period nor during the actual trials on the experimental

task. Following this six-minute period, the subject was given a brief practice or "warm-up" period on the task with an explanation of what he was to do.

The following instructions were read to the subject:

This is a test to find out how well you can do. You are to throw the ball through this tube as you have been doing, each time throwing the ball as hard as you can. I will tell you what score you make by reading from this meter. Before you throw the ball I want you to tell me what score you think you can make on your next throw. To do your best on this test you must try to get as good a score as you can on each throw and tell me exactly what you think you can make on the next throw. If you do your best at throwing the ball as hard as you can, and if you try real hard to tell me just what score you think you can get each time, I will give you some candy when we finish. Do you understand? Remember, you must throw the ball as hard as you can and tell me what score you actually think you can make each time.

The subject was told to throw the ball as hard as he could to control for cues as to performance from kinesthetic feeling and to eliminate his efforts to control his score by the strength of his throw.

When it was determined the subject understood the procedure, his scoring range and last score were announced, and 20 experimental trials were performed. After the subject threw the ball each time, his "achieved" score was reported to him, notes on his behavior and comments were made, and the experiment was continued in this manner through the 20 trials.

In order to picture more clearly for the child what

his level of aspiration and performance level were on each trial, the experimenter inserted a blue pin at the point of his fictitious achievement level on the scoreboard in front of him and a yellow pin on the same board at the point of his goal-level. This procedure allowed the subject to see concretely the scores possible to attain, the score that had been "read" from the meter, the score he aspired to attain, and the comparison of the two scores before setting his next goal-level.

The following is an example of the procedure followed. The subject states he will score 5; the yellow pin is inserted in the fifth hole on the scoreboard. He throws the ball and scores 4; the blue pin is placed in the fourth hole. The experimenter states, "You said you would score 5. You scored 4. What score do you think you can make next time?" These goal-levels, achievement scores, and any other pertinent notes of the subject's behavior were entered on his scoring sheet (See Appendix A).

During the neutral session, to assure that the subject would maintain as neutral a feeling as possible in the face of alternating success and failure, the experimenter gave intermittently toned down value judgments in a conversational, natural manner. Such comments were made, for example, as, "Well, you are doing about like I expected you would," and, "Well, some kids have done a little better than you, and some haven't done quite as well as you."

It was recognized at the outset that most subjects would probably not maintain strictly neutral feelings under this condition. However, in view of the equal number of success and failure trials in this session, the assumption was made that the subject would not feel the extent of failure experienced under the failure session nor the extent of success experienced under the success session.

Success condition. Under the success condition the subject was given a success experience preceding and during his experimental trials. The subject was given three trials of placing pegs in the pegboard as his pre-experimental task with a total time involved of approximately six minutes. He was told that if he put in as many pegs on each trial as the other children had, he would receive some candy as a reward each time, and further, that, while few children had ever put all the pegs in, if he should do so, he would receive an extra amount of candy as a bonus. Each success subject was allowed to come closer to completion of the pegboard on each trial and was told that he had done better each time than the other children. On the third trial sufficient time was allowed for the subject to complete the task, and he was told that he had done so just as the time limit had been reached. Each trial on the pegboard was followed by praise and compliments, and candy was given for successful achievement.

This reward system was designed to increase both the subject's feeling of success and his ego-involvement.

It had been determined through prior pilot studies that allowing the subject to experience completion on the third trial in the manner described further enhanced his feeling of success.

Following the pre-experimental task the subject was allowed a practice or "warm-up" period on the experimental task. He was then told of his scoring range and last score, and performance on 20 experimental trials followed. The procedure followed during these experimental trials was the same as that under the neutral condition except that praise was given intermittently in a natural, spontaneous, and conversational manner. Such comments were made as, "You are doing much better than the other children," and, "You are getting almost every score you try for or even getting a higher score!" These comments, as under the other conditions, were for the purpose of summarizing for the subject how well he was doing, as well as for placing the experiment in a more real-life and natural setting.

Failure condition. The procedure for the failure condition was similar to that for the other two conditions except that the subject was exposed to a failure experience. The pre-experimental task consisted of three trials of sorting marbles of three colors, with a total time involved of approximately six minutes. The subject was told that if he completed the sorting on any trial, as did most subjects, he would receive some candy. On each trial the subject was

stopped before he had the marbles completely sorted. In addition, on each subsequent trial he was stopped with fewer marbles sorted than on the trial preceding. This procedure served to abet a feeling of increasing failure. On each of the failed trials it was pointed out to the subject that his performance was very poor, that it did not compare favorably with the performance of other children, and that he did not complete the marble sorting at any time and therefore was to receive no candy.

Following these three pre-experimental trials, the subject was allowed his practice or "warm-up" trials on the ball-throwing task. He was then told of his scoring range and final score, and 20 trials were performed on the experimental task. The same procedure continued as under the neutral and success conditions trials except that negative comments as to the subject's performance were intermittently made. Such comments were made as, "You aren't doing as well as the other kids," and, "You have't hit any of the scores you've tried for." As under the other conditions, this procedure served to summarize for the subject how poorly he was doing and to place the experiment in more of a real-life setting.

Since there existed the possibility of unhealthy emotional effects lingering from the experimental failure condition, additional unofficial and successful trials were given immediately following the 20 experimental failure

trials. The subject was complimented and praised for his "rapid improvement," and an excuse or set of circumstances was found to absolve the subject completely for his poor performance. Effort was made to assure that each subject left the experimental room in good spirits, and these unofficial, successful goal-levels were not considered in the treatment of results.

