

1-1-1970

Power of child care worker and therapist figures and their effectiveness as models for emotionally disturbed children in residential treatment.

Sanford. Portnoy
University of Massachusetts Amherst

Follow this and additional works at: https://scholarworks.umass.edu/dissertations_1

Recommended Citation

Portnoy, Sanford., "Power of child care worker and therapist figures and their effectiveness as models for emotionally disturbed children in residential treatment." (1970). *Doctoral Dissertations 1896 - February 2014*. 1448.

<https://doi.org/10.7275/dg5q-x341> https://scholarworks.umass.edu/dissertations_1/1448

This Open Access Dissertation is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Doctoral Dissertations 1896 - February 2014 by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

UMASS/AMHERST



312066013542561

POWER OF CHILD CARE WORKER AND THERAPIST
FIGURES AND THEIR EFFECTIVENESS AS MODELS FOR
EMOTIONALLY DISTURBED CHILDREN IN RESIDENTIAL TREATMENT

A Dissertation Presented

By

Sanford Marvin Portnoy

Submitted to the Graduate School of the
University of Massachusetts in
partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

July 1970
(Month) (Year)

Major Subject: Psychology

(c) Sanford Marvin Portnoy 1970
All Rights Reserved

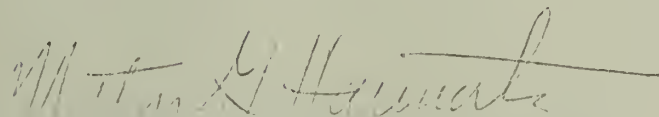
POWER OF CHILD CARE WORKER AND THERAPIST
FIGURES AND THEIR EFFECTIVENESS AS MODELS FOR
EMOTIONALLY DISTURBED CHILDREN IN RESIDENTIAL TREATMENT

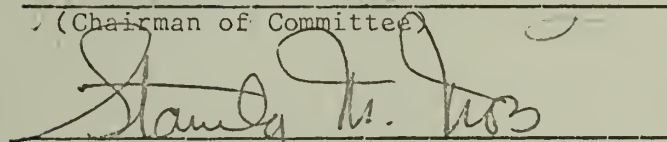
A Dissertation

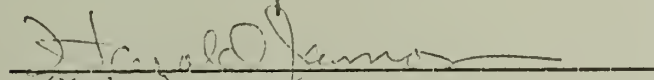
By

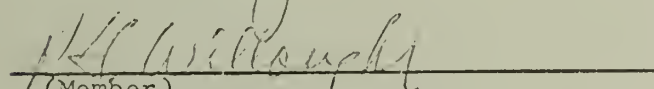
Sanford Marvin Portnoy

Approved as to style and content by:


(Chairman of Committee)


(Head of Department)


(Member)


(Member)

July 1970
(Month) (Year)

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to Dr. Morton G. Harmatz for his aid and guidance in planning the research, for his active role in helping to improve the manuscript, and for his well executed role as chairman of my dissertation committee.

I also wish to thank Dr. Harold Jarmon and Dr. Robert Willoughby for their suggestions and consultations during the planning of this research, and for their valuable aid in preparing the manuscript.

My appreciation is extended to Dr. Anthony Davids, whose advice and helpful suggestions regarding the research, and whose help in implementing the study at the Emma Pendleton Bradley Hospital, facilitated the carrying out of this study.

Thanks are also due to Dr. Kevin Myers and Mr. Robert Bahm for their very generous aid in helping to collect the data; and to Mr. Harry Westcott and Mr. Norman Curtis for their wholehearted cooperation in providing the subjects and facilities for the pilot research.

Finally, I would like to express my deepest gratitude and appreciation to my wife, Joan, whose support, encouragement, and ability to say the right thing at the right time played an important role in producing this dissertation; and to Danyella, who didn't bite me while I was writing.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	vi
LIST OF ILLUSTRATIONS	vii
CHAPTER	
1. INTRODUCTION	1
II. METHODS	11
Subject	11
Task	11
Design	15
Procedure	19
Supplementary Measure	28
III. RESULTS	33
Imitation Results	33
Semantic Differential Results	52
IV. DISCUSSION	65
Imitation	65
Semantic Differential Ratings	72
Implications and Suggestions for Future Research	79
V. SUMMARY	83
REFERENCES	86

LIST OF TABLES

Table		Page
1	Basic Design	17
2	Final Design	20
3	Chi Squares for Modeling Effects in the Three Stages	34
4	Chi Squares with Reduced Degrees of Freedom for Stage I	39
5	Chi Squares with Reduced Degrees of Freedom for Stage II	40
6	Chi Squares with Reduced Degrees of Freedom for Stage III	42
7	Imitation in Stage III of Ss who Imitated the "Powerful" Models in Stages I and II	43
8	Chi Squares for Each Set of Words in Stage I	49
9	Chi Squares for Each Set of Words in Stage II	50
10	Chi Squares for Each Set of Words in Stage III	51
11	Wilcoxon's for Differences Between <u>Real Therapists</u> and <u>Real Child Care Workers</u> on Each Factor of the Semantic Differential	53
12	Wilcoxon's for Differences Between <u>Therapist Models</u> and <u>Child Care Worker Models</u> on Each Factor of the Semantic Differential	56
13	Wilcoxon's for Differences Between <u>Real Therapists</u> and <u>Therapist Models</u> on Each Factor of the Semantic Differential	58
14	Wilcoxon's for Differences Between <u>Real Child Care Workers</u> and <u>Child Care Worker Models</u> on Each Factor of the Semantic Differential	61

LIST OF ILLUSTRATIONS

Figure		Page
1	Modeling Effects in Stage I	35
2	Modeling Effects in Stage II	37
3	Modeling Effects in Stage III	38
4	Imitation in Stage III of Ss who Imitated the Child Care Worker Model in Stage I (N = 26)	44
5	Imitation in Stage III of Ss who Imitated the Therapist Model in Stage II (N = 24)	46
6	Imitation in Stage III of Ss who Imitated Both "Powerful" Models in the First Two Stages (N = 14)	47
7	Semantic Differential Ratings of <u>Real Therapists</u> and <u>Real Child Care Workers</u>	55
8	Semantic Differential Ratings of <u>Therapist Models</u> and <u>Child Care Worker Models</u>	57
9	Semantic Differential Ratings of <u>Real Therapists</u> and <u>Therapist Models</u>	60
10	Semantic Differential Ratings of <u>Real Child Care Workers</u> and <u>Child Care Worker Models</u>	62

CHAPTER I

INTRODUCTION

The child care worker in a residential treatment center is an extremely influential figure to the child patient, and one who potentially has the power to produce changes in the child's behavior (Alt, 1953; Bettelheim and Wright, 1955; Dettlebach, 1955; Lourie and Schulman, 1952; Redl, 1959). Such change can be positive or negative and it is possible that too often the worker who is untrained in the area of child psychology may have deleterious effects on the behavior of the children in his charge by carrying out his duties in unintentionally negative ways.

The literature is replete with statements concerning the central importance of the child care worker in the "therapeutic milieu" of the residential treatment center. One major focus of these statements is that in order for a total treatment program to be effective there must be a great deal of cooperation and coordination between the therapist who sees the child in psychotherapy sessions and the person who is in charge of the child's daily living routines. The opinion is often given that psychotherapy can only be effective if the daily experiences of the child are coordinated to reflect the goals of the therapist (Konopka, 1955; Mayer, 1955). Continuing in this vein, these authors discuss the importance of training for the child care worker and the need for close supervision of him by the professionals in the institution. Maier, et al (1955) say that the therapist should share more information about therapeutic goals and techniques with the child care worker than he does in actual practice, and they add that the child care worker must be trained

to comprehend the therapy process even though he cannot be expected to do so at the level of the professional. These statements cite the central importance of the child care worker in the therapeutic environment, yet they present a series of contradictions. Although such statements are made as, ". . . a child care worker might logically become the key person in the treatment of a child" (Maier, et al, 1955), and ". . . we must fully utilize the most valuable and essential contributions which those responsible for group living and all its ramifications make to the child" (Greenwood, 1955), these authors inevitably assign to the child care worker the role of a therapeutic assistant, or as it is usually referred to, an "adjunct to therapy", or an "auxiliary aid to treatment" (Lourie and Schulman, 1952). Greenwood goes so far as to say that since the aspects of daily living within the institution are so crucial, every therapist, as part of his training, should spend some time in the role of the residential worker in order to help him to plan and effect a better program of therapy. These statements are discrepant in that they proclaim the importance of the child care worker on the one hand, while they fail to recognize him as potentially the primary therapeutic agent on the other.

There have also been those in the literature who have pointed out these discrepancies and have suggested a need to take a second look at our system of residential treatment. Alt (1953), citing the lack of clarity and consistency in the role of child care workers in various institutions, suggests that professionals might be employed as child care workers, or that a new profession should be created. In discussing the philosophy behind the Orthogenic School of the University of Chicago, Bettelheim and Wright (1955) emphasize their reliance upon the residential staff for the

actual rehabilitation of severely disturbed children and the use of professionals in the roles of "mentors and helpers" to the child care personnel. Redl (1959) points out the need to more stringently study the elements which make up a "therapeutic milieu". He states that the "milieu particles", or those factors of the everyday life experience of the child which might be overlooked as irrelevant, may be crucial in helping to determine the effectiveness of a residential treatment for a child.

These authors have pointed out that our total concept of residential treatment needs revision and that it may be the residential worker, rather than, not as an adjunct to, the therapist, who has the most potential to produce positive changes in these hospitalized children. But much empirical work is needed to investigate the potential importance of the various professional and non-professional roles in these institutions. As Redl, Alt, and others point out, this whole area of investigation is yet to be opened. Perhaps the most basic question to be answered at this point is whether the child care worker is a powerful figure to the institutionalized children, and whether, in fact, he may be for these children a more important figure than their therapist.

Utilizing the concept of imitation by modeling (Bandura and Walters, 1963), it is possible to investigate the problem of potential effects of child care workers on the children under their care and for whom they serve as models. It is interesting to note that the modeling literature includes studies employing a variety of procedures to measure imitation and a wide variety of behaviors to be imitated. Conspicuous by its absence in such studies, however, is the use of disturbed clinical populations as subjects. In one recently published study which did use both emotionally

disturbed and normal children as subjects, Walters and Willows (1968) attempted to assess differences in imitation of models of aggressive and nonaggressive behaviors. They predicted that both models would be effective in producing behavioral changes in the nondisturbed children, and that disturbed children would display less imitative behavior than nondisturbed children, particularly after exposure to the nonaggressive model. They found, on the basis of scores representing novel responses attributable to the influence of the model, that non-disturbed children did show greater imitation of nonaggressive behavior than did disturbed children, but with regard to aggressive behavior there was no difference between the two groups; both were very low in level of imitation. The authors discuss these results in terms of nonaggressive responses being high in the hierarchies of normal children while aggressive responses are low in their hierarchies, and they suggest that this dominance is important in determining the effects of observing a model. They then cite the disturbed children's lower level of imitative behavior as indicating that their disturbances may be the result of a failure to imitate socially acceptable models. The results of this study, however, raise questions about methodological weaknesses in the study, as Walters and Willows acknowledge, since their findings with regard to imitation of aggressive behavior are discrepant with past research in this area (Bandura, Ross, and Ross, 1961, 1963; Lovaas, 1961). These weaknesses, which include characteristics of the model, the length of imitation sessions, and the apparatuses used, necessarily leave the conclusions of the study open to question.

In a more recent study, Rothstein and Davids (1970) repeated the

Walters and Willows procedures with a similar subject population. But they changed what they felt to be the major methodological problem in the Walters and Willows study, the use of a female aggressive model with male subjects. Including sex of the model as a variable in their study, which also used only male subjects, Rothstein and Davids found that disturbed subjects who saw an aggressive male model showed a significant increase in aggressive behavior while those subjects who saw an aggressive female model did not. The increase was found both in direct imitation of novel aggressive responses and in the general level of aggression. Thus there is some evidence that disturbed children do imitate modeled behavior.

Past research has shown that one of the most important variables in determining the effectiveness of a model is the status of that model in the eyes of the observer (Asch, 1948; Mausner, 1953; deCharms and Rosenbaum, 1960; Rosenbaum and Tucker, 1962). This variable has been found to be effective in changing a wide variety of behaviors from opinion and attitude to actual behaviors and even to violation of prohibitions (Lefkowitz, Blake, and Mouton, 1955). The Lefkowitz, et al study demonstrated that people are more prone to imitate a complete stranger whose status is perceived to be high than they are to imitate a low status stranger. This concept of model status has been discussed theoretically by Maccoby (1959) in terms of a power theory of social influence. Maccoby states, "A second and even more important variable determining the extent of practice of observed behavior than frequency and intimacy of contact with the model is the power relationship between observed and observer. The more power the model has over the observer, the more the observer will imitate the model's behavior. 'Power' is defined by Whiting's concept of 'control of resources.'"

Maccoby goes on to explain this "control of resources" as meaning that one individual is in such a position as to mediate another individual's receiving something which he desires.

In a series of studies, Mischel and his colleagues have investigated power as an important factor in the modeling of behavior to be learned by an observer (Grusec and Mischel, 1966; Mischel and Grusec, 1966; Mischel and Liebert, 1967). These investigators employed the same concept of power as that discussed by Maccoby. They operationalized the variable by presenting some models as visiting strangers while others were described as the new nursery school teachers of the children who served as subjects, or as figures who were the final judges as to whether or not each subject would receive a highly tempting prize set before him. Mischel and Liebert (1967) found that following interaction with a powerful model who stringently reinforced the children for their performance, these same children continued to be stringent in providing self-rewards without the model present. Children who had interacted with a non-powerful model were not similarly self-stringent. Mischel and Grusec (1966) found that the model's power had similar effects on children's display of behaviors which were highly novel and even aversive. These studies have shown that the model's power, defined in this way, is a highly important variable in determining the extent of imitation of such dependent variables as those mentioned above. Grusec and Mischel (1966) state that a child is indeed more attentive to a person who controls his resources, as Maccoby points out, and that he imitates more of the behavior of such a person. The reason for this increased attentiveness to the behavior of this powerful model, they continue, is that knowledge of the model's behavior helps to guide

the child's plans concerning his own future actions.

By operationalizing the concept of power as Mischel and his colleagues have done, they have also demonstrated that a powerful model may have this influence over another individual even though they may never have had prior personal contact. This has been found to be true in other research as well, and Bandura and Walters (1963) state that a pre-established positive relationship is not necessary in order to obtain such a power relationship. Rather, the mere ascription of roles or labels to people has been shown to be an effective means of establishing a person's power and effectiveness as a model (Campbell, 1967; Katz, et al, 1968; Simon, 1967). Moore (1968) demonstrated that in two person groups dealing with an ambiguous task, fictitious information given to each of the participants regarding the status of the other significantly affected the patterns of influence which emerged between the two. Thibaut and Riecken (1955) found that switching the status of one person by switching the label given to him significantly altered his ability to influence the behavior of other people. Lefkowitz, et al (1955) showed that merely changing the type of dress of a model was sufficient to alter the amount of power he had over others, as measured by their imitative responses. These and other studies have thus shown that a complete stranger who is placed in a position of power, as defined above, will become a powerful model and that his power may be varied simply by switching his label. The effectiveness of such a model has been demonstrated in a variety of situations from personal judgments to group decisions, and even to violations of laws (Blake and Mouton, 1955; Lefkowitz, et al, 1955; Mausner, 1963; Strodtbeck, et al, 1958). Thus it would seem that a person's being

in a position where he can control resources can make him a powerful model by virtue of his role, be it real or ascribed, without prior contact with the person for whom he is a model (Asch, 1948; Bovard, 1951; Grusec and Mischel, 1966; Maccoby, 1959; Mischel and Grusec, 1966; Mischel and Liebert, 1967; Mussen and Distler, 1959).

According to the concept of power discussed by Maccoby, the child care worker in the residential treatment center represents a very high status and powerful figure to the child, and the one, in fact, whose duties and functions likely come closest to those of the parent in carrying out his daily routines. He continually, through the regular exercise of his functions, must give or take away various resources from the children in his charge and so assumes control over the resources of these children. Thus the child care worker can be seen to be a potentially powerful person in the eyes of these children. It is interesting to note in passing that another factor discussed by Maccoby with relevance to power of the model is the frequency and intimacy of interaction between the model and the observer. The degree of intimacy between child care workers and the children for whom they care would certainly vary depending on the workers and children involved. But frequency of contact remains consistent in that it is invariably the child care worker who has the greatest amount of contact with the children in an institutional setting.

In short, the child care worker could be a very potent model for the children in a residential treatment center. As Alt, Redl, and others have pointed out, perhaps our total concept of residential treatment needs revision and maybe it is the residential worker, rather than, not as an adjunct to, the therapist, who has the most potential to produce positive

changes in these hospitalized children. Within the modeling framework discussed earlier, it can also be stated that the child care worker may not be only one among a number of powerful models, but the most powerful model in the child's environment. Through the use of his position and the careful control and manipulation of his own behavior, this person may then have relatively the greatest potential of anyone in the institution to produce effective changes in the children for whom he is responsible (Alt, 1953; Davids, et al, 1969; Redl, 1959). Thus the remarks of these authors and the modeling concepts introduced earlier seem congruent in emphasizing the importance of staff behaviors and their effects on the children, and in viewing the child care worker's position as being one which may make him the most influential person in the institution for the disturbed children who reside there.

By studying these two types of staff roles and comparing the modeling effectiveness of people cast into these roles, an answer may be found to the basic question raised earlier as to whether the child care worker is as powerful a figure to the institutionalized children as some authors suggest, and whether, in fact, he may be, for these children, a more important figure than the therapist. If the child care worker figure is found to be a more powerful model for the child than the therapist figure, we shall have a degree of empirical support for the statements which emphasize the potential therapeutic influence of non-professional staff members in the residential setting. Such a finding might also suggest future direction for such important matters as training and employment of professionals and non-professionals in this type of setting, and most important of all, it would indicate the very real possibility, through the application

of learning principles, of producing a more efficient system of residential treatment.

Specifically, then, the present study is an attempt to set up a modeling situation within the confines of a traditionally structured residential treatment center in a way that would answer three very basic questions: (1) Is the child care worker figure a potent model for the children who reside in such a residential center; (2) Is the therapist figure a potent model for the same children; and (3) Is either one of these figures significantly more effective than the other as a model for these children? It is expected that when compared with a more "neutral" adult whose role has no direct relevance to the child's existence within the institution, both the child care worker and the therapist figures will be more potent models than this "neutral" figure. It is also expected that, despite the central importance most often given to the therapist in residential treatment, the child care worker figure will be more effective as a model than the therapist figure. The specific hypotheses being tested are:

Hypothesis I. The child care worker figure will be a more effective model than the neutral figure will be for the same children, when these two models are presented in comparison to one another.

Hypothesis II. The therapist figure will be a more effective model than the neutral figure will be for the same children, when these two models are presented in comparison to one another.

Hypothesis III. The child care worker figure will be a more effective model than the therapist figure will be for the same children, when these two models are presented in comparison to one another.

CHAPTER II

METHODS

Subjects. Subjects were forty-eight emotionally disturbed child-residents of the Emma Pendleton Bradley Hospital in Riverside, Rhode Island. The forty boys and eight girls who comprised this sample represented the entire patient population of the hospital with the exception of eight males who resided at a halfway house on the grounds of the hospital rather than in the hospital proper, and with the exception of nine children (seven boys and two girls who were eliminated from the sample due to diagnoses of psychosis or organic brain damage. Consequently a fairly homogeneous sample consisting of children with diagnoses of personality or neurotic disorders was obtained. The majority of the subject sample had as its primary diagnosis passive-aggressive personality. Subjects ranged in age from seven years, zero months to twelve years, three months with a mean age of nine years, nine months. IQ's as measured by the Wechsler Intelligence Scale for Children ranged from 72 to 138 with a mean IQ of 95. All of these children had been judged clinically to have at least average intellectual potential since this is one of the requirements for admission to Bradley Hospital.

Task. Imitation was tested by means of the following task: The subject (S) was read a paragraph by the experimenter (E) in which a particular type of stimulus word (e.g., parts of the body) appeared fifteen times. Ostensibly the purpose of the task was to test S as to whether he could pick out the stimulus word whenever it appeared in the paragraph. As a means of communicating to E that he had heard the stimulus word, S was

instructed to interrupt E by saying one of three words (e.g., "agree", "equal", "also") each time he heard the stimulus word. The actual measure of imitation was which word S used to indicate that he had heard the stimulus word. In each case S observed successively, just prior to his own performance on this task, two models, each of whom used one of the three words in responding on the same task.

Due to the requirements of the experimental design, as will be explained shortly, each S was read three different paragraphs, each containing a different type of stimulus word, during the course of the study. The three types of stimulus words were: the names of animals (e.g., pig, horse, etc.); the names of colors (e.g., red, blue, etc.); and parts of the body (e.g., hand, head, etc.). Each of these types of stimulus words was repeated fifteen times during the reading of the respective paragraphs. The paragraphs were consistent in length. The "animals" paragraph contained a total of 173 words; the "colors" paragraph contained a total of 168 words; and the "parts of the body" paragraph contained a total of 179 words.

Each of these paragraphs had a different set of three response words associated with it, from which S was told to choose a word with which to indicate that he had heard the stimulus word. The three sets of response words and the three paragraphs (each containing its own type of stimulus word) were randomly matched.

The words selected for inclusion in the three sets of response words were selected from the Teacher's Word Book of 30,000 Words (Thorndike and Lorge, 1963). All of the words selected were among those that had the highest level of occurrence in both the general literature and the

children's literature surveyed. Once the words had been selected from the Thorndike-Lorge lists according to these criteria, two pilot studies were done. The purpose of the first study was to insure that each of the three words in any one set of response words would have a similar probability of being chosen from the set if no model were present. The second pilot study was done to assess the effectiveness of the task as a modeling tool.

The subject sample for the two studies consisted of ninety-seven school children from the Scituate, Rhode Island school system. These pilot Ss were matched for age with the hospital sample used in the main study. All of the pilot Ss were of approximately "average" intelligence. The model used in the second pilot study was a female teacher's aide who worked in the Clayville School, Clayville, Rhode Island, where the pilot Ss were run.

In the first pilot study, Ss were read the same paragraphs containing the same stimulus words as those read to the Ss in the main study, but without having the response words modeled for them. The sets of response words selected for the main study were those which showed no significant or near-significant differences ($p \geq .90$ by means of a chi square analysis) in the number of times each was chosen in this no-model pilot group. The three sets of words chosen were: Agree - Also - Equal (used with the "colors" paragraph); Almost - Answer - Again (used with the "animals" paragraph); and Same - Like - More (used with the "parts of the body" paragraph).

Once the three sets of response words had been established, a second group of pilot Ss was administered the task, this time after having

watched a model perform on the same task. Since only one model was used, one of the words was dropped from the set and only two were used, a modeled and an unmodeled choice. Having one unmodeled choice was consistent with the design used later on in the study in which there was always one response word left unmodeled when S was presented with a set of words from which to choose. In the second pilot study each S saw only one model whereas, in the main study, each S saw two different models before engaging in the task. This one-model condition pilot study was sufficient to ascertain whether this task was an effective modeling tool.

In the first pilot study, where no model was used, there had been no significant differences in the response words chosen. In the second pilot study, when a model was provided, there was a significant effect ($p < .02$ by means of a chi square analysis) in the direction of Ss choosing the same word as that chosen by the model. The task was accepted, therefore, as an effective measure of imitation of modeled behavior.

Models in the main study were four male and four female upperclass students at Brown University and Pembroke College in Providence, Rhode Island. Each was randomly assigned to portray either a child care worker model, a therapist model, or a neutral model in accordance with the requirements of the experimental design to be discussed shortly. Child care worker models were presented to the Ss as future child care workers at Bradley Hospital; therapist models were presented as future therapists (or "appointment men" and "appointment ladies" as the children refer to their therapists) at the hospital. Neutral models were introduced as visitors who had been at the hospital for only one day and had then "gone

home to Boston." In every case the sex of both models was the same as that of the S. Each model was video taped with a Craig Video Recorder during his performances on the task for playback to Ss at a later date. All models were taped seated at a table against the same bare background. Each responded with one of the response words to the stimulus words in the paragraph which was read off camera by E. Thus, when Ss were showed the modeling sequences during the study, they saw on the Craig Video monitor only the model, visible from the chest up, facing the camera, and responding to the off-camera voice of E. The three response words in each set and the particular model who would use each of them (i.e., therapist model, neutral model, no model) were randomly matched.

Design. In order to gain the most information possible from the subject sample available and to make the most efficient use of each S, the study was divided into three stages. The first two were designed to evaluate separately the relative potency of the child care worker and the therapist as models, affording the opportunity to see what modeling strength each had when compared to a neutral model, and if there were differences between the two in this respect. The third stage then afforded a more direct comparison of modeling strength by pitting the child care worker figure against the therapist figure in a modeling situation. This design had the dual advantage of permitting a separate analysis of each stage and of permitting each S to serve as his own control in each stage of the study. During the course of the study then, each S served in each possible condition.

Simply stated, Stage I presented as the two models for comparison the child care worker figure and the neutral figure. Stage II paired the

therapist figure with another neutral figure. Stage III paired the child care worker figure with the therapist figure. Each S underwent each of the three stages and had a period of one and a half to two weeks between stages.

Since the question asked in each of these stages was whether the S would imitate one particular individual more than another, it would have been expected on the basis of chance that over many Ss each of the words would have been chosen by fifty percent of the Ss if only two choices had been given and if no models had been presented. This would be expected since the equivalent probabilities of these words being chosen had been previously established in the pilot research. Thus, using such a design, if half of the Ss in this study would have given the same response as one of the models, and half would have chosen the same alternative as the other model, it would have been possible to say that the child care worker figure was not a more potent model than the neutral figure. However, it would not have been possible to say what produced such a result. The data would not have revealed whether this situation prevailed because the children imitated all models indiscriminately, or whether no imitation occurred at all. For this reason a third choice, or "no modeling" condition was added in each stage of the design. The basic design, then, is presented in Table 1.

An effort was made to reduce practice effects which might have accrued from the fact that each S engaged in the task a total of three times. Practice effects could have appeared in the form of Ss keeping the same word which they had originally chosen throughout all stages of the study. Consequently, it was necessary to use a different set of words in

Table 1

BASIC DESIGN

CCW = Child Care Worker Model
 THER = Therapist Model
 NEUT = Neutral Model
 NM = No Model
 A, B, C = Alternative Choices (Response words)

Stage I (Child Care Worker Model and Neutral Model)

	CCW	NEUT	NM
S1	A	B	C
S2	A	B	C
S3	A	B	C
.			
.			
.			

N = 48

Stage II (Therapist Model and Neutral Model)

	THER	NEUT	NM
S1	A	B	C
S2	A	B	C
S3	A	B	C
.			
.			
.			

N = 48

Stage III (Therapist Model and Child Care Worker Model)

	THER	CCW	NM
S1	A	B	C
S2	A	B	C
S3	A	B	C
.			
.			
.			

N = 48

each stage of the study. As stated earlier, the equivalent probabilities of occurrence of the words within each set were established by the pilot research prior to the running of the main study, and so no balancing with regard to which model used which word was necessary. However, this assumption of equivalence could not be made between the three sets of words so that balancing for this factor was necessary in order to permit meaningful statements to be made regarding relationships between the various stages of the study. Such balancing was also necessary to combine data between stages for purposes of analysis as will be discussed shortly. Hence the three sets of words were rotated such that the child care worker figure and the therapist figure modeled a different word choice in each of the three sets of response words during the course of the study.

It was also necessary to take into consideration the order in which models would be seen across stages. Since the design was constructed such that Stage I consisted of child care worker and neutral figures as models, and Stage II consisted of therapist and neutral figures as models, it would have been possible that some systematic effect due to order of model presentation (e.g., who was most recently seen) might have affected the outcome of Stage III when child care worker and therapist models were seen together. In order to balance for such a possible effect, one half of the Ss engaged in Stage I first and Stage II second, while the other half of the Ss went through Stage II first and Stage I second. For all Ss, Stage III, the child care worker and therapist models seen together, was the final stage in order of presentation.

The order of presentation of models, as a possibly significant variable, raised further questions with regard to the order of presentation

within each stage as well as between stages, as was mentioned earlier. The same problems (i.e., primacy or recency) prevailed within stages and required balancing to reduce systematic effects. To this end, half of the Ss in each of the first two stages saw the "significant" model (child care worker or therapist) first, and the other half saw the neutral model first. In Stage III, half of the Ss saw the child care worker model first and the other half saw the therapist model first.

With all of these factors taken into consideration, the final design is summarized in Table 2. In the replica of the design as presented in this table, the labelling of stages has been switched so that Stage I and Stage II have been broken down into Group I and Group II within each stage. These groups are differentiated on the basis of whether the "powerful" model used was the therapist or the child care worker. It should be understood, however, that for purposes of statistical analysis, the groups labelled here, Stage I-Group I and Stage II-Group II (the two groups which saw the child care worker model and the neutral model) actually, when combined, comprise Stage I as described earlier. Likewise, those groups here labelled Stage I-Group II and Stage II-Group I (therapist model and neutral model) comprise the original Stage II. Sets A, B, and C represent the three sets of words described earlier while 1, 2, and 3 represent the various alternatives within each set with the numeral indicating the particular choice used by that model.

Procedure. S was brought into the room for the first experimental session and was seated in a position such that he was able to see quite clearly both the video tape monitor and a blackboard which had been placed

Table 2

FINAL DESIGN

CCW = Child Care Worker Model
 THER = Therapist Model
 NEUT = Neutral Model
 NM = No Model

Stage I-Group I (Child Care Worker Model and Neutral Model)

	CCW	NEUT	NM
S ₁	Set A - 1	Set A - 2	Set A - 3
	NEUT	CCW	NM
S ₂	Set A - 2	Set A - 1	Set A - 3
	CCW	NEUT	NM
S ₃	Set A - 1	Set A - 2	Set A - 3
	NEUT	CCW	NM
S ₄	Set A - 2	Set A - 1	Set A - 3

	CCW	NEUT	NM
S ₅	Set B - 1	Set B - 2	Set B - 3
	NEUT	CCW	NM
S ₆	Set B - 2	Set B - 1	Set B - 3
	CCW	NEUT	NM
S ₇	Set B - 1	Set B - 2	Set B - 3
	NEUT	CCW	NM
S ₈	Set B - 2	Set B - 1	Set B - 3

	CCW	NEUT	NM
S ₉	Set C - 1	Set C - 2	Set C - 3
	NEUT	CCW	NM
S ₁₀	Set C - 2	Set C - 1	Set C - 3
	CCW	NEUT	NM
S ₁₁	Set C - 1	Set C - 2	Set C - 3
	NEUT	CCW	NM
S ₁₂	Set C - 2	Set C - 1	Set C - 3

.
 .
 .
 N = 24

Table 2 (Continued)

Stage I-Group II (Therapist Model and Neutral Model)S₁

.

.

(Repeat variations as in Group I)

N = 24

Stage II-Group I (Therapist Model and Neutral Model)

	THER	NEUT	NM
S ₁	Set B - 1	Set B - 2	Set B - 3

.

.

.

	THER	NEUT	NM
S ₅	Set C - 1	Set C - 2	Set C - 3

.

.

.

	THER	NEUT	NM
S ₉	Set A - 1	Set A - 2	Set A - 3

.

.

.

(Repeat variations as in Stage I-Group I)

N = 24

Stage II-Group II (Child Care Worker Model and Neutral Model)S₁

.

.

(Repeat variations as in Group I)

N = 24

Table 2 (Continued)

Stage III (Child Care Worker Model and Therapist Model)

S ₁	CCW Set C - 1	THER Set C - 2	NM Set C - 3
----------------	------------------	-------------------	-----------------

.
 .
 .

S ₅	CCW Set A - 1	THER Set A - 2	NM Set A - 3
----------------	------------------	-------------------	-----------------

.
 .
 .

S ₉	CCW Set B - 1	THER Set B - 2	NM Set B - 3
----------------	------------------	-------------------	-----------------

.
 .
 .

(Repeat variations as in Stage I)

N = 48

in the room. E read the following instructions:

We are trying to make up some games. They are the kinds of games that people might play at parties or that you could play inside when it's raining and you can't go out. We are asking everyone at Bradley to help us by playing one of these games so that we can see if people enjoy it and if it is a good game to use. All of the children and all of the adults at Bradley are going to have a chance to play the game. Some of them have already played it. When you are finished with the game you may take a couple of pieces of candy from this box if you want to. We are letting everyone who plays the game take some candy if they want to as a way of our thanking them for their help. Now let's try the game.