CHAPTER III

RESULTS

In order to test the four hypotheses set forth, and in view of the use of the level of aspiration technique, it was deemed necessary to use more than one scoring system, such as the D-score, which is often used. Five different ways of scoring the data were derived which were felt best to meet the purposes of this study. These scores were: (1) Response Lability, the number of times the subject raised his aspiration level or kept it the same after success and lowered it after failure; (2) Shifts, the number of times the subject left one aspiration level to go to another aspiration level; (3) D-Score With Sign, the difference, either plus or minus, between the subject's aspiration level and his previous performance; (4) D-Score Without Sign, the absolute difference between the subject's aspiration level and his previous performance; and (5) Goal Level, the sum of the 20 aspiration levels stated by the subject for each condition.

In order to determine the significance of difference between the means and the significance of interactions, an analysis of variance was performed on the scores derived

Table 1

Summary Table for Analysis of Variance:
Response Liability Score

Source of variation	Sum of squares	df	Variance estimate	<u>F</u>	<u>P</u>
Total	1602.9907	107			
Between S's	743.6574	35			
Diagnostic groups (D)	10.1296	2	5.0648	----	
Sequence (S)	200.1574	5	40.0315	2.36	
D x S	228.2037	10	22.8204	1.35	
Error between	305.1667	18	16.9537		
Within S's	859.3333	72			
Ordinality (O)	55.2407	2	27.6204	5.54	.01
Condition (C)	463.6851	2	231.8426	46.47	.001
C x D	21.0926	4	5.2731	1.06	
Error within	319.3149	64	4.9892		

Table 2

Summary Table for Analysis of Variance:
Shifts Score

Source of variation	Sum of squares	df	Variance estimate	<u>F</u>	<u>P</u>
Total	1977.0741	107			
Between S's	1398.4074	35			
Diagnostic groups (D)	211.4630	2	105.7315	2.90	
Sequence (S)	218.2963	5	43.6593	1.20	
D x S	312.6481	10	31.2648	----	
Error between	656.0000	18	36.4444		
Within S's	578.6667	72			
Ordinality (O)	41.1297	2	20.5649	2.89	
Condition (C)	67.7963	2	33.8982	4.77	.05
C x D	14.8148	4	3.7037	----	
Error within	454.9259	64	7.1082		

Table 3

Summary Table for Analysis of Variance:
D-Score With Sign

Source of variation	Sum of squares	<u>df</u>	Variance estimate	<u>F</u>	<u>P</u>
Total	55,316.7685	107			
Between S's	40,063.4352	35			
Diagnostic groups (D)	2,017.2407	2	1,008.6204	1.08	
Sequence (S)	6,834.6018	5	1,366.9204	1.47	
D x S	14,435.0927	10	1,443.5093	1.55	
Error between	16,776.5000	18	932.0278		
Within S's	15,253.3333	72			
Ordinality (O)	613.8518	2	306.9259	1.45	
Condition (C)	369.1296	2	184.5648	----	
C x D	678.8148	4	169.7037	----	
Error within	13,591.5371	64	212.3678		

Table 4

Summary Table for Analysis of Variance:
D-Score Without Sign

Source of variation	Sum of squares	<u>df</u>	Variance estimate	<u>F</u>	<u>P</u>
Total	485,612.3241	107			
Between S's	336,957.6574	35			
Diagnostic groups (D)	18,694.2408	2	9,347.1204	----	
Sequence (S)	44,169.4908	5	8,833.8981	----	
D x S	97,420.0925	10	9,742.0092	----	
Error between	176,673.8333	18	9,815.2130		
Within S's	148,654.6667	72			
Ordinality (O)	432.5185	2	216.2593	----	
Condition (C)	10,914.6852	2	5,457.3426	2.80	
C x D	12,580.4814	4	3,145.1204	1.61	
Error within	124,726.9816	64	1,948.8591		

Table 5

Summary Table for Analysis of Variance:
Goal Level Score

Source of variation	Sum of squares	<u>df</u>	Variance estimate	<u>F</u>	<u>P</u>
Total	6,120,497.21	107			
Between S's	4,323,756.54	35			
Diagnostic groups (D)	144,184.79	2	72.092.40	----	
Sequence (S)	568,879.93	5	113,775.99	1.02	
D x S	1,603,637.99	10	160,363.80	1.44	
Error between	2,007,053.83	18	111,502.99		
Within S's	1,796,740.67	72			
Ordinality (O)	100,714.24	2	50,357.12	2.24	
Condition (C)	58,437.24	2	29,218.62	1.30	
C x D	196,449.26	4	49,112.32	2.18	
Error within	1,441,139.93	64	22,517.81		

from the data. Tables 1, 2, 3, 4, and 5 present a summary of the analysis of variance for each scoring system.

The 5% level of confidence was selected as the criterion for determining the significance of results. Thus, it may be seen that three F ratios reached the necessary level of significance. Table 1 discloses that, by use of the Response Lability scoring system, ordinality and condition are both significant. Table 2 discloses that condition is significant when the scoring technique of Shifts is used. The remaining three scoring systems, D-Score With Sign, D-Score Without Sign, and Goal Level, yield no significant F ratios at any point.