Here's the way this game works. I am going to read to you a story in which I will mention ____ (The type of stimulus word presented to S, either names of colors, names of animals, or parts of the body, varied depending on S's position in the design as discussed earlier) a certain number of times. The idea is for you to catch it every time I say a _____. So that I will know that you caught it whenever I mention a _____, I want you to yell out a word, either _____, _____, or _____ (Again, the set of response words presented to S, either Agree-Also-Equal, Almost-Answer-Again, or Same-Like-More, varied depending on S's position in the design). I will not stop reading, I will keep going, but don't wait for me to stop. Just yell it out and I will know that you heard the _____. It does not matter which of these words you use, either _____, _____, or _____ to yell out to show me that you heard the _____. Don't switch around, use the same word every time. Just to make sure that you remember the choices you have. I will write the words on this blackboard (The three response words were printed on the blackboard in front of S). There they are, and remember you may use either _____, _____, or _____, and use whichever word you pick all of the time. The important thing in the game is to catch it every time I say a _____. That is what the game is all about and that is what we are interested in.

Now, before we play it we're going to give you a chance to see how the game looks when it is played. To do this, I will show you some films of a couple of people who have already played the game. After we have seen them, you will have a chance to play it. This first person who you are going to see, by the way, is going to be a new _____ here at Bradley

(Whether the child care worker model or the therapist model was presented again depended on S's position in the design). He (she) will be starting to work here very soon and will be a _____ just like _____ (Here the name of either S's child care worker or therapist was stated). So now let's watch him (her) play the game. (The first modeling sequence was showed to S on the video monitor). Okay, now let's see another film of someone playing this game. This next person who you will see was visiting from Boston one day and played the game with us. He (she) went back to Boston right afterward. Let's watch. (The second modeling sequence was showed to S on the video monitor). Okay, now it's your turn to play the game. Remember you may yell out either _____, _____, or _____ whenever you hear me say a _____. Are you ready? Let's go! (S engaged in the task). That was fine. We are finished and I want to thank you for helping us. I hope you enjoyed the game and if you wish you may help yourself to a couple of pieces of candy on the way out. Good-bye.

For the second experimental session S was brought back to the same room, seated in the same position, and read the following instructions:

You remember that a while ago you helped us to make up a game by playing it for us. We thought that since you helped you might be interested to know what we found out about it. We found that the people who played it thought it was fun and would be a good game to use. So we decided to see if it would work just as well if we changed it a little. If it does, then we will have a couple of different ways to play it. So today we want you to help us just as you did before by playing the game with a little change in it. Just as before you may take a couple of pieces of candy if you wish when we are finished.

You remember that before I read a story to you in which you had to let me know every time you heard a _____ by shouting out a word. Well, the rules of this game are what they were before except that instead of a _____, this time you have to catch it every time I say a _____ (Again which type of stimulus word was presented depended on S's position in the design). The way to let me know that you heard it every time I say a _____ is to yell out a word. This time you may yell out either _____, _____, or _____ (The new set of response words presented here was the one matched with the new stimulus paragraph just presented). Remember, you may use any of those that you want to, but don't use them all.

Just pick a word and use that word every time. It doesn't matter which word you use, either _____, _____, or _____. The idea of the game is to see if you can catch the _____ every time I say it. As I did the last time, I will write the words on this blackboard so that you can remember the choices you have (The three response words were printed on the blackboard in front of S). There they are, _____, _____, and _____. Use whichever word you want to, but remember, the important thing in the game is to catch it every time I say a _____. Now, just as we did before, we're going to have a chance to see how the game looks when it is played using _____ instead of _____ by watching films of a couple of other people who have already played the game. After we see them you will have your chance to play the game. This first person, by the way, is going to be a new _____ here at Bradley (either the child care worker model or the therapist model was presented here, in each case it being the one who was not seen in the first session). He (she) will be starting to work here very soon and will be a _____ just like _____ (The name of S's own child care worker or therapist was stated depending on which model was presented). So now let's watch him (her) play the game. (The first modeling sequence was showed to S on the video monitor). Okay, now let's see another film of someone playing this game. The next person who you will see was a stranger at Bradley who was just visiting for a day and agreed to play the game with us. Let's watch. (The second modeling sequence was showed to S on the video monitor). Okay, now it's your turn to play the game. Remember, you may yell out either _____, _____, or _____ whenever you hear me say a _____. Are you ready? Let's go. (S engaged in the task). That was fine. I want to thank you for helping us. As before, you may have a couple of pieces of candy if you wish. Good-bye.

For the third experimental session S was again brought back to the same room, seated in the same position, and given the following instructions:

Since you have helped us with this game twice before, we hoped that you would not mind helping us just one last time. This will be the last time we will ask you to play this game. As you did before, you may help yourself to a couple of pieces of candy if you wish to when we are finished. This time the rules of the game are what they were before except that there is a small change as you will see.

You remember the game where I read a story and you had to catch it every time I said a ____ or every time I said a _____. Now we want to see if the game works as well when we use ____ (The third type of stimulus word was stated) instead of ____ or _____. So whenever I mention a _____ you shout out a word just as you did before. This time you may yell out either _____, _____, or _____ (The third set of response words was presented). It doesn't matter which word you use as long as you pick one and use that word everytime. The important thing is to catch it every time I say a _____. As I did before, I will write the words, _____, _____ and _____ on this blackboard so that you can remember the choices (The three response words were printed on the blackboard in front of S). There they are, _____, _____, and _____. Now, as we did the other times, we are going to see how the game looks when we use _____ by watching films of a couple of people who have already played the game. Since we only made a few of these films you will see a couple of people whom you have already seen on other films. This first person, you will probably remember, is going to be a new _____ here at Bradley (Either the child care worker model or the therapist model was presented first depending on S's position in the design). He (she) will be coming here very soon now to be a _____ just like _____ (The name of S's own child care worker or therapist was stated here). So now let's watch him (her) play the game (The first modeling sequence was showed to S on the video monitor). Okay, now let's watch another film of someone playing this game. You will probably remember this next person. He (she) is going to be a new _____ here at Bradley (The remaining model was presented here). He (she) will be starting here very soon too and will be a _____ just like _____ (The name of S's child care worker or therapist was stated here depending on whom the model was). Let's watch him (her). (The second modeling sequence was showed to S on the video monitor). Okay, now it's your turn to play the game. Remember, you may yell out either _____, _____, or _____ whenever you hear me say a _____. Are you ready? Let's go. (S engaged in the task). That was fine. Thank you for helping us.

Several points are worth noting concerning the procedure. First, candy was given at the end of each experimental session for the purpose of insuring that each S would receive positive feedback for his performance

regardless of the actual nature of that performance. It was felt that telling S before he engaged in the task that he would receive candy afterward would reinforce the instructions which assured S that any of the three response words was all right to choose and that no one of them was more correct than the others.

Next it was necessary to take into account the order in which the response words were given verbally to S during the instructions. Each S heard the three words repeated three times prior to seeing the models. The order in which they were stated was alternated each time so that a different word was spoken first during each of the three presentations. Thus each S heard the three words stated in three different orders. The order of verbal presentation of each set of words was also alternated so that for each set of words, one third of the Ss heard the first order spoken first, one third heard the second word-order spoken first, and for one third of the Ss the words were given in a third order upon their first verbal presentation. It also seemed necessary to add a fourth verbal presentation of the response words, after the modeling had taken place, for the purpose of reminding S of the three choices and to avoid his simply repeating whichever word he had heard last on the video tape. The order of statement of the words in this fourth presentation was kept constant across Ss by stating the unmodeled word first, the word used by the first model seen next, and the word used by the second model seen last. Thus the order of statement of the words was from the least recently heard to the most recently heard. The order in which the words were printed on the blackboard was also a variable to be controlled. This was kept constant across Ss in that for each S the order in which the words were

printed on the blackboard from left to right was the same as the order in which they were presented in the first spoken presentation. This was the presentation which was the least recently heard by S at the time that E printed the words on the blackboard.

Finally, the order of presentation of models in Stage III was arranged so that each S was shown first the model whom he had seen in Stage I, or the least recently seen model. The more recently seen model, whom S had seen in Stage II, was seen second by S in Stage III.

In the above ways the various orders of word and model presentation were distributed so that no particular word order or model was presented twice in succession, thus avoiding any unwitting loading of response tendencies toward one or another of the choices.

Supplementary Measure. In addition to the imitation measures described, each S was administered a semantic differential on two separate occasions, each time being asked to rate several different concepts. The purpose of this supplementary measure was to obtain another independent index of how the Ss perceived child care workers and therapists, with particular reference to how they perceived the power of each.

The validity and reliability of the semantic differential as an instrument for use with children has been repeatedly demonstrated, and factor analyses have consistently yielded identical results with those obtained from adult samples (Adams, 1967; DiVesta, 1966; DiVesta and Dick, 1966; Dixon and Simmons, 1966; Jachuck, et al, 1968; Osgood, et al, 1957; Whelan, 1966; Zax and Benham, 1961). The three major factors in order of contribution to common variance, both with the children and

adults, are: evaluative, potency, and activity (DiVesta, 1966; Osgood, et al, 1957; Rybolt, 1968; Small, 1958).

The scales employed in the present study were selected according to several criteria. First, they were all among those scales which received the highest weightings on one of the three factors in the three original factor analysis studies by Osgood and his colleagues which led to the development of the semantic differential technique (Osgood, et al, 1957). Next, all of the scales consisted of words which ranked among the most common words for children according to the Thorndike-Lorge Teacher's Word Book of 30,000 Words (Thorndike and Lorge, 1963). Finally, they were all scales which had been used extensively in applications of the semantic differential to research with children, and had been found to be both understandable and valid in use with children as young as five years of age (Donahoe, 1961; DiVesta, 1966; Hafner and Rosen, 1964; Maltz, 1963; Rybolt, 1968; Small, 1958; Zax and Benham, 1961). The scales thus selected and used in the present study, along with the factors which they measure, were: Good-Bad, Clean-Dirty, Kind-Cruel (Evaluative); Large-Small, Strong-Weak, Heavy-Light (Potency); Fast-Slow, Hot-Cold, Sharp-Dull (Activity).

The semantic differential was administered individually to each S on two separate occasions. The first administration took place approximately two weeks prior to S's involvement in the first experimental modeling session, and was administered by a different E than the one who conducted the modeling sessions. This was done in order to reduce the effects of possible pre-measure sensitivity. During this first semantic differential session S was asked to rate five concepts. The two concepts which were of

interest in the present study were S's Real Child Care Worker (the one in charge of his particular unit), whom E referred to by name, and S's Real Therapist, whom E also referred to by name. The other three concepts were "filler items" added to reduce the obviousness of the objective. These concepts were: Myself, Chair, and Horse. The second semantic differential was administered to each S at the end of the third experimental modeling session, after the imitation task had been completed for the last time. The time span between the two semantic differential sessions was approximately one month. The second semantic differential was administered by the E who had conducted the modeling sessions, thus a different E than the one who had administered the first semantic differential. During the second rating session, each S again rated five concepts. The two concepts pertinent to the present study were the Child Care Worker Model and the Therapist Model, both of whom had been seen on video tape just a few minutes prior to this rating, and both of whom had been seen on tape twice overall by the S. The same three "filler items", Myself, Chair, and Horse, were also added in this second semantic differential rating. Thus, through the ratings of the four pertinent concepts over the two sessions, it was hoped that information would be obtained regarding Ss' perceptions of power of those figures with whom he had had interactions within the hospital structure, and their perceptions of power of child care worker and therapist based more on role than on personal encounter.

The semantic differential was administered according to the technique employed by Donahoe (1961). A five-step scale was employed since this has been shown to be more effective with children than the seven-point-scale most often used with adults (Donahoe, 1961; Maltz, 1963; Osgood et

al, 1959; Rybolt, 1968). According to this technique of administration, each scale was stated verbally to S with the preceding instructions that he should say which of the two words was most like the concept being rated, and that if neither of the words was more like it than the other, that he should say "neither". If S responded with "neither" his response was marked by E at the midpoint of the scale. If S responded with either of the two words of the scale, E asked S to choose between the word which S had said and the same word modified by the adjective "very". A "very" response received a marking as an extreme rating at the appropriate end of the scale. If S repeated his original choice, it was marked on the appropriate side of the scale between the midpoint and the extreme. This procedure was repeated for each of the nine scales. The instructions for the semantic differential, as read to the S, were:

I am going to ask you some questions. This is not a test. There are no right or wrong answers. I am going to say some words, two at a time. Whenever I say two of the words I want you to say which one of them is most like something. For example, if I said these two words, green-yellow, and I asked you which one was most like a tree, you could say either "green" or "yellow". Or if you felt that neither one of the words was more like a tree than the other one, then you should say "neither". Let's try it. Which of these words is most like a tree, green-yellow? (S responded. If he replied, "Green", E asked "Green or very green?" E similarly queried if S responded with, "Yellow". If S said, "Neither", E explained that he might have said "Green" and followed this with the inquiry, "Green or very green?"). Okay, let's try another one. This time think of the sky and say which of these words is most like the sky. Remember, if neither of them is more like the sky than the other, just say "neither". The words are cherry-lemon. (S responded and E repeated the procedure followed with the first example). Okay, now I'm going to say more words like these, two at a time. Whenever I say two words this time I want you to say which of them is most like ____ (The first

concept was presented. Following it, the other four concepts were presented with the brief instruction to S to remember to think of the new concept and a reminder that he might choose either of the two words or say "neither" for each scale presentation).

The numerical values given to the five steps of the scale were: -2, -1, 0, +1, +2. The order of presentation of the nine scales was randomized for each of the concepts. The polarization of the scales was also randomized so that the positive or negative side of the scale was stated first depending upon the randomized order. Finally, the order in which the concepts were presented was randomized for each S.

CHAPTER III

RESULTS

Imitation Results. Separate analyses of the data were performed for the total sample of 48 subjects in each of the three stages by means of a one-sample chi square (X^2) analysis (Edwards, 1954; Siegel, 1956). For purposes of these analyses, frequency counts were made of the number of Ss who chose the same word as each of the models, or who chose the unmodeled word. When a S chose a word, it was entered as a score of one in the appropriate cell in the frequency table (e.g. same word as therapist model, same word as neutral model, unmodeled word). Consequently, the data for analysis were the number of Ss falling in each cell. Table 3 shows the number of Ss choosing the same word as each of the models or the unmodeled choice in each stage, and the resulting chi squares. As can be seen from this table, in Stage I the word used by the child care worker model was chosen most often and the X^2 produced by this effect was significant at the .01 level. Thus, Hypothesis I was supported in that the child care worker figure was found to be a more effective model than the neutral figure was for the same children, when these two models were presented in comparison to one another. The results of the modeling effect in Stage I are graphically illustrated in Figure 1.

In Stage II, the word used by the therapist model was chosen most often and the X^2 produced by this effect was significant at the .05 level. Thus, Hypothesis II was supported in that the therapist figure was found to be a more effective model than the neutral figure was for the same children, when these two models were presented for comparison with one

Table 3

CHI SQUARES FOR MODELING EFFECTS IN THE THREE STAGES

Stage	Model	No. of Ss Choosing Same Word	χ^2
Stage I	Child Care Worker	26	9.50**
	Neutral	10	
	No Model	12	
Stage II	Therapist	24	6.00*
	Neutral	12	
	No Model	12	
Stage III	Child Care Worker	25	10.12**
	Therapist	7	
	No Model	16	

* $p < .05$ ** $p < .01$

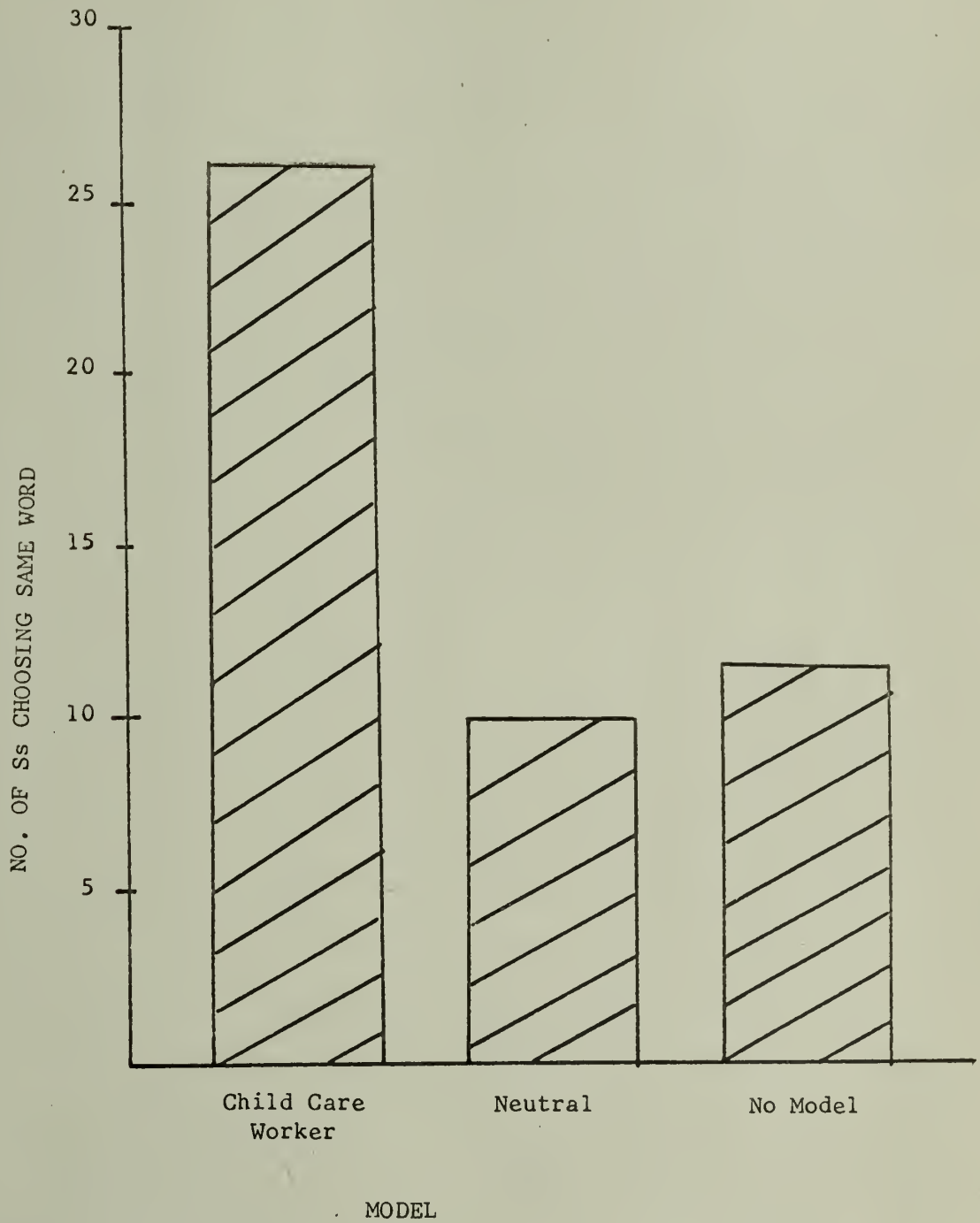


Figure 1. Modeling effects in Stage I.

another. Figure 2 graphically presents these results.

In Stage III, the word used by the child care worker model was chosen most often and the X^2 produced by this effect was significant at the .01 level. Thus, Hypothesis III was supported in that the child care worker figure was found to be a more effective model than the therapist figure was for the same children, when these two models were presented in comparison to one another. The results of the modeling effect in Stage III are graphically presented in Figure 3.

The data were further studied according to differences within each pair of modeled or model-absent conditions in each of the three stages, in order to obtain information as to how each of these differences contributed to the overall X^2 s for each stage. These analyses were performed by means of Cochran's (1954) X^2 formula for use with reduced degrees of freedom. The results of these analyses for Stage I are presented in Table 4. This table shows that the word used by the child care worker model was chosen more often than that used by the neutral model. This effect was significant at the .01 level. The word used by the child care worker model was also chosen more often than the unmodeled word, and this effect was significant at the .05 level. No significant difference was found between selection of the neutral model's word and the unmodeled word in Stage I.

The results of a similar analysis for Stage II are presented in Table 5. As indicated by this table, the word used by the therapist model was chosen more often than that used by the neutral model, and this effect was significant at the .05 level. The word used by the therapist model was also chosen more often than the unmodeled word, and this effect was also

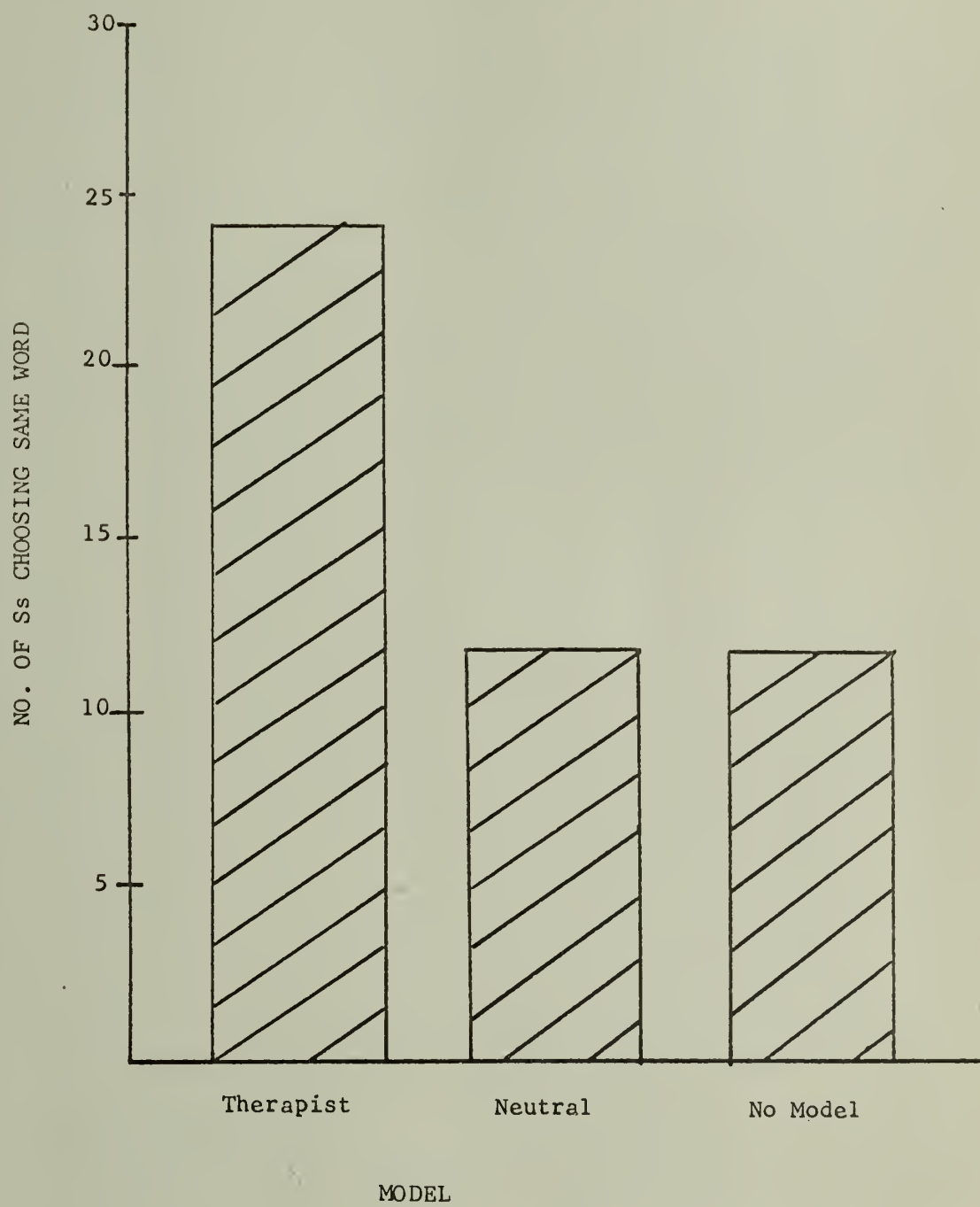


Figure 2. Modeling effects in Stage II.

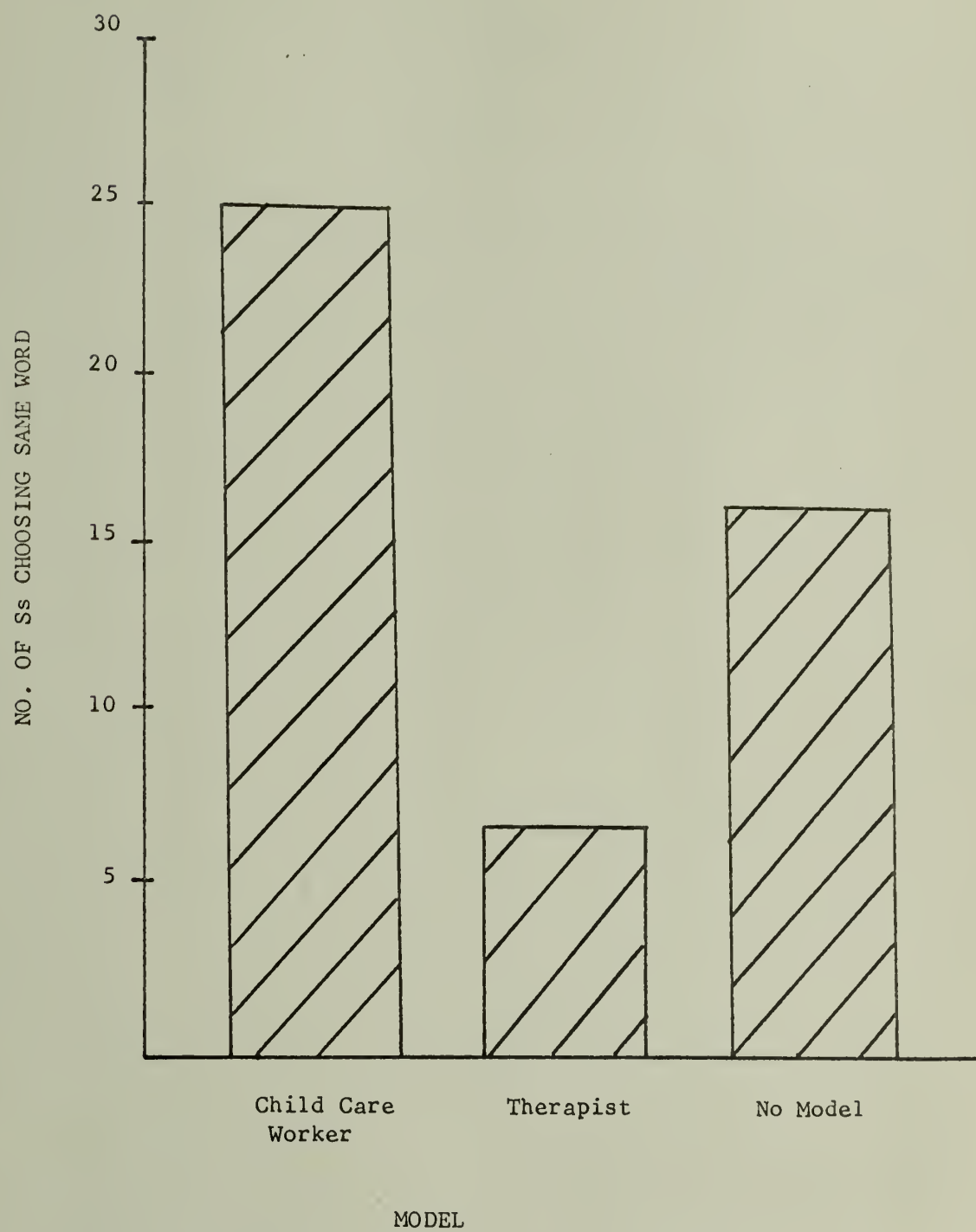


Figure 3. Modeling effect in Stage III.

Table 4

CHI SQUARES WITH REDUCED DEGREES OF FREEDOM FOR STAGE I

Model	No. of Ss Choosing Same Word	χ^2
Child Care Worker Neutral	26 10	7.11**
Child Care Worker No Model	26 12	5.16*
Neutral No Model	10 12	.18

* $p < .05$ ** $p < .01$

Table 5

CHI SQUARES WITH REDUCED DEGREES OF FREEDOM FOR STAGE II

Model	No. of Ss Choosing Same Word	χ^2
Therapist	24	4.00*
Neutral	12	
Therapist	24	4.00*
No Model	12	
Neutral	12	0.00
No Model	12	

* $p < .05$

significant at the .05 level. No significant difference was found between selection of the neutral model's word and the unmodeled word in Stage II.

Table 6 presents the results of a similar analysis of the data in Stage III. As can be seen from this table, the word used by the child care worker model was chosen more often than that used by therapist model, and this effect was significant at the .01 level. The word used by the child care worker model was also chosen more often than the unmodeled word, but this effect was not significant. Surprisingly, the unmodeled word in Stage III was chosen more often than that used by the therapist model, and although this effect was not significant, there was a trend toward significance ($p < .10$).

In order to obtain more information regarding the relative amounts of imitation of the two "powerful" models when they were compared directly, frequency counts were made of the number of times each was imitated in Stage III by those subjects who had imitated the child care worker model in Stage I and those who had imitated the therapist model in Stage II. The results are presented in Table 7. They showed that of the twenty-six subjects who had imitated the child care worker model in Stage I, fifteen of them imitated the child care worker model in Stage III, four of them imitated the therapist model in Stage III, and seven of them chose the unmodeled alternative in Stage III. Thus, the majority of the Ss who had imitated the child care worker model in Stage I also imitated the child care worker model in Stage III. This effect produced a X^2 which was significant at the .05 level. The results of this analysis are graphically presented in Figure 4.

Table 6

CHI SQUARES WITH REDUCED DEGREES OF FREEDOM FOR STAGE III

Model	No. of Ss Choosing Same Word	χ^2
Child Care Worker Therapist	25 7	10.13**
Child Care Worker No Model	25 16	1.98
Therapist No Model	7 16	3.52+

+ $p < .10$ ** $p < .01$

Table 7

IMITATION IN STAGE III OF Ss WHO IMITATED THE "POWERFUL" MODELS IN
STAGES I AND II

Ss	Model in Stage III	No. of Ss Choosing Same Word	χ^2
Ss who imitated the child care worker model in Stage I (N = 26)	Child Care Worker Therapist No Model	15 4 7	7.46*
Ss who imitated the therapist model in Stage II (N = 24)	Child Care Worker Therapist No Model	13 3 8	6.26*
Ss who imitated both the child care worker model in Stage I and the therapist model in Stage II (N = 14)	Child Care Worker Therapist No Model	9 1 4	6.99*

* $p < .05$

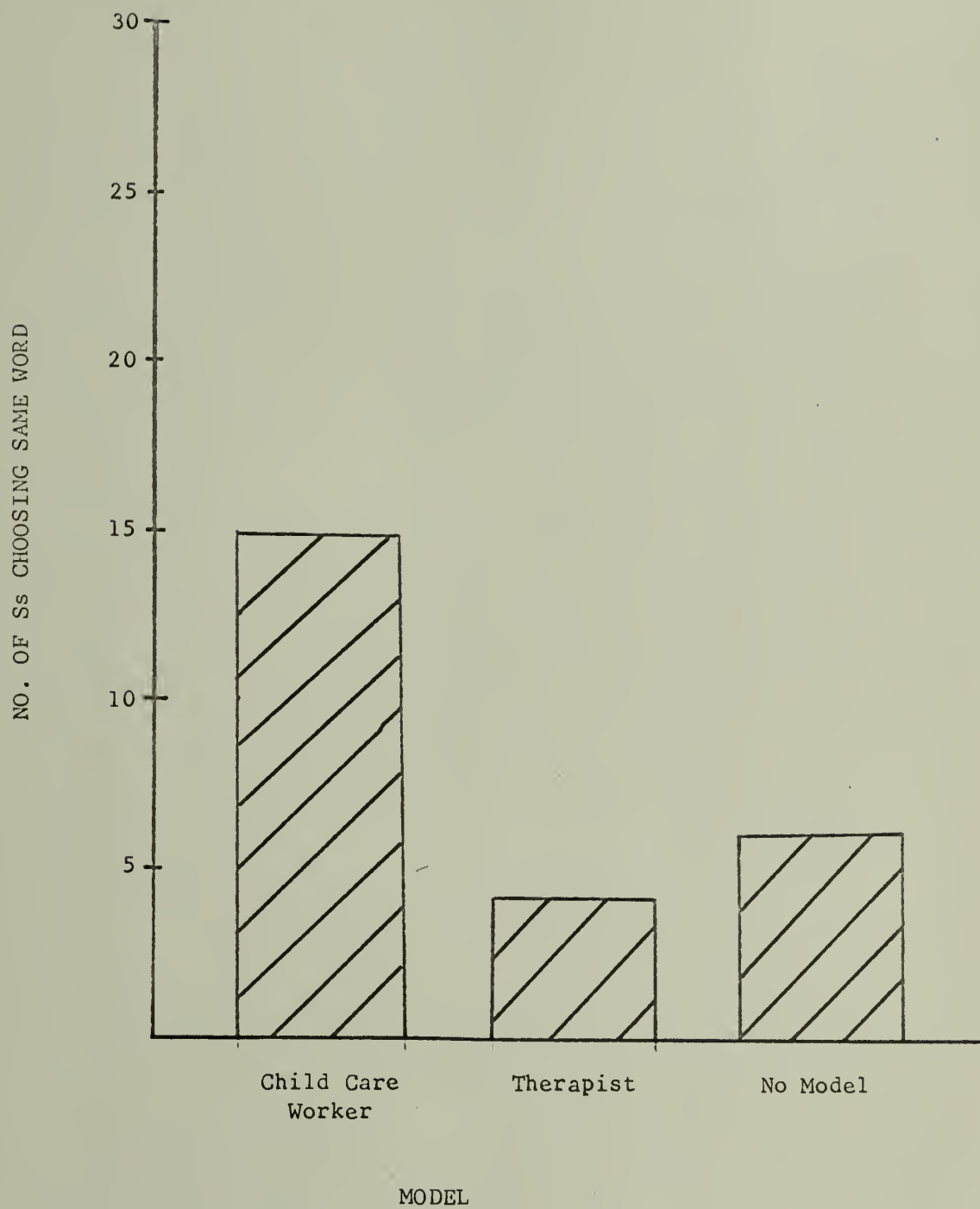


Figure 4. Imitation in Stage III of Ss who imitated the child care worker model in Stage I (N = 26).