Therefore, these data do not confirm the first hypothesis that cerebral palsy children are less responsive to their past level of performance in the setting of goals than are physically normal children following neutral, success, or failure experiences. Likewise, these data do not confirm the second hypothesis that cerebral palsy children whose physical disabilities are little involved in performance of a task are more responsive to their past level of performance in the setting of goals following neutral, success, or failure experiences than are cerebral palsy children whose physical disabilities are more greatly involved in the task.

A grouping of the data on the basis of ordinality for the Response Lability scores resulted in a mean of 14.39 for order 1, a mean of 13.43 for order 2, and a mean of 12.64 for order 3. This indicates that, on the basis of the Response Lability scores, the subjects became somewhat less responsive to their past performance progressively through the three sessions. Since ordinality was essentially a control condition, it is not felt these results contribute any particular information pertinent to this study.

Since the analyses of variance revealed that there are significant differences in the conditions when using the Response Lability and the Shifts scoring techniques, it is necessary to employ the t-test for correlated means to establish where the significance lies. Table 6 presents the mean

Table 6

Condition Means for Combined Diagnostic Groups
Under Response Lability and Shifts Scores

Score	Condition		
	Success	Neutral	Failure
Response Lability	15.89	13.75	10.83
Shifts	16.78	16.08	14.86

scores for each condition under these two scoring techniques.

Through use of the t-test for correlated means, under the Response Lability scoring system it was found that the differences between success and neutral, failure and neutral, and failure and success are all significant at the .001 level of confidence. Under the Shifts scoring system the difference between success and failure is significant at the .01 level of confidence. Each of these differences found to be significant lies in the predicted direction. The difference between success and neutral under the Shifts scoring system was significant at the .20 level of confidence, and the difference between neutral and failure was significant at the .10 level of confidence.

On the basis of the Response Lability and Shifts scoring systems, the data, then, clearly support the third hypothesis, that when setting goals, both cerebral palsy and

physically normal children are less responsive to their past level of performance following a failure than following a success experience.

Hypothesis four is supported by one scoring system, the Response Lability score, where significant differences were found between success and neutral and between failure and neutral experiences although it is not supported by the Shifts score system. Hypothesis four stated that, when setting goals, both cerebral palsy and physically normal children are more responsive to their past level of performance following a neutral than following a failure experience but are less responsive than following a success experience.

An over-all summary of the data presented thus far, then, reveals that the first two hypotheses are not supported. The third hypothesis is supported by two of the five scoring techniques, Response Lability and Shifts, and the fourth hypothesis is supported by one scoring technique, Response Lability.

It will be recalled that in order to determine whether or not the subjects actually perceived each session as it was objectively defined, i.e., either success, failure, or neutral, three judges classified the behavior notations of each subject in each session, and that if at least two judges were in agreement in their classification, the subject would be assumed to have perceived the session as it was classified by the judges. It was found that the criterion

of agreement between at least two judges was met in all 108 sessions in which the 36 subjects were involved.

When the judges' classifications of the subjects' attitudes in each session were compared with the objectively defined classification of each session, agreement was found in 75 of the 108 sessions. Thus, in approximately three-fourths of the sessions the subjects apparently perceived the session as it was defined externally. On the basis of the judges' classifications, in only one instance did a subject feel he was failing in a success session, and in only one instance did a subject feel he was succeeding in a failure session. The remainder of the sessions in which the subject did not feel as he was supposed to brought forth neutral feelings from the subjects in the success and failure sessions or success and failure feelings in the neutral session.

Since, according to the judges' rating, there was only approximately 75% agreement between the experience condition as objectively defined and the subjects' like interpretation of the experience condition, the data were regrouped on the basis of the subjects' feelings in each session. For example, if under a neutral session the subject experienced this session as success, his scores were considered as obtained in a success session.

This regrouping of the data destroyed the proportionality of distribution necessary for an analysis of vari-

ance comparable to that used for the original grouping of the data. Since, then, no test of comparable sensitivity was available, it was decided that no test would be made unless the means of the regrouped data showed notable deviation from the trend of the means of the original data. It was found that the same general trends prevailed between the scores under each condition as under the original grouping of the scores (Tables 12, 13, 14, 15, and 16 in Appendix C). Such a regrouping, then, apparently does not contribute any further pertinent information to this study.

There are some serious doubts about the validity of the judges' ratings. In many instances there was not sufficient information regarding a subject's comments and behavior to make valid judgments of his feeling in a session. This lack of information many times was the result of the inability of the experimenter to note sufficient pertinent behaviors of the subject. It was necessary for the experimenter to deal with so many mechanical aspects of conducting the 20 experimental trials that it was sometimes physically impossible to obtain adequate notes of a subject's behavior and comments. In addition, some subjects simply did not reveal sufficient pertinent behavior about which to make notes. As a result of this rather frequent lack of observations, the judges often had little information upon which to base their judgments.

CHAPTER IV

DISCUSSION

The findings in regard to the four hypotheses tested may be viewed in terms of the three areas of major concern, as discussed in the first chapter, regarding the goal-setting of cerebral palsy children. It will be recalled that these areas of major interest related to (1) the first hypothesis, that cerebral palsy children are less responsive to their past level of performance in goal-setting than are normal children following neutral, success, or failure experiences, (2) the second hypothesis, that cerebral palsy children whose physical disabilities are little involved in performance of a task are more responsive to their past level of performance in goal-setting following a neutral, success, or failure experience than are cerebral palsy children whose physical disabilities are more greatly involved in the task, and (3) the third and fourth hypotheses, comparing the goal-setting of cerebral palsy and normal children between different experience conditions, i.e., success, failure, or neutralness.