Of the twenty-four Ss who had imitated the therapist model in Stage II, thirteen of them imitated the child care worker model in Stage III, three of them imitated the therapist model in Stage III, and eight of them chose the unmodeled alternative in Stage III. Thus, the majority of the Ss who had imitated the therapist model in Stage II imitated the child care worker model in Stage III. This effect produced a X^2 which was significant at the .05 level. The results of this analysis are graphically presented in Figure 5.

Of these Ss who were considered in the above two analyses, there were fourteen Ss who had imitated both the child care worker model in Stage I and therapist model in Stage II. Of these fourteen, nine imitated the child care worker model in Stage III, one imitated the therapist model in Stage III, and four chose the unmodeled alternative in Stage III. Thus, the majority of the Ss who had imitated both the child care worker model in Stage I and therapist model in Stage II, imitated the child care worker model in Stage III. This effect produced a X^2 which was significant at the .05 level. The results of this analysis are graphically illustrated in Figure 6.

These results lend further support to the hypotheses since the child care worker model was imitated most often in Stage III by those Ss who had imitated the therapist model in Stage II as well as by those Ss who had imitated the child care worker model in Stage I, and also by those Ss who had imitated both of the "powerful" models in the first two stages. Thus the results support the expectation that both the child care worker model and the therapist model would be imitated more when compared to the neutral model, but that the child care worker model would be imitated more

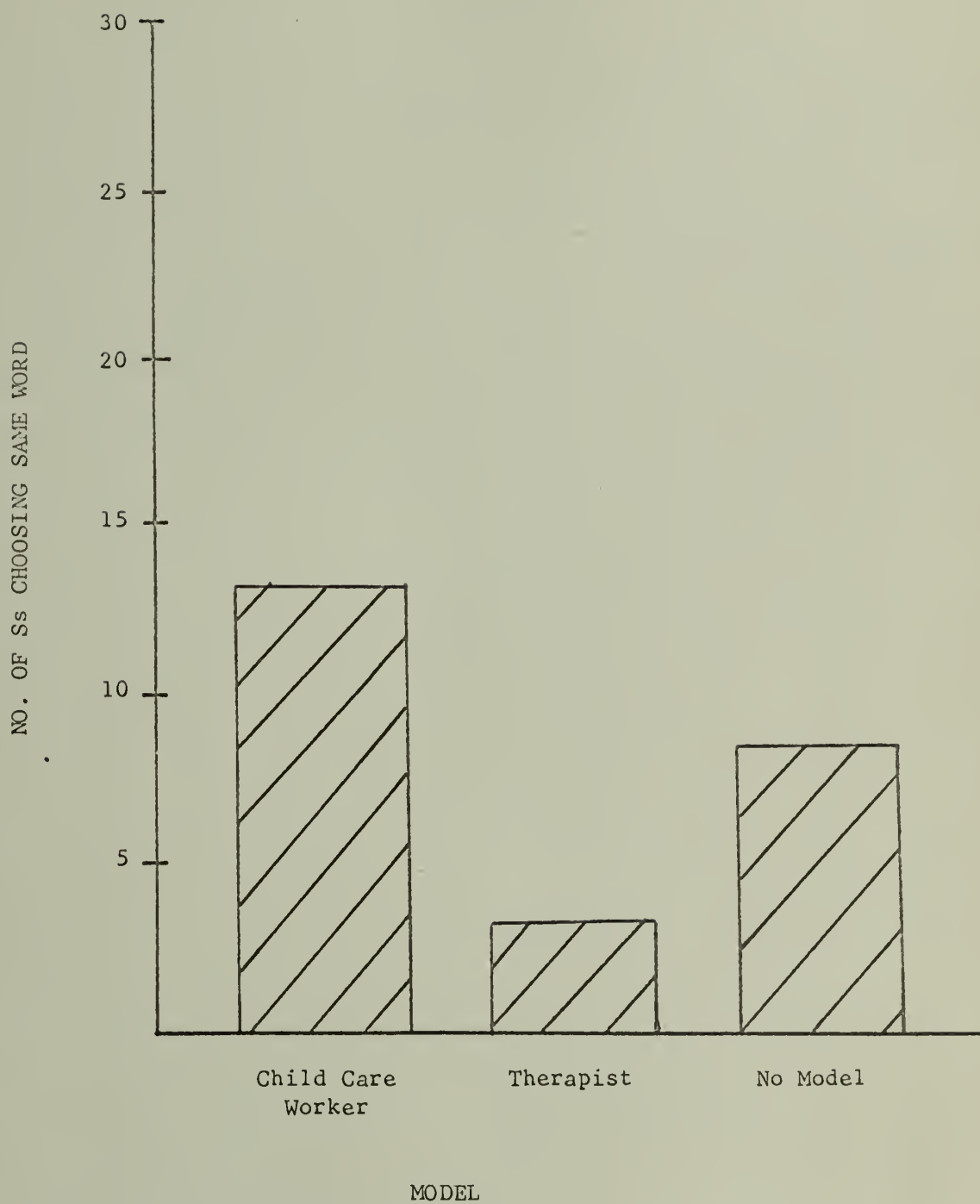


Figure 5. Imitation in Stage III of Ss who imitated the therapist model in Stage II (N = 24).

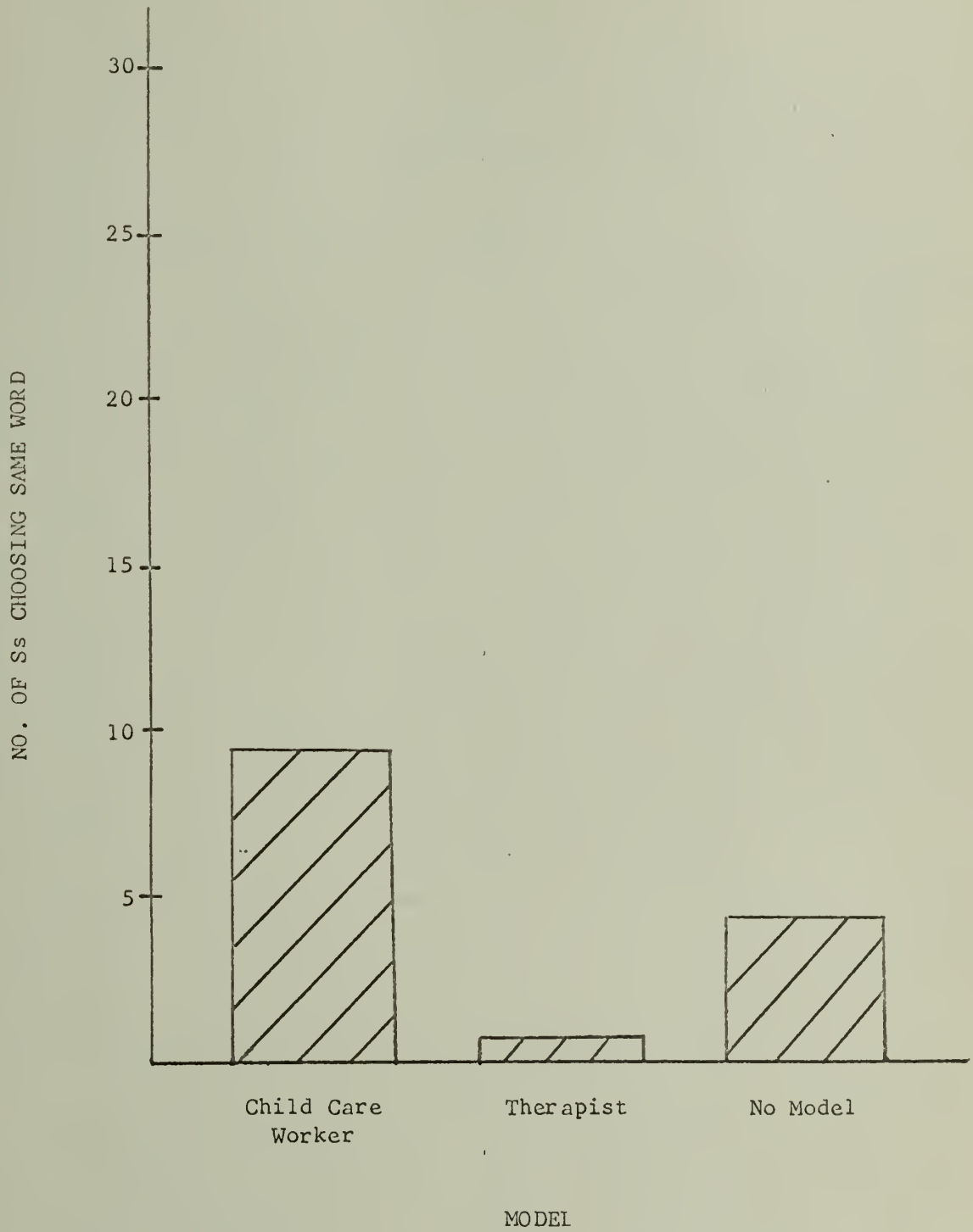


Figure 6. Imitation in Stage III of Ss who imitated both "powerful" models in the first two stages (N = 14).

than the therapist model when the two "powerful" models were compared with each other.

In order to investigate whether the three different sets of words had any differential effect on the outcome at each stage, a separate analysis was done on the number of times each word was chosen in each set in each of the three stages. Table 8 shows the result of this analysis for Stage I. As this table shows, in Stage I, the word used by the child care worker model ("Agree" in Set A, "Almost" in Set B, and "Same" in Set C) was chosen most often in each set; but this effect reached a level of significance only in Set C, for which it was significant at the .05 level.

Table 9 shows the results of a similar analysis for Stage II. As can be seen from this table, the word used by the therapist model ("Agree" in Set A, "Almost" in Set B, and "Same" in Set C) was chosen most often in each set; but this effect reached a level of significance only in Set A, for which it was significant at the .05 level.

The results of a similar analysis for Stage III are presented in Table 10. This table indicates that the word used by the child care worker model ("Equal" in Set A, and "Answer" in Set B) were chosen most often in Sets A and B, whereas the word used by the child care worker model in Set C ("More") was chosen one time less than the unmodeled word ("Same"). What seems meaningful is the fact that in all these sets, the word used by the therapist model ("Agree" in Set A, "Again" in Set B, and "Like" in Set C) was chosen least often. This would seem to agree with the earlier findings across word sets which indicated that imitation of the therapist model decreased sharply in Stage III from what it had been in Stage II,

Table 8

CHI SQUARES FOR EACH SET OF WORDS IN STAGE I

Set	Word	No. of Times Chosen	χ^2
A	Agree	9	3.88
	Also	4	
	Equal	3	
B	Almost	7	1.62
	Answer	3	
	Again	6	
C	Same	10	6.13*
	Like	3	
	More	3	

* $p < .05$

Table 9

CHI SQUARES FOR EACH SET OF WORDS IN STAGE II

Set	Word	No. of Times Chosen	χ^2
A	Agree	10	6.50*
	Also	4	
	Equal	2	
B	Almost	6	.12
	Answer	5	
	Again	5	
C	Same	8	2.38
	Like	3	
	More	5	

* $p < .05$

Table 10

CHI SQUARES FOR EACH SET OF WORDS IN STAGE III

Set	Word	No. of Times Chosen	χ^2
A	Agree	2	4.63+
	Also	5	
	Equal	9	
B	Almost	4	6.50*
	Answer	10	
	Again	2	
C	Same	7	1.62
	Like	3	
	More	6	

+ $p < .10$ * $p < .05$

while choice of the unmodeled word increased slightly in Stage III from what it had been in the first two stages. As Table 10 indicates, the effect of choosing the word used by the child care worker model was significant at the .05 level in Set B. A similar but non-significant trend was observed in Set A ($p < .10$).

Thus each of the sets of response words achieved significance at the .05 level in one of the stages, while no two sets of words achieved this level of significance in any one stage. None of the sets of words appeared to have systematic effects across stages. More will be said about these findings in the discussion.

Semantic Differential Results. The semantic differential data was analyzed by means of the Wilcoxon Matched-Pairs Signed-Ranks Test (Siegel, 1956). Separate analyses were performed on the differences between each pair of concepts on each of the three factors, evaluative, potency, and activity.

Table 11 shows the differences on each semantic differential factor between Real Therapists and Real Child Care Workers. As indicated by this table, Ss' real therapists were rated higher than were their real child care workers on the evaluative factor, or in other words, real therapists were rated as being more good than real child care workers. This difference was significant at the .01 level. Table 11 also shows that there were no significant differences between real therapists and real child care workers on the potency factor. Hence neither of these figures was rated as being significantly more powerful than the other. Finally on the activity factor, real child care workers were rated higher than real therapists, but this difference was not significant, although there was a trend in

Table 11

WILCOXONS FOR DIFFERENCES BETWEEN REAL THERAPISTS AND REAL CHILD CARE
WORKERS ON EACH FACTOR OF THE SEMANTIC DIFFERENTIAL

Factor	Concept	Mean (and Standard Deviation)	Z
Evaluative	Real Therapist	1.72 (.35)	-2.98**
	Real Child Care Worker	1.41 (.55)	
Potency	Real Therapist	1.01 (.64)	-1.48
	Real Child Care Worker	.88 (.57)	
Activity	Real Therapist	.33 (.50)	-1.79+
	Real Child Care Worker	.58 (.58)	

+ $p < .10$

** $p < .01$

this direction ($p < .10$). In summary, Ss rated real therapists as being higher than real child care workers on the evaluative factor, while there were no significant differences between the two figures on either the potency or activity factors. These findings are graphically presented in Figure 7.

Table 12 presents the differences on each semantic differential factor between Therapist Models and Child Care Worker Models. As can be seen from this table, there was not a significant difference between the two models on ratings on the evaluative factor. On the potency factor, there was again no significant difference between ratings of therapist models and ratings of child care worker models. On the activity factor, therapist models were rated higher than child care worker models, and although it was not significant, there was a trend in this direction ($p < .10$). In summary, no significant differences were found between ratings of therapist models and child care worker models on any of the three factors, but there was a trend in favor of the therapist models on the activity factor. These findings are graphically presented in Figure 8.