In regard to the first two areas of concern, relating to hypotheses one and two, it will be recalled that

in the analyses of variance performed, no statistically significant difference was found to exist between groups. It may be inferred from this finding of nonsignificance that the group of normal children and the group of cerebral palsy children are equal in terms of their responsiveness to past performance when setting goals. This means, then, that in their goal-setting behavior cerebral palsy children react essentially the same as normal children to success, failure, and neutral experiences and that cerebral palsy children whose handicap is involved in performance of a task react essentially the same to success, failure, and neutral experiences as do cerebral palsy children whose handicap is not involved in performance of a task. In terms of the design and hypotheses of this study cerebral palsy children do not differ significantly from non-handicapped children in their aspirations and goals, and they do not differ significantly from one another in their aspirations and goals on the basis of involvement or non-involvement of their handicap.

First of all, these findings suggest that it may not be necessary to formulate a separate theory of psychological functioning for cerebral palsy children as distinct from a theory for physically normal children in the area of goal-setting and aspirations. This issue has been raised often in the literature, that is, whether there is a distinct psychology of handicapping in relation to goal-setting.

In light of the opinion of some of the authors pre-

viously cited, this finding is especially significant. It is apparent, in terms of the conditions of this study, that the presence of a physical handicap does not bring about a difference in the individual's approach to goal-setting as compared with the approach of those individuals with no physical impairment. The theories expounded to account for a psychological behavior pattern of the cerebral palsy individual as separate from the psychological functioning of the normal person may be important contributions but, on the basis of the findings in this study, can not be applied in relation to goal-setting behavior.

Barker et al. (1953), in their comprehensive study of the significance of crippling on the psychological functioning of the individual, bring out several theories which suggest that crippled individuals either have a more difficult adjustment problem or else a simpler adjustment problem than normal individuals. In many of the theories presented, goal-setting is suggested as one of the more important variables around which the theory is constructed. The writings of Meng (1953), Lord (1937), Lowman (1942), and Rotter (1943), among others, have all suggested that the goal-setting of the handicapped and the cerebral palsy child is a crucial area of concern and that, as a result, these people as a group differ, either for the better or for the worse, from the non-handicapped. Under the conditions of this present study, it is apparent that goal-setting be-

havior is not an area of behavior differentiating the cerebral palsy child from the normal child.

Second, these findings reveal that, under the conditions of this study, the manner in which goal-setting is conducted is not influenced significantly by the presence or absence of a handicap specific to the task performed. That is, cerebral palsy children aspire similarly in areas where they are handicapped and in areas where they are not handicapped. At least under the conditions of this experiment they view their performance and their ability for achievement not by area of involvement or non-involvement of their handicaps but in terms of a more central, total goal orientation.

The findings and conclusions drawn in regard to these two major areas of concern fail to support the first two hypotheses, namely, that cerebral palsy children are less responsive to their past level of performance than are normal children and that non-involved cerebral palsy children are more responsive to their past level of performance than are involved cerebral palsy children.

At first glance the findings in regard to the first two hypotheses would seem to raise some questions about the validity of the theoretical framework of this study, that is, that cerebral palsy children have less differentiated personalities because of interpersonal relationship deprivation and inconsistencies and that they are exposed less to goal-

setting experiences in life. It is felt that the subjects used in this study are representative of cerebral palsy children in general, so it may be that most cerebral palsy people do not experience the totality of deprivation of relationships, lack of experiences, and other negative aspects as posited. That is to say, most likely a part of these detriments to appropriate goal-setting have been experienced by most cerebral palsy individuals, but perhaps the "typical" cerebral palsy child has not experienced all of these detriments to appropriate goal-setting or has not been exposed to them in as quantitatively forceful and damaging a manner as might be possible.

It is known, for example, that many cerebral palsy children come from home environments where there are varying degrees of acceptance or rejection, of opportunities for success and failure experiences through exposure to proper stimulating factors, of emphases placed on realistic or appropriate goals, and of amount and extent of exposure to "normal" experiences.

Some cerebral palsy children, especially those with comparatively little or not so apparent physical involvement, could be expected to approach a more "normal" life pattern. That is, parental and community acceptance and daily life experiences are more nearly the same as those for the normal child. The child whose physical handicap is so slight that it does not arouse parental guilts or conflicting feelings

and does not prevent him from participating in most of his peer's games and activities can actually be thought of more as a physically normal child than a physically involved person.

Again, in some of the more physically handicapped children it is known that the parents do "come to terms with" their feelings about having a handicapped child and consequently accept the child as he is. They are then able to aid their child in his emotional and social growth and development. Such children, it has been found, are exposed more extensively to challenging experiences and aided in setting realistic goals. This active learning along with lessened parental pressures and being more accepted might explain some of the similarities with normal children found in this study.

It is felt that the application of Lewin's theory to cerebral palsy children contributes to a greater understanding of their personality development and that many cerebral palsy children are less differentiated and have a more limited life-space. It is entirely possible, however, that within their limited life-space and their limited experience with the environment, as compared with the normal child, many cerebral palsy children actually face a great many goal-setting types of experiences in living with and adjusting to their handicap. They may face continuously the problems of whether they can take five steps instead of four, whether

they can make their fingers work to pick up a ball, or whether they can pronounce the words other children around them are using. From this point of view, although dealing with a more narrow range of activities and experiences, these cerebral palsy children are setting much more personal, ego-involving goals and seeing very immediate, concrete results of their goals.

The cerebral palsy children just described who experience this particular kind of goal-setting are certainly more confined and limited in their intrapsychic field and could be expected to need great amounts of parental structuring of their life-space for them. They undoubtedly have less variety of goal-setting experiences and may be surrounded by family, friends, and community who are not spontaneously accepting them. Yet, within their narrowed range of activities and capabilities, goal-striving occupies their attention. Their every action which involves a crippled limb or part of their body forces them to set a goal and almost immediately thereafter face the results of their efforts. Such a concrete experience of setting goals and having to face the results may be another factor accounting for the findings in this study and may help to explain why the two groups of cerebral palsy children did not differ significantly from each other in goal-setting and why these two groups as a whole did not differ significantly from normal children in their goal-setting behavior.

These possible explanations for the findings in this study do not negate the general validity of Lewin's theory as applied to cerebral palsy children. There is possibly some overgeneralization resulting in regard to this theory when applied to cerebral palsy children because insufficient consideration is given to the quantitative and forceful aspects of the deprivations faced by these children.

Another aspect of the problem which was not considered in this present study but which might lend support to Lewin's conceptual frame of reference is the extent or degree of over-all physical involvement of the child. The subjects in this study were chosen only on the basis of involvement or non-involvement in the task of a specific limb of the body, that is, the arm and hand. There was no selection attempted in terms of like degrees of severity and extent of physical involvement although the groups were about equal in this regard. The subjects within the groups, however, were not equated for similarity of severity of over-all involvement, so some subjects were more severely involved than were others.

It may be that there is some relationship between parental acceptance and extent of physical involvement in the child and thus some resulting commonalty of approach to goal-setting in those children with similar degrees of physical handicap. Those children with the most severe degree of handicap, for example, have only a narrowly circumscribed

area of overlapping skills with the normal child, have more of their goals set for them by others, have a more difficult time being accepted, or, as Lewin postulates, have less opportunities for a growing differentiation and development of personality.

In using a representative experimental group where no controls were placed on such factors as degree of exposure to experiences, extent of parental acceptance of the child, degree of over-all involvement, etc., perhaps these factors were counterbalanced. If a group of cerebral palsy children, all of whom had emotional, social, or experience deprivation to the same degree of extreme severity, had been chosen for this experiment it is possible that the first and second hypotheses of this study might have been supported. It may be that many cerebral palsy children come to compensate for whatever amount and extent of deprivations they experience or make up for these basic lacks in their life by profitably utilizing some of the positive experiences which do enter their lives.

In regard to the third major area of concern it will be remembered that the goal-setting reactions of cerebral palsy children were found to differ significantly by condition, i.e., success, failure, and neutral experiences. But the C x D interactions indicate clearly that the cerebral palsy children were not different from the normal children in this respect. In support of the third hypothesis,

the significant difference in the subjects' responsiveness to success and failure experiences would suggest that, contrary to opinions expressed in the literature, first of all, cerebral palsy children respond in goal-setting behavior similarly to normal children in success or failure situations and, secondly, they react differently to success experiences than to failure experiences. Failure experiences resulted in cerebral palsy children, as well as normal children, being less flexible and responsive. Siegel's conclusions (1954) that failure experiences have less impact on the cerebral palsy child than on the normal child are not borne out by the present study.

The importance of this differential reaction to success and failure in favor of success experiences lies in the fact that cerebral palsy children, just as do normal children, respond favorably to success experiences. If cerebral palsy children are involved in fewer success than failure situations in their everyday life, as has been theorized, they have not lost their flexibility and positive adaptability when faced with success. They do not "go overboard" or lose sight of goals comparable to those which normal children establish under like conditions. One might expect the person with little success in his life to be unable always to set appropriate goals when faced with a success experience. In like manner, it is conceivable that, being faced in everyday activities with many failure experiences, the cerebral palsy

child would grossly distort his goals under any conditions. As has been discussed in regard to the first hypothesis, this has not been found to be true.

As in the explanations for the findings relating to the first and second hypotheses, it may be that the cerebral palsy child finds a great deal more subtle and covert success experiences in his physical accomplishments than is readily apparent. Perhaps taking five steps, grasping a ball, or saying a word has as much meaning of success to the cerebral palsy child as winning a game does to a normal child.

Consideration of the findings regarding hypothesis four, which compares neutral with failure and success experiences, will perhaps lend support to the conclusions drawn about the flexibility and responsiveness of the cerebral palsy child in his aspirations. It will be remembered that a neutral experience was introduced to help define the relative position of success and failure on a continuum of experience and to study goal-setting under conditions not ordinarily arousing either extreme emotional reaction. It is recognized that purely neutral situations do not ordinarily come about when the setting of goals is involved. Yet, for the cerebral palsy child this more nearly middle point of experience is sufficiently distant from or unlike the success and the failure experiences that, as measured by the Response Lability score, it yields significantly dif-

ferent reactions from these children. It would seem that cerebral palsy children are sensitive in their aspirations not only to the extremes of success and failure but also to conditions which possess less success and less failure.