The differences on each semantic differential factor between Real Therapists and Therapist Models are presented in Table 13. As this table shows, the real therapists were rated higher than the therapist models on the evaluative factor, or real therapists were rated as being more good than therapist models. This difference attained significance at the .0001 level. There was no significant difference between ratings of real therapists and therapist models on the potency factor. Finally, therapist models were rated higher on the activity factor than were real therapists, or, in other words, therapist models were rated as being more active than

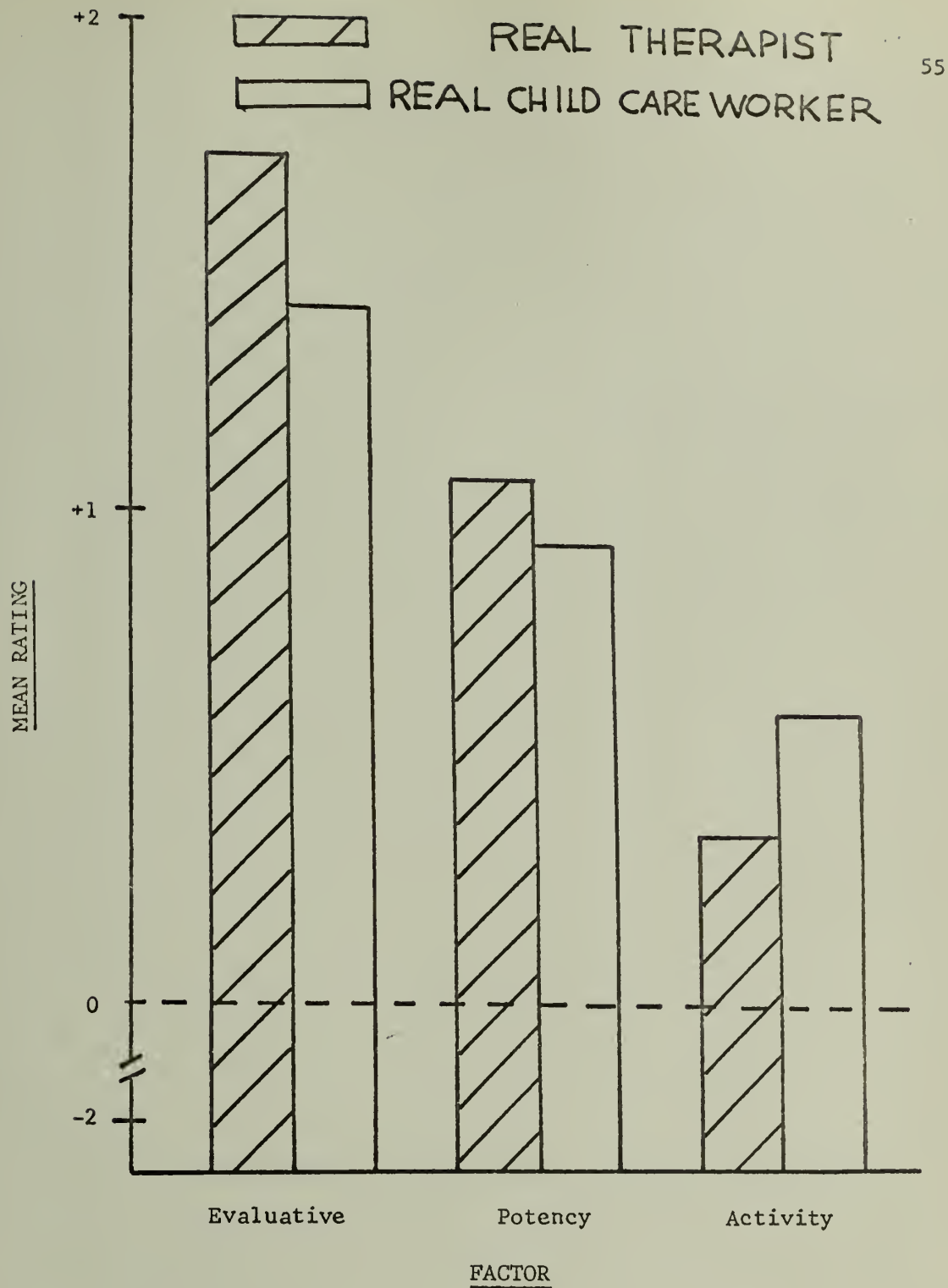


Figure 7. Semantic differential ratings of Real Therapists and Real Child Care Workers.

Table 12

WILCOXONS FOR DIFFERENCES BETWEEN THERAPIST MODELS AND CHILD CARE
WORKER MODELS ON EACH FACTOR OF THE SEMANTIC DIFFERENTIAL

Factor	Concept	Mean (and Standard Deviation)	Z
Evaluative	Therapist Model	1.36 (.57)	T = 123.50 ¹
	Child Care Worker Model	1.29 (.62)	
Potency	Therapist Model	.91 (.60)	-.55
	Child Care Worker Model	.95 (.60)	
Activity	Therapist Model	.54 (.49)	-1.82+
	Child Care Worker Model	.40 (.42)	

+ p < .10

¹The Wilcoxon was computed by means of the formula for small N ($N \leq 25$) on this factor. This was necessitated by the large number of tied scores on ratings of the two models on this factor, which were dropped from the actual computation process.

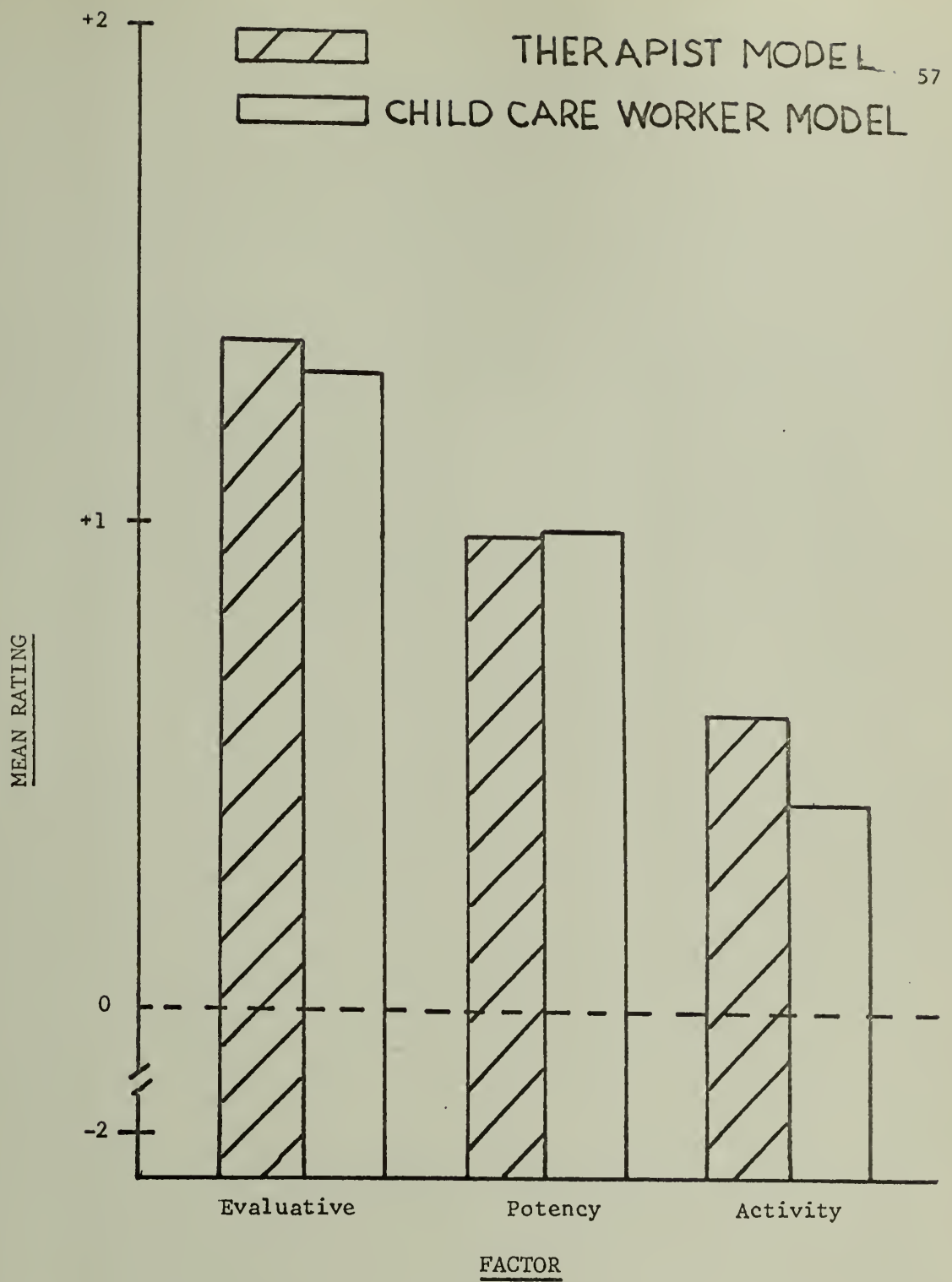


Figure 8. Semantic differential ratings of Therapist Models and Child Care Worker Models.

Table 13

WILCOXONS FOR DIFFERENCES BETWEEN REAL THERAPISTS AND THERAPIST MODELS
ON EACH FACTOR OF THE SEMANTIC DIFFERENTIAL

Factor	Concept	Mean (and Standard Deviation)	Z
Evaluative	Real Therapist	1.72 (.35)	-3.81**
	Therapist Model	1.36 (.57)	
Potency	Real Therapist	1.01 (.64)	- .46
	Therapist Model	.91 (.60)	
Activity	Real Therapist	.33 (.50)	-1.96*
	Therapist Model	.54 (.49)	

* $p < .05$

** $p < .0001$

real therapists. This difference was significant at the .05 level. Thus Ss rated real therapists as being higher on the evaluative factor than therapist models, while therapist models were rated as being higher on the activity factor than real therapists. There was no significant difference between the two figures on the potency factor. Figure 9 presents a graphic illustration of these findings.

Table 14 presents the differences on each semantic differential factor between Real Child Care Workers and Child Care Worker Models. As this table shows, there was no significant difference between the real child care workers and the child care worker models on any of the three factors. In other words, neither of these two figures was rated as being more good, more powerful, or more active than the other. These findings are graphically presented in Figure 10.

A further investigation was performed on the semantic differential ratings of those seven Ss who had imitated the therapist model in Stage III as compared to the semantic differential ratings of those Ss who had not, in order to find out if there were differences in the semantic differential ratings of these two groups. A two by two chi square analysis based on the number of Ss in each group whose ratings scored above and below the median ratings for the total sample (Edwards, 1954; Siegel, 1956) revealed no significant differences between these two groups on ratings of any of the factors for the four concepts.

Before concluding the presentation of the results, it should be mentioned that nine of the male Ss in the study had female therapists in their treatment at the hospital. While all of the models in the study were of the same sex as the Ss for whom they modeled, such control of sex

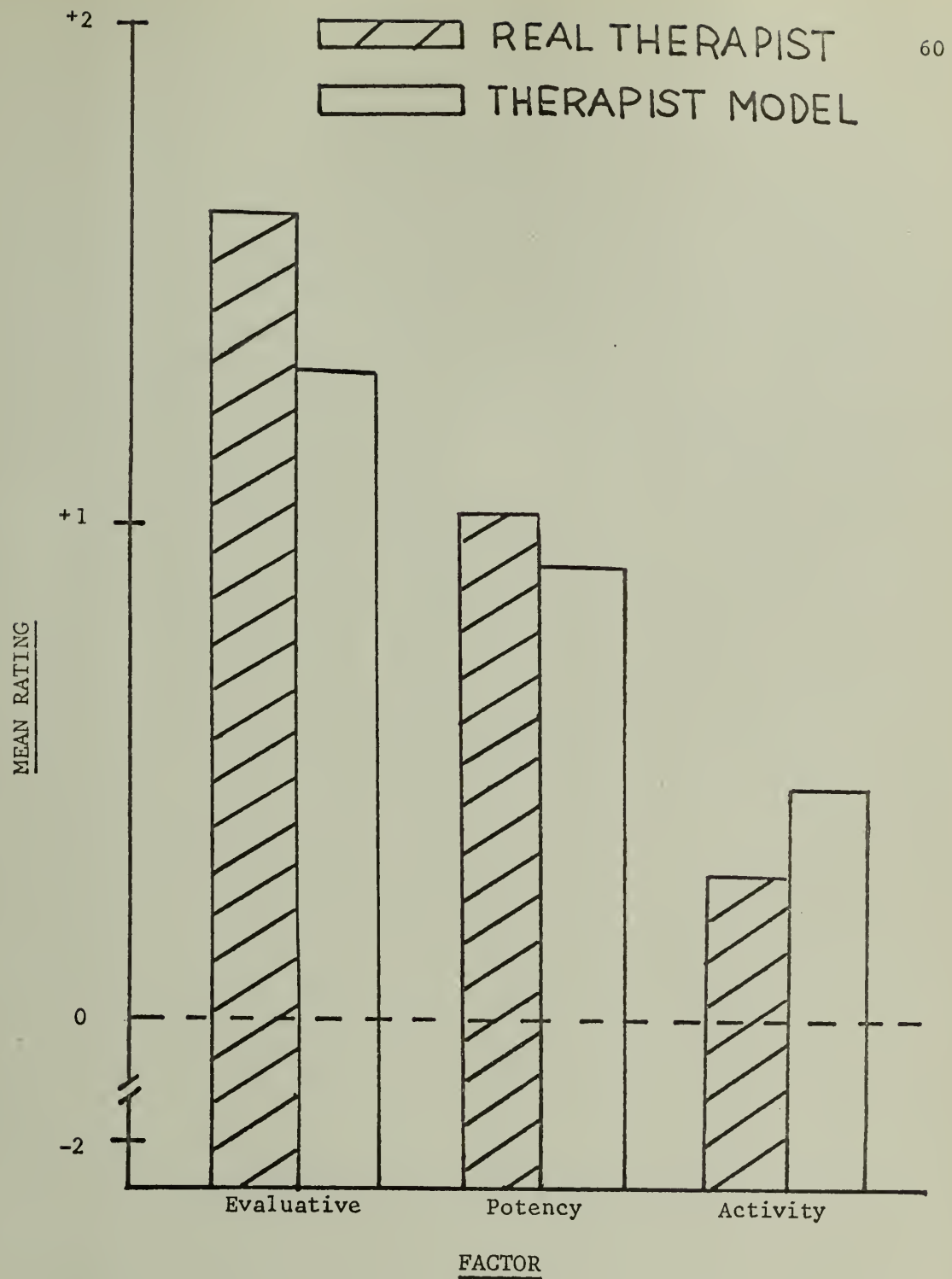


Figure 9. Semantic differential ratings of Real Therapists and Therapist Models.

Table 14

WILCOXONS FOR DIFFERENCES BETWEEN REAL CHILD CARE WORKERS AND CHILD
CARE WORKER MODELS ON EACH FACTOR OF THE SEMANTIC DIFFERENTIAL

Factor	Concept	Mean (and Standard Deviation)	Z
Evaluative	Real Child Care Worker	1.41 (.55)	-1.00
	Child Care Worker Model	1.29 (.62)	
Potency	Real Child Care Worker	.88 (.57)	- .20
	Child Care Worker Model	.95 (.60)	
Activity	Real Child Care Worker	.58 (.58)	- .89
	Child Care Worker Model	.40 (.42)	

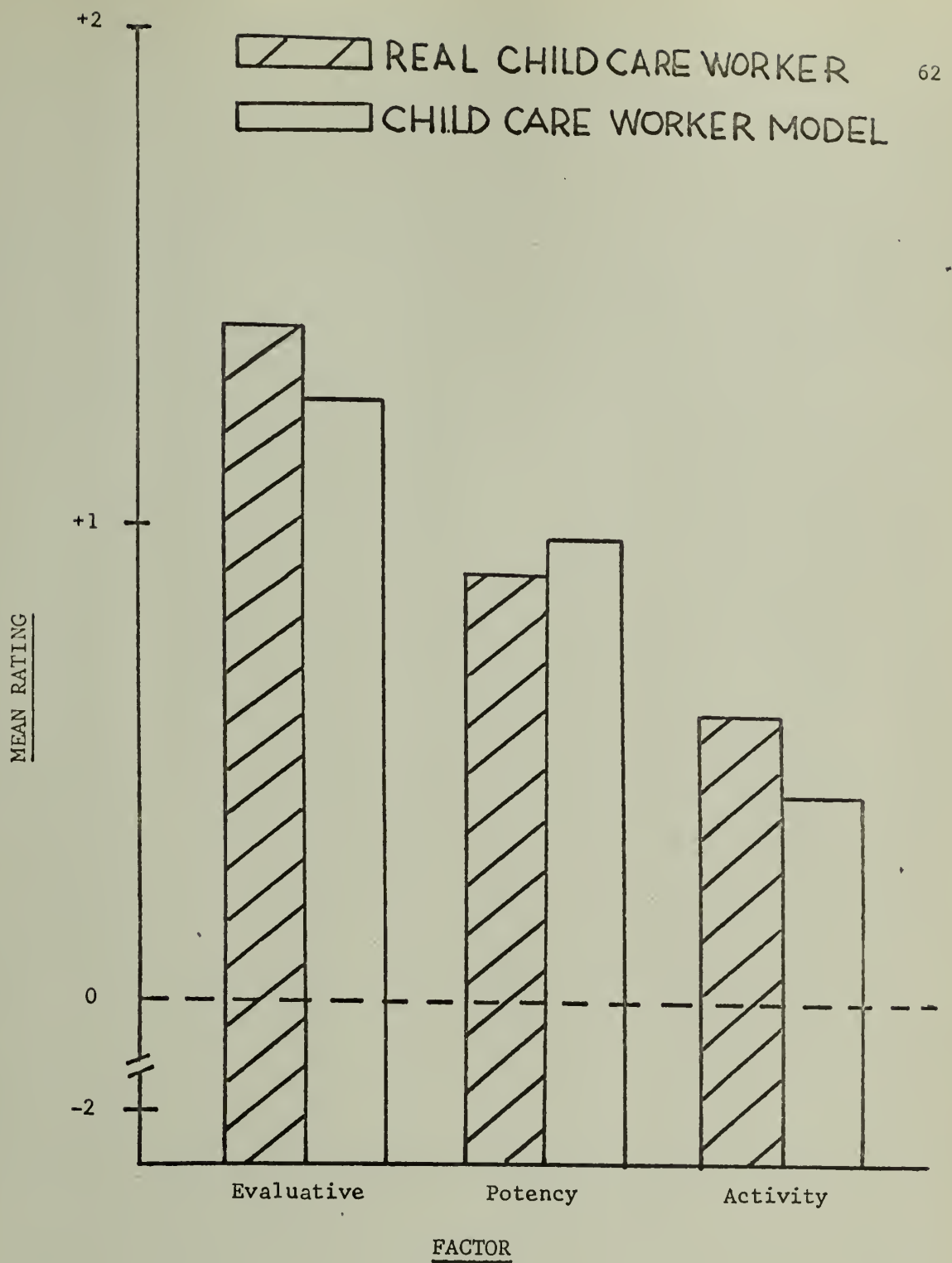


Figure 10. Semantic differential ratings of Real Child Care Workers and Child Care Worker Models.