The fact that the Shifts scoring system did not reveal significant differences in goal-setting between neutral and failure experiences and between neutral and success experiences suggests that this score is not sensitive enough to account for the differences found to exist. Since purely neutral experiences are admittedly infrequent in areas where goal-setting is employed, it is felt to be much more important to consider what differences in goal-setting may exist between success and failure experiences. The Shifts score was sensitive enough to reveal these more important differences.

It is assumed that the scoring techniques of D-Score With Sign, D-Score Without Sign, and Goal Level are not techniques sensitive enough, and therefore not appropriate, to reveal significant differences of subjects' performances under the three conditions as set up in this study. This suggests that the traditionally used D-score in studies of aspiration level may not always be a scoring technique sensitive enough to reveal the significance of the contribution of variables because of too little variability of scores and that a broader range of scores might be employed in those studies using the aspiration level as a measurement. By em-

ploying the Response Lability or Shifts scoring system, or perhaps even others, a re-evaluation of the data in many studies using aspiration level measurements, both those specifically interested in goal-setting behavior and those interested in other aspects of behavior, might impart significance to the variables studied. While it is not the purpose of this work to study the different kinds of scores possible or their meaning in use of the aspiration level technique, the present findings regarding the use of five different scoring systems has its import for further research in any area using the aspiration level as a means of measurement.

In summary, since the first hypothesis was not supported by the data of this study, the conclusion was drawn that there may not be a necessity to formulate a distinct theory of handicapping in relation to goal-setting. The presence of a handicap does not appear to be a variable significantly differentiating goal-setting behavior of cerebral palsy individuals from normal individuals.

Failure to find support for the second hypothesis suggests that under the conditions of this study the manner in which cerebral palsy children set their goals is not influenced by the presence or absence of a handicap in a specific task. The involvement or non-involvement of a physical handicap in a task does not result in significantly different patterns or manners of goal-setting.

The findings in regard to these two hypotheses suggest that it is not necessary to have separate theories for the psychological functioning of cerebral palsy children and the psychological functioning of normal children in relation to goal-setting. It appears more sound in terms of theory to view this problem on the basis of individual differences, for cerebral palsy children differ widely in those aspects which are felt to influence their manner of setting goals. There are some cerebral palsy children who approach a pattern of life close to that of the normal child, there are those whose parents have accepted them in a positive, ego-enhancing way, and there are those who perhaps experience a form of goal-setting in their every attempt to manipulate the involved portion of their body.

The finding of a significant difference in the cerebral palsy child's reaction, as well as in the normal child's reaction, to success versus failure, success versus neutral, and failure versus neutral experiences indicates, first, that cerebral palsy children are as sensitive to and as influenced by these experience conditions as are normal children. Second, it suggests that cerebral palsy children can profit favorably from success experiences in terms of appropriateness of goal-setting and that they can readjust their goals appropriately in the face of failure experiences.

On the basis of the conditions of this study it would seem then that, in the area of goal-setting, cerebral

palsy children are similar to normal children, and separate theories to account for their psychological functioning in this area are not necessary. It would appear more important to consider these cerebral palsy children as "normal" in this respect and equally as susceptible as non-physically handicapped people to success and failure experiences.

The conclusions to be drawn from this study have practical as well as theoretical implications. In terms of a theory of the effects of handicapping on personality, it is apparent that one can not readily formulate a theory of goal-setting behavior in cerebral palsy children apart from normal children. While there are many of these children who face parental pressures and rejections and who lack overt, ordinary, "normal" everyday experiences, it is apparent from the results of this study that either these factors are not operating in all cases or they are not sufficient to alter significantly goal-setting behavior of cerebral palsy children as compared with normal children. The problem of goal-setting in the cerebral palsy child should be viewed on the basis of individual differences, taking into consideration relationships the child has with his parents and friends, acceptance or non-acceptance by the parents and the child of the handicaps, extent of experiences made available to the child in which goal-setting can take place, and the emphasis placed on the child's setting of appropriate goals.

Of importance from the practical point of view are

the findings that cerebral palsy children react with greater responsiveness and flexibility to success conditions than to failure conditions. It is apparent that these children are not immune to the impact of either success experiences or failure experiences. Therefore those working with cerebral palsy children need to be aware of the importance of the use of praise, reward, and success experiences to influence the growth and development of realistic, appropriate goals of these children. Efforts could be made to counteract the situations in which the child can not readily succeed or achieve as easily as the normal child by providing an experience in which the child can succeed. Treatment centers, teachers, and parents of cerebral palsy children could design a program centering about success experiences. The results of such an approach could be expected to influence in a positive way the whole personality of the child.

Further research in the area of goal-setting of cerebral palsy children might consider the more global influence on personality of success experiences. For example, one could determine the effect of success experiences on a broader range of the child's psychological functioning, his self-percept, his ego strength, his ability to relate to other people, his reality contact with the outer world, or even on his physical functioning. This study used only a physical task to assess goal-setting behavior, and, while Heisler (1951) found no significant differences between a

physical and a mental task in terms of her subjects' reactions, it would be of value to determine what differences might arise if a mental task were used to elicit goals.