was obviously not possible on the semantic differential ratings of real therapists for these nine Ss. Therefore it was felt to be prudent to study separately the ratings of real therapists by these nine Ss on the potency factor, since it seemed likely that this would be the factor most affected by sex differences if any factor were so affected. The reason for this is that the scales which comprise the potency factor refer more directly to physical differences than do the scales which comprise the other factors. Also, potency was the factor most pertinent to the present study. It is possible that this sex difference might have weighted the potency factor in favor of the real child care workers (since they were all male for these same nine Ss), and thereby might have depressed what could have been a significantly higher potency rating for real therapists over real child care workers in the analysis for the total N of forty-eight Ss. A Wilcoxon test was therefore performed on the differences between real therapists and real child care workers in ratings on the potency factor by these nine Ss. The results of this analysis were quite consistent with those of the analysis using all forty-eight Ss. Real therapists were rated slightly higher than real child care workers on the potency factor, but this difference was not significant ($T = 9.00$). A similar analysis was then performed using the data obtained from the remaining thirty-nine Ss who had same-sex therapists as well as the same-sex child care workers. Again the results were quite consistent with the overall analysis using the data from all forty-eight Ss. Real therapists were rated slightly higher than real child care workers on the potency factor, but this difference was not significant ($Z = -1.37$). The higher potency rating in favor of real therapists, in fact, increased slightly

when the data from the nine Ss mentioned above was added. Thus the sex differences between the real therapists and the real child care workers of these nine Ss did not appear to have any systematic effect upon the overall differences in potency ratings of real therapists and real child care workers for the total N of forty-eight Ss.

C H A P T E R I V

DISCUSSION

Imitation. Many of the questions about residential treatment, which were raised by the various authors discussed earlier, would appear on the basis of this investigation to be quite valid. The present findings indirectly support the views of those authors who have suggested that the therapist who sees the child once a week may not have the greatest potential of the various figures in the institution to produce positive changes in these children. Rather, as they have indicated, the child care worker, by nature of his day-to-day functions and the amount of time which he spends with the children, could be the most influential figure for children in residential treatment. With the knowledge that modeling is an effective means of altering behavior, the child care worker takes on significance as the agent of therapeutic change, since, as the present study suggests, he may be a more effective model than the therapist is for these children.

The results of the present study confirmed all of the hypotheses which were advanced. The results of the first stage showed that the child care worker figure was a more effective model than a neutral figure whose role had no direct relevance to the Ss' existence within the residential treatment center. The neutral figure, in fact, seemed to have no effect at all as a model in that there was no significant difference between the number of Ss who chose the same word as the neutral figure and the number of Ss who chose the word which had not been modeled. In fact, the unmodeled word was chosen twice more than the word which had been modeled by the neutral figure. These results suggest that the Ss did not imitate

indiscriminately, but rather, imitated the modeled behavior only when the model was a figure who had some significant meaning to them.

The results of the second stage confirmed the second hypothesis in that the therapist figure was also found to be a more effective model than the neutral figure. In this stage there was no absolute difference between the neutral model and the no model conditions, while the word used by the therapist model was chosen significantly more often than either of the other two. So again it appears that the significance of the model's role in the eyes of the Ss determined whether or not the Ss imitated the modeled behavior.

The results of the third stage confirmed the third hypothesis in that when the two "powerful" models were presented in direct comparison, the child care worker figure proved to be a more effective model than the therapist figure. This would seem to provide some support for the contention that the role of the child care worker is potentially a more powerful one than that of the therapist in a residential institution, at least in the sense that the young patients in such a facility would be more prone to imitate the behavior of the child care worker than they would be to imitate the behavior of the therapist. When the results of Stage III are investigated in further detail, they present a most interesting picture. Of the three separate stages in the study, Stage III is the only one in which the overall significant difference between the three conditions (child care worker model, therapist model, no model) is almost entirely due to the greater modeling effect which the child care worker figure had over the therapist figure. Unlike Stage I in which the child care worker model's word was chosen by a significantly greater number of Ss than the

unmodeled word, and Stage II in which the therapist model's word was also chosen by a significantly greater number of Ss than the unmodeled word, in Stage III the difference between the child care worker model and the no model conditions was not significant. There did appear to be a small contribution to the overall significant difference between the three conditions made by a greater number of Ss choosing the unmodeled word than the therapist model's word. Thus, while the number of Ss who imitated the child care worker figure in the third stage remained relatively constant in comparison to the number who imitated him in the first stage when he was paired with a neutral model, the therapist figure appeared to lose his effectiveness as a model when paired with the child care worker figure, and the number of Ss choosing the unmodeled word increased from what it had been in the first two stages.

In attempting to account for these somewhat unexpected findings, the results with regard to the performance in Stage III of those Ss who imitated the "powerful" models in the first two stages, might again be cited. These findings indicated that of those Ss who had imitated the child care worker model in Stage I, and of those who had imitated the therapist model in Stage II, the majority of both groups imitated the child care worker model in this last stage. Among these two groups, there were fourteen Ss who imitated both the child care worker model in Stage I and the therapist model in Stage II. Of this group, once again the majority of the Ss imitated the child care worker model in Stage III. These patterns of performance across the three stages support the notion that the therapist model did lose the effectiveness as a model that he had demonstrated in Stage II, when he was paired with the child care worker model in Stage III. The

question remains, however, as to why the decrease in the number of Ss imitating the therapist in Stage III became an increase in the number who chose the unmodeled word rather than an increase in favor of the child care worker model. The reason may be that Stage III presented a stronger conflict than either of the first two stages since the Ss were forced to choose between the two "powerful" models, whereas in the first two stages they had had to make a choice between a "powerful" and a "non-powerful" model. In light of this conflictual situation, it would seem more reasonable that more Ss should "leave the field" of the conflict by choosing the unmodeled word, thus not having to make the choice between "powerful" models. There is support for this concept. The pattern of performance across stages reveals that of those fourteen Ss who imitated both of the "powerful" figures in the first two stages, four chose the unmodeled word in the last stage. Such a pattern of performance for these four Ss would seem to indicate the type of conflict resolution just indicated. The pattern of responding of these four Ss is even more revealing when it is noted that if these four Ss had not chosen the unmodeled word in Stage III, the unmodeled word would have been chosen twelve times, the exact number of times it was chosen in both of the first two stages. If these same Ss had then imitated the therapist model, or even if half of them had imitated the therapist model and half the child care worker model (as probability would predict), then the ratio of Ss imitating the therapist to Ss choosing the unmodeled word would have been quite consistent with the neutral model-no model ratios obtained in the first two stages. Such a situation would then have indicated a relatively constant distribution of frequencies in the three conditions across stages, with the therapist

model taking the place of the neutral model in Stage III. Thus the resolution of the conflict of these four Ss by choosing the unmodeled word in Stage III may explain the discrepant frequencies in the therapist model and no model conditions of this final stage.

The question might still be asked as to why the conflict situation in Stage III did not result in fewer Ss choosing the child care worker model as well as the therapist model. The answer seems to lie in the superior modeling strength of the child care worker model relative to the therapist model. This greater effectiveness of the child care worker model to the therapist model when they were presented in direct comparison has already been noted in the patterns of performance across stages of Ss who imitated the two "powerful" figures in the first two stages. In short, it is suggested that the modeling effect of the child care worker figure was strong enough to overcome the conflict which Stage III presented, while the modeling effect of the therapist figure was not strong enough to do so. It might also be pointed out that if the Ss are divided into groups on the basis of which condition they fell into in Stage I or in Stage II, in every case, no matter whether they chose the "powerful" model's word, the neutral model's word, or the unmodeled word in these first two stages, each group's pattern of performance in Stage III was similar. That is, in each of these groups, the greatest number of Ss imitated the child care worker model in Stage III while the least number of Ss imitated the therapist model. It therefore seems that the conflict resolution in Stage III followed one of two patterns. Either the more effective child care worker model was imitated or the unmodeled word was chosen and the conflictual choice was thus avoided. In only seven cases was the therapist model

chosen to be imitated over the child care worker model. Again it appears that a considerable number of Ss were able to resolve the conflict, or saw no conflict, by imitating the more effective child care worker model, while it was considerably more difficult for Ss to imitate the therapist model in comparison to a model whose modeling effect was considerably stronger. In this light, the pattern of performance in Stage III seems understandable.

Another finding which merits some discussion is the fact that a different set of words, and only one set, produced a significant effect in each stage of the study. This was not expected because the pilot data had shown the equivalent probability of choosing each word in each set. This was, in fact, one of the criteria by which the words were chosen for inclusion in the study. When the results based on the sets of words were examined more closely, it was found that it was not the words themselves, but who modeled the words in each set that produced the observed effects. In the first two stages, the "powerful" models used the same word in each set and the results are what would be expected in that the words which these models used were chosen most often in each set. The words were re-assigned randomly in Stage III, however, and this time the word chosen most often in each set differed from the word chosen in the first two stages with the exception of Set C. Once again it was the word used by the "powerful" model, in this case the child care worker model, which was chosen most often in Sets A and B. In Set C, the word chosen most often in the third stage was the unmodeled word. The reason for this appears to lie in the fact that two of the four subjects who were noted to have imitated each of the "powerful" models in the first two stages and

"escaped" the conflict by choosing the unmodeled word in the third stage, were given Set C in the third stage. Thus the "conflict escape" effect in Stage III seemed to have affected Set C more than the other two word sets. Furthermore, in each word set in Stage III, the word used by the therapist model was chosen least often, whereas this had not been true of these same words in the first two stages. Once again it seemed to be who modeled the word, rather than the word itself, that produced the effects noted in the three sets of words. Overall, then, the equivalent word probabilities within each set, which were established in the pilot work, appeared to be upheld in the present study. The equivalence between each set of words was not established in the pilot work, however, and it was because such equivalence could not be assumed that the design was balanced so that all three word sets were presented an equal number of times in each stage of the study. Therefore, even if the three word sets were found to be non-equivalent, this balancing should have reduced to a minimum or eliminated any systematic effects which such non-equivalence might have had. The fact is that no single word set produced a systematic effect across stages, and in each stage it required the cumulative effects of all three sets of words to produce the significant model effects observed in each case. In short, it is suggested that the observed effects of the three sets of words in each stage reflected the general modeling effects discussed earlier, that in fact, the word sets in and of themselves did not appear to contribute in any systematic manner to the overall modeling effects, and that had any non-equivalence of word sets existed, the effects of such non-equivalence would have been reduced to a minimum or eliminated by the balancing procedures employed.

Semantic Differential Ratings. Turning now to the Ss' perceptions of their own therapists and child care workers and of the therapist and child care worker models as reflected by their semantic differential ratings, the first thing to be noted is the skewness of the distribution of these ratings. None of the four concepts received a negative mean rating on any factor. Such a loading on the positive end of the scales would seem to imply that these figures were perceived by the Ss as being good, powerful, and active. However, it is also possible that this skewness reflects a biased rating on the part of the Ss. It must be remembered that these ratings were given within the confines of the institution and that the Ss were asked to rate figures who fill the roles most closely associated with the Ss' own treatment programs, and figures who have the primary responsibility of evaluating the progress of the Ss and making decisions regarding treatment procedures for the Ss. Moreover, these ratings were given verbally and were given by an E who was known by all of the children to be employed at the hospital. Thus it may have been somewhat threatening to the Ss to give negative ratings to these figures. If such a purposeful biasing of the ratings occurred, it would appear to have had its greatest effects upon the evaluative factor, on which all of the figures were given ratings quite high on the positive side of the scale. This would seem to make sense on the basis of what has just been said, since if the Ss felt threatened by giving negative ratings to these figures, it might be expected that of all the factors, they would feel most threatened by rating these figures as "bad".

To deal first with the comparison between ratings of Real Therapists and Real Child Care Workers, there were two notable differences.

Therapists were rated higher on the evaluative factor than child care workers, while child care workers were rated higher on the activity factor than therapists, although the latter was not significant, but reflected a trend in this direction. These differences appear to reflect the differences in the roles of these two figures, that is, therapists may be more consistent in their attempts to be benign, warm, giving, etc., while child care workers have relationships with the children which are more active in nature. The potency factor did not significantly differentiate between these two figures. At first glance, this would seem to suggest that the two were perceived as being equally powerful, and this might be so since, as was mentioned earlier, they are the two primary figures in the treatment of the child. However, the awareness component of the Ss' ratings must again be considered. If there was a biasing of ratings toward the positive end of the distribution, as the skewness of the distribution might indicate, and if this positive biasing was stronger in ratings of the therapists on the evaluative factor, as the extreme ratings on this factor may suggest, then there may also have been a biasing in favor of the therapists on the potency factor as well. What this would mean in terms of the present comparison would be that potency ratings of the therapists were inflated, producing a lack of differentiation on this factor when there may actually have been a difference in favor of the child care workers had not such a biasing occurred. The question might be asked as to why such a biasing would be stronger in the case of the therapists. One reason could be that the semantic differential was administered by an E who was known by most of the Ss to be a therapist at the hospital, and that the Ss' ratings were given verbally to this E. A second possible

reason might be one which deals with the role hierarchy of the institution itself. In the traditional roles assigned to therapists and child care workers, as discussed throughout this presentation, the therapist has been given the role of the primary agent of therapeutic change within the residential treatment structure. As such he might be seen to occupy a role which is at the top of the hierarchy of roles within the institution, or in other words as being the most "important" person in the structure. It is not unreasonable to assume that such a hierarchy would come to the attention of the patients. Thus, whether or not such an artificial hierarchy reflects accurately the real contributions of each of the staff members to the changes which take place in the children, the situation might arise that when these children are asked to consciously rate each of these figures on certain attributes, they might be likely to respond in terms of the hierarchy which they perceive. Of course it is possible that any biasing of ratings which may have taken place may have been no stronger for the therapists than for the child care workers. If this is so, it is interesting that such loaded ratings did not produce a significant difference on the potency factor. In light of the earlier suggestion that Ss may have felt somewhat threatened by assigning negative ratings to these figures, this finding may imply that Ss felt most threatened by assigning negative ratings on the potency factor, and may thus have perceived this factor as being the most important one in the overall evaluation of the concepts.