As was discussed previously, the variable of extent and severity of the physical handicap may be of importance. This would be a difficult variable to control, but such a study might help define more clearly how various degrees of handicap influence personality development. Another variable which undoubtedly influenced the results of the present study is the emotional adjustment of the cerebral palsy child. No account was taken of this factor in the present work, and further study of the cerebral palsy child should consider the difference in parental attitudes toward the child, the self-concept of the child, and the personality configurations of the subjects.

CHAPTER V

SUMMARY

In the literature in recent years attention has been turned toward the psychological aspects of handicapping. Many claims have been made regarding the manner in which a handicapped individual functions psychologically, particularly in the area of goal-setting. Little research has been reported in the area of the goal-setting of the cerebral palsy individual. It was the purpose of this study to investigate the manner in which two groups of cerebral palsy children set goals under success, neutral, and failure conditions and to compare the goal-setting behavior of the two combined groups of cerebral palsy children with the goal-setting behavior of normal children. The two groups of cerebral palsy children differed according to involvement or non-involvement of their physical handicaps on a specific task.

It was predicted that the cerebral palsy children would be less responsive to their past level of performance in setting goals than would be normal children. A second prediction was that cerebral palsy children whose physical handicap was not involved in performance of a task would be more responsive in goal-setting to past performance than

would be cerebral palsy children whose physical handicap was involved in the performance of the task. It was further predicted that cerebral palsy children would be less responsive to their past performance, in goal-setting, following a failure than following a success experience, less responsive following a neutral than following a success experience, and more responsive following a neutral than following a failure experience.

Twenty-four cerebral palsy children and 12 normal children served as subjects in this study. Twelve of the cerebral palsy subjects had physical handicaps directly involved in performance of the task while the other 12 cerebral palsy subjects did not have physical handicaps which were involved in performance of the task.

The level of aspiration technique was used as the means to obtain the goal-levels of the subjects. A task was designed which required that the subject throw a ball through a tube after setting his goal-level. In order to equate quantitatively the number of success, failure, and neutral experiences for each session, fictitious scores were reported to the subject. These reported scores were based on predetermined fictitious attainment-discrepancy scores.

Five different scoring systems were used in an effort to test as thoroughly as possible the hypotheses set forth. These scoring systems were (1) Response Lability, the number of times the subject raised his aspiration level

or kept it the same after success and lowered it after failure, (2) Shifts, the number of times the subject left one aspiration level to go to another aspiration level, (3) the D-Score With Sign, (4) the D-Score Without Sign, and (5) Goal Level, the subject's total level of aspiration score over the 20 trials.

No significant difference was found between the goal-setting behavior of cerebral palsy children and the goal-setting behavior of normal children or between the goal-setting behavior of the involved handicap group of cerebral palsy children and the non-involved handicap group of cerebral palsy children. Under the Response Liability scoring system it was found that the differences between success and neutral conditions, success and failure conditions, and neutral and failure conditions were all significant at the .001 level of confidence. Under the Shifts scoring system the difference between success and failure conditions was significant at the .01 level of confidence.

It was concluded that since the goal-setting behavior of cerebral palsy children and normal children does not differ significantly on the basis of the conditions of this study, it may not be necessary to formulate a separate theory of psychological functioning for cerebral palsy individuals as distinct from a theory for physically normal children in the area of goal-setting. It was concluded that goal-setting behavior is not specific to involvement

or non-involvement of the handicap in the cerebral palsy person but seems to be based on a more central, total goal-orientation.

It would seem that individual differences, that is, the degree of family acceptance, severity of handicap, and the child's prior range of goal-setting experiences, would perhaps explain, when investigated, the manner of goal-setting in cerebral palsy children. The significance of the normal and the cerebral palsy child's differential reaction to success and to failure is interpreted as a positive finding regarding the flexibility and adaptability of the cerebral palsy child. This finding suggests that the cerebral palsy child can make use of success experiences in an ego-enhancing way.

The findings of this study as they relate to practical programs of treatment for the cerebral palsy child were discussed. The need for awareness of the value of praise, reward, and provision of success experiences from those working with cerebral palsy children was stressed. Through such awareness perhaps effort could be made to counteract the situations in which the cerebral palsy child can not readily compete successfully with the normal child.

Further research with cerebral palsy individuals might consider the more global influence on personality of success experiences. Further research might also consider the contributing importance of the severity and the extent of the physical handicap.

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APPENDIX A

THE SCORE SHEET

SCORE SHEET

Name: _____ Sex: _____ Age: _____ IQ: _____

Condition: _____ Session: 1 2 3 Group: _____

Trial	Score	Goal-level	Notes on Subject's Behavior
1			
2			
3			
4			
5			
*6			
7			
8			
9			
10			
11			
12			
13			
*14			
15			
16			
17			
18			
19			
*20			

* Ask subject how he feels he is doing

Additional comments:

APPENDIX B

SUBJECTS' SCORES

Table 7

Response Liability Scores for Each Subject under
Success (S), Neutral (N), and
Failure (F) Condition

<u>S</u>	Normal group			Non-involved handicap group			Involved handi- cap group		
	S	N	F	S	N	F	S	N	F
1	16	15	14	17	17	9	15	10	5
2	16	14	18	15	13	6	15	15	5
3	14	17	11	14	14	7	18	17	15
4	17	15	14	17	15	15	18	17	14
5	15	11	5	15	15	8	16	11	9
6	18	17	16	16	18	19	16	18	16
7	17	12	13	16	10	10	19	19	19
8	15	13	12	18	16	16	15	12	11
9	15	12	6	15	20	18	15	11	6
10	18	14	14	17	12	5	15	12	8
11	15	11	7	14	9	10	15	10	5
12	15	13	14	15	10	5	15	10	5

Table 8

Shifts Scores for Each Subject under Success (S),
Neutral (N), and Failure (F) Condition

<u>S</u>	Normal group			Non-involved handicap group			Involved handi- cap group		
	S	N	F	S	N	F	S	N	F
1	10	8	13	19	18	9	19	20	20
2	16	14	20	20	20	19	16	16	5
3	11	14	10	12	14	7	18	17	15
4	4	8	11	11	10	16	16	18	16
5	19	14	16	20	20	20	20	20	20
6	18	17	16	13	14	18	20	20	19
7	18	16	18	16	13	10	20	20	20
8	16	11	10	18	17	20	20	20	20
9	15	19	7	20	20	20	20	20	14
10	18	17	18	17	15	7	20	20	19
11	15	11	7	20	16	18	20	20	20
12	20	19	20	15	13	12	14	10	5

Table 9

D-Score with Sign Totals for Each Subject under
Success (S), Neutral (N), and
Failure (F) Condition

<u>S</u>	Normal group			Non-involved handicap group			Involved handi- cap group		
	S	N	F	S	N	F	S	N	F
1	22	15	24	5	15	25	29	39	69
2	42	33	8	35	61	56	40	29	43
3	8	12	19	9	14	24	21	21	18
4	3	14	16	11	17	25	12	17	18
5	65	55	59	30	1	56	26	30	30
6	22	18	18	15	7	5	4	17	23
7	34	32	34	36	47	33	7	14	15
8	23	22	23	18	21	19	40	78	33
9	32	38	38	29	10	10	165	89	56
10	21	19	30	24	43	43	38	45	53
11	55	37	42	37	86	90	30	44	53
12	7	13	19	31	46	48	24	35	38

Table 10

D-Score Without Sign Totals for Each Subject under
Success (S), Neutral (N), and
Failure (F) Condition

<u>S</u>	Normal group			Non-involved Handicap group			Involved handi- cap group		
	S	N	F	S	N	F	S	N	F
1	24	29	24	17	27	31	29	45	73
2	42	33	44	35	127	56	40	29	43
3	14	12	27	17	30	36	21	27	18
4	15	26	22	11	27	29	12	35	24
5	65	55	59	30	111	170	30	78	126
6	22	20	20	15	7	5	14	23	31
7	34	38	38	36	47	33	9	16	39
8	23	30	31	18	23	27	40	90	45
9	32	46	38	29	10	10	165	89	56
10	21	25	30	24	43	43	38	45	53
11	55	37	42	101	584	368	30	44	53
12	19	25	33	31	46	48	24	35	38

Table 11

Goal Level Score Totals for Each Subject under
Success (S), Neutral (N), and
Failure (F) Condition

<u>S</u>	Normal group			Non-involved handicap group			Involved handi- cap group		
	S	N	F	S	N	F	S	N	F
1	141	146	355	126	136	324	362	480	716
2	579	427	98	476	468	699	616	545	430
3	79	64	139	167	213	367	327	345	289
4	57	101	158	223	204	398	234	230	219
5	795	657	794	396	242	469	446	364	292
6	293	234	317	202	84	214	93	217	332
7	511	328	489	464	536	463	121	183	260
8	470	333	334	247	77	354	502	840	292
9	889	331	552	377	160	279	1305	975	729
10	304	214	301	278	495	559	463	391	658
11	703	415	550	292	1332	856	376	479	626
12	128	121	275	434	567	549	222	374	511

APPENDIX C

CONDITION MEANS

Table 12

Condition Means Based on Objectively Defined and
Subjectively Defined (Judges' Ratings)
Condition for Combined Diagnostic
Groups Under Response
Lability Score

Definition of condition	Condition		
	Success	Neutral	Failure
Objective	15.89	13.75	10.83
Subjective	14.49	13.25	12.51

Table 13

Condition Means Based on Objectively Defined and
Subjectively Defined (Judges' Ratings)
Condition for Combined Diagnostic
Groups Under Shifts Score

Definition of condition	Condition		
	Success	Neutral	Failure
Objective	16.78	16.08	14.86
Subjective	17.04	15.25	15.27

Table 14

Condition Means Based on Objectively Defined and
Subjectively Defined (Judges' Ratings)
Condition for Combined Diagnostic
Groups Under D-Score With Sign

Definition of condition	Condition		
	Success	Neutral	Failure
Objective	29.16	31.50	33.70
Subjective	32.70	33.14	37.61

Table 15

Condition Means Based on Objectively Defined and
Subjectively Defined (Judges' Ratings)
Condition for Combined Diagnostic
Groups Under D-Score
Without Sign

Definition of condition	Condition		
	Success	Neutral	Failure
Objective	32.83	55.94	51.75
Subjective	37.11	61.92	40.28

Table 16

Condition Means Based on Objectively Defined and
Subjectively Defined (Judges' Ratings)
Condition for Combined Diagnostic
Groups Under Goal Level Score

Definition of condition	Condition		
	Success	Neutral	Failure
Objective	380.50	369.67	423.53
Subjective	395.55	358.96	399.16