Turning to the comparisons of ratings of Therapist Models and Child Care Worker Models, there were some differences in the relationships from those observed in ratings of the real figures. On the potency

factor the actual mean score was this time in favor of the child care worker model, whereas it had favored the real therapist over the real child care worker, but once again it produced no significant effect. Moreover, there was no significant difference between the two models on the evaluative factor. This latter situation occurred not because of an increase in evaluative ratings of child care worker models over real child care workers, but because of a highly significant decrease in evaluative ratings of therapist models from evaluative ratings of real therapists. Again several possible explanations are suggested. The lack of a significant difference on the evaluative factor may reflect the Ss' perception of the two figures as being equally benign when the ratings are based merely on the roles rather than on past personal involvements with the figures being rated. In other words, it may simply be a case of the Ss' not knowing the two figures. On the other hand, it may be that the strong biasing on the evaluative factor in favor of the real therapist, which it has been indicated may have occurred, may have dropped off when Ss rated a therapist figure who was not their own therapist, since they did not feel the need to ascribe such extreme positive ratings to him. It is interesting to observe in the comparison of the ratings of these two models that the therapist models were rated as being more active than the child care worker models, whereas the real child care workers had been perceived as being more active than the real therapists. Both of these results tended toward significance. It should be noted that this reversal was not due to a significant decrease in the activity ratings of child care worker models from real child care workers. Rather it was due to a significant increase in the activity ratings of therapist models over

real therapists. Such a finding seems discrepant with the possible existence of biasing in favor of the real therapist as discussed above, for the difference on the activity factor between real therapists and therapist models would seem to imply that such a positive weighting on this factor was greater for the therapist models than for the real therapists. However, this is not necessarily the case if the activity factor is thought of as having a meaning somewhat different from the other two factors in relation to the concepts being rated. Whereas the personal qualities indicated by the evaluative factor would seem to be consistent with the roles of both therapists and child care workers, it may be that activity is a characteristic clearly associated with the child care worker while it is not seen as an essential part of the therapist's role. This differentiation would certainly be consistent with the role expectancies discussed above. If this can be assumed to be so, then the differences in activity ratings become clearer. It is possible that the biasing of ratings may not have affected this factor as it did the other two, in the event that it may have been easier for Ss to discriminate between therapists and child care workers as to the appropriateness of assigning this characteristic to each of them. In essence, what is suggested is that activity is a characteristic consistent with the role of the child care worker, but that it is not consistent with the perceived role of the therapist. The obvious question then arises that if a high rating on activity is perceived as being inconsistent with the role of the therapist, why did the therapist model receive significantly higher ratings than the real therapist on this factor?

What appears to have produced this significant difference was that

on the activity factor, as well as on the evaluative factor, the ratings of the therapist models were more similar to those of the real child care workers and child care worker models than the ratings of the real therapists were, while the ratings between the real child care workers and the child care worker models were quite consistent.

The most obvious implication of this statement is that the ratings of the child care workers were more consistent from real figures to models than were the ratings of the therapists. Again there are alternative explanations as to why this should be so. First is the possible biasing of ratings which has been mentioned frequently. The perception of therapist models as being similar to the child care workers, whereas real therapists had been perceived differently, supports the notion that there may have been positive biasing in favor of the real therapists. In this light, it should again be pointed out that the potency factor failed to produce a significant difference in ratings between any two factors. Thus, such a biasing in favor of therapists may have depressed possible higher potency ratings in favor of the child care workers. Moreover, it should be reiterated that the potency factor may have been perceived as being more "important" than the other factors to the extent that Ss would have felt too threatened had they given any figure lower ratings on this factor than any other figure.

The other possible explanation for the greater consistency in ratings of child care workers is that the Ss may, in fact, have had more consistent perceptions of what their real child care workers were like than they had with regard to their real therapists. This might be explained on the basis of their spending more time with their child care workers than with

their therapists, and of their having the opportunity to observe more of their child care workers' behavior in a variety of situations, as opposed to spending an hour a week with their therapists in a comparatively well defined interaction. It was such frequency of contact that Maccoby (1959) cited as one of the determining factors in establishing the power of a model; and it was such exposure to the behaviors of adults that Redl (1959) spoke of as a major factor in affecting the overall treatment of children in a residential setting. Thus it may have been more than just the power reflected by the potency factor of the semantic differential that gave the child care worker figure the type of power necessary to make him an effective model. The superior effectiveness as a model of the child care worker figure over the therapist figure, may have been due to a combination of factors reflected in the semantic differential ratings. It may have been a combination of power and activity which made the child care worker figure so influential. In reference to what was said earlier, a similar interaction between power and activity for the therapist figure, as perceived by the Ss, might have reduced the therapist model's effectiveness if a high degree of activity was perceived to be inappropriate to his role. In addition, the greater modeling effectiveness of the child care worker figure over the therapist figure may have been strengthened by the Ss' more clearly defined and consistent perception of the child care worker role as a result of their greater frequency of contact with their own child care workers in a variety of situations and interactions, and their greater opportunity to observe the various behaviors in which their own child care workers engage.

Implications and Suggestions for Future Research. The present study supports the notion that the child care worker may be a more influential figure in the residential treatment of children than has generally been recognized, at least as reflected in the roles which professionals and non-professionals have traditionally been assigned in residential treatment centers. If further support can be found for these findings, the implications are clear.

The first is that the effect which the child care worker may have on children in treatment has long been treated as a minor and non-crucial variable. But as Redl (1959) has suggested, the factors of the everyday life experience of the child which might be overlooked as irrelevant, may be crucial in determining the effectiveness of residential treatment for that child. Certainly the vast amounts of time which the child spends with the child care worker and the occasions in which the child care worker interacts with the child in the role of a parent substitute, at mealtime, at bedtime, in the administration of rewards and punishments, throughout the child's daily routines, encompass most of these factors. In light of the lack of consistency with regard to what the role of these figures really should be, the lack of formal training which many of them have, and the absence of systematic observation or recording of their own behaviors, we must ask what behaviors the children in their charge may be learning through observation and imitation of their behaviors, of which we are unaware; and we must keep in mind that these learned behaviors may be both helpful and detrimental to the overall effectiveness of the child's treatment program.

This line of reasoning leads to the next implication which the present

study has for residential treatment, that is the potential of the child care worker to be an effective therapeutic agent by channeling his modeled behaviors into a planned program of behaviors which it is deemed desirable for the child to learn. The direct use of modeling as a therapeutic tool has been demonstrated to be effective in the treatment of a variety of emotional disorders (Geer and Turteltaub, 1966; Kanfer and Phillips, 1966; Kelly, 1955), in the treatment of schizophrenic children (Lovaas, 1968), and most importantly for our present purpose, in the treatment of anti-social problems in boys who are in residential treatment (Sarason, 1968; Sarason and Ganzer, 1969). The systematic application of such a tool by figures whose modeling effectiveness within an institution has been demonstrated to be strong, should produce a system of treatment which is both more efficient and more effective than that which exists today. It is interesting to note, however, that despite this demonstrated effectiveness as an agent of change, the child care worker continues to be given secondary status in the professional hierarchy of residential treatment centers. It would seem that these workers could achieve maximum effectiveness if these hierarchies could be restructured or eliminated so that the children in treatment would perceive these figures as being "the important people" in their institutional lives.

With regard to the traditional system of residential treatment, this study has a general implication, that is that our entire system of residential treatment as we know it must be more clearly evaluated and defined. With the knowledge that the child care worker has the power to produce change in the children, it would seem that a "therapeutic milieu" might really be achieved by placing the emphasis of treatment on the continuous

day to day interaction between the children and the child care worker. By focusing on once a week therapy sessions as the key to treatment, it seems likely that the greatest potential effects of twenty-four hour residential care will continue to be overlooked. By changing the focus of treatment to that which occurs in the child's everyday experiences, and by systematic use of the modeling power which the child care worker has, residential treatment should become both more efficient and effective.

To obtain information about the above issues a great deal of research must be done. The findings of the present study suggest some directions for future investigations. It would certainly be advisable to investigate further the functioning of child care workers within the present system of residential treatment, and the effects which they have on the children for whom they care. More of these investigations might be done in the real-life settings of the institutions themselves. One possible method for such research might be to objectively record the behaviors of selected child care workers and selected children who are in the charge of these same child care workers. In this way the similarity of the child's behavior to that of the child care worker's could be measured, and measurements would also be obtained of the consistencies and inconsistencies in the behavior of various child care workers. Carrying this further, it would be interesting to vary the amount of interaction between the child and each of several child care workers, and to determine if the child's behavior becomes more like that of a new child care worker as he switches from being under the supervision of one child care worker to being under that of another. Similar studies might be made of the behavioral similarities and dissimilarities between children and their therapists, and these

findings might be compared to those obtained with the child care workers.

Future studies of the present type might also be done with more attention to what variables might increase or decrease the effectiveness of a child care worker model. The use of real child care workers as models would enable a comparison to be made between those who are effective models and those who are not. Analyses of these two types of individuals might then be made on the basis of differences in personality and behavioral attributes. Similar analyses could be made on the children who serve as Ss in these studies in order to obtain information as to what variables might affect the child's susceptibility to modeled behavior.

Through such future investigations more can be learned about what actually does occur in the process of residential treatment with regard to influences on the child's behavior. Further, we can begin to obtain knowledge about how we might use tools such as modeling to develop a systematic, consistent, and effective approach to the treatment of emotional disorders in children. Such knowledge may hasten the day when a total "therapeutic milieu" will really exist.

CHAPTER V

SUMMARY

This study investigated the relative effectiveness of the child care worker figure and the therapist figure as models for emotionally disturbed children in residential treatment.

Traditional concepts of residential treatment, as depicted in the literature, have assigned to the child care worker the role of an "adjunct to therapy". Others have suggested that he may be of crucial importance in determining the effectiveness of residential treatment for children, and may, in fact, be the most influential figure in the institution, in the eyes of the children.

The modeling and imitation literature offers an explanation as to how the child care worker might achieve such influence in the concept of "power of the model". Maccoby has discussed power in terms of a powerful figure being a person who controls the resources of another, and thus exerts power over that other person. The child care worker was seen as the figure who has such control over the resources of the children in a residential center, and who should thus be the most powerful person to these children. Since power has been shown to be an important variable in determining a model's effectiveness, it was suggested that the child care worker should be a more effective model for the children in his charge than the therapist should be for these same children. Past research was cited which has shown that merely labelling a figure as a powerful person is sufficient to make that person an effective model. Thus it was felt that by presenting disturbed children in a residential treatment

center with two models who were labelled respectively as child care workers and therapists, a measure could be obtained of the relative influence, through modeling of behaviors, of child care workers and therapists for children in residential treatment. The following hypotheses were advanced:

Hypothesis I.

When compared with a more neutral adult, whose role had no direct relevance to the child's existence within the institution, the child care worker figure would be a more effective model than this neutral figure.

Hypothesis II.

When compared with a similar neutral adult, the therapist figure would be a more effective model than this neutral figure.

Hypothesis III.

When the therapist figure and the child care worker figure were compared directly, the child care worker figure would be a more effective model than the therapist figure.

Subjects were forty-eight emotionally disturbed children who were in residential treatment. Imitation was tested by means of a task in which the subject was required to choose a word from among a group of words, each of which had been used by one of the models or which had not been used by any model. Subjects observed the models on video tape before performing on the task. In addition, each subject was administered a semantic differential on two separate occasions, on which ratings were obtained of the subjects' own therapists and child care workers, and of the therapist and child care worker models.

The results supported all of the hypotheses. Semantic differential

ratings were higher for real therapists than real child care workers on the evaluative factor, but there was not a significant difference between the two models on this factor. Real child care workers were rated higher than real therapists on the activity factor, indicating a trend toward significance, but this finding was reversed in comparing the two models. No significant differences were found between the concepts on the potency factor. The meanings of the results and the implications of the present study were discussed. Suggestions were made for future research.

REFERENCES

- Adams, Bill A. A semantic differential investigation of significant attitudinal factors related to three levels of academic achievement of seventh grade students. Dissertation Abstracts, 1967, 27(12-A), 4120-4121.
- Alt, Herschel Responsibilities and qualifications of the child care worker. American Journal of Orthopsychiatry, 1953, 23, 670-675.
- Asch, S. E. The doctrine of suggestion, prestige, and imitation in social psychology. Psychological Review, 1948, 55, 250-276.
- Bandura, A. Modeling approaches to the modification of phobic disorders. Cibia Foundation Symposium: The Role of Learning in Psychotherapy. London: Churchill, in press.
- Bandura, A., Ross, Dorothea, and Ross, Sheila A. Imitation of film-mediated aggressive models. Journal of Abnormal and Social Psychology, 1963, 66, 3-11.
- Bandura, Albert and Walters, Richard H. Social Learning and Personality Development. New York: Holt, Rinehart, and Winston, Inc. 1963.
- Battleheim, B. and Wright, B. Staff development in a treatment institution. American Journal of Orthopsychiatry, 1955, 25, 705-719.
- Blake, R. R. and Mouton, James. Present and future implications of social psychology for law and lawyers. Symposium Issue, Emory University Journal of Public Law, 1955, 3, 352-369.
- Bovard, E. W., Jr. Group structure and perception. Journal of Abnormal and Social Psychology, 1951, 46, 398-504.

- Campbell, D. Stereotypes and the perception of group differences. American Psychologist, 1967, 22(10), 817-829.
- Cochran, William G. Some methods for strengthening the common χ^2 tests. Biometrics, 1954, 10, 417-450.
- Davids, Anthony, Laffey, John J., and Cardin, Paul J. Intellectual and personality factors in effective child care workers. American Journal of Orthopsychiatry, 1969, 39(1), 68-76.
- de Charms, R. and Rosenbaum, M. E. Status variables and matching behavior. Journal of Personality, 1960, 28, 492-502.
- Dettleback, Miriam H. The role of residential treatment for children. American Journal of Orthopsychiatry, 1955, 25, 669-678.
- Di Vesta, F. A normative study of 220 concepts rated on the semantic differential by children in grades two through seven. Journal of Genetic Psychology, 1966, 109, 205-229.
- Di Vesta, F. and Dick, W. The test-retest reliability of children's ratings on the semantic differential. Educational Psychology Measurements, 1966, 26, 605-615.
- Dixon, Joan F. and Simmons, Carolyn H. The impression value of rules for children. Child Development, 1966, 37(4), 861-866.
- Donahoe, John W. Changes in meaning as a function of age. Journal of Genetic Psychology, 1961, 99, 23-28.
- Edwards, Allen L. Statistical Methods for the Behavioral Sciences. New York: Rinehart and Co., Inc. 1954.
- Geer, J. and Turteltaub, A. Fear reduction following observation of a model. Journal of Personality and Social Psychology, 1967, 6, 327-331.

- Greenwood, Edward D. The role of psychotherapy in residential treatment. American Journal of Orthopsychiatry, 1955, 25, 692-698.
- Grusec, Joan and Mischel, Walter. Model's characteristics as determinants of social learning. Journal of Personality and Social Psychology, 1966, 4(2), 211-215.
- Hafner, A. J. and Rosen, E. The meaning of Rorschach inkblots, responses, and determinants as perceived by children. Journal of Projective Techniques and Personality Assessment, 1964, 28, 192-200.
- Jachuck, K., Dutta, T., and Das, J. P. Age stimulus, meaningfulness, and semantic satiation. Indian Journal of Mental Retardation, 1968, 1(1), 20-28.
- Kanfer, F. and Phillips, J. Behavior therapy. Archives of General Psychiatry, 1966, 15, 114-128.
- Katz, I., Henchy, T., and Allen, H. Effects of race of tester, approval-disapproval, and need on Negro Children's learning. Journal of Personality and Social Psychology, 1968, 8(1), 38-42.
- Kelly, G. A. The Psychology of Personal Constructs. Vol. I. A Theory of Personality. New York: Norton, 1955.
- Konopka, G. The role of the group in residential treatment. American Journal of Orthopsychiatry, 1955, 25, 679-684.
- Lefkowitz, M. M., Blake, R. R., and Mouton, Jane S. Status factors in pedestrian violations of traffic signals. Journal of Abnormal and Social Psychology, 1955, 51, 704-706.
- Lourie, N. V. and Schulman, Rena. The role of the residential staff in residential treatment. American Journal of Orthopsychiatry, 1952, 22, 798-808.

- Lovaas, O. I. Effect of exposure to symbolic aggression on aggressive behavior. Child Development, 1961, 32, 37-44.
- Lovaas, O. I. Some studies on the treatment of childhood schizophrenia. In J. Schlein (Ed.), Research in Psychotherapy. Washington, D. C.: American Psychological Association, 1968.
- Maccoby, E. E. Role-playing in childhood and its consequences for social learning. Child Development, 1959, 30, 239-252.
- Maier, Henry W., Hilgeman, Louis M., Shugart, George and Loomis, Earl A. Supervision of child care workers in a residential treatment service. American Journal of Orthopsychiatry, 1955, 25, 699-704.
- Maltz, H. E. Antogenic changes in the meaning of concepts as measured by the semantic differential. Child Development, 1963, 34, 667-674.
- Mausner, B. Studies in social interaction: III. Effect of variation in one partner's prestige on the interaction of observer pairs. Journal of Applied Psychology, 1953, 37, 391-393.
- Mayer, Morris F. Introduction to symposium on the role of residential treatment for children. American Journal of Orthopsychiatry, 1955, 25, 667-668.
- Mischel, W. and Grusec, J. Determinants of rehearsal and transmission of neutral and aversive behaviors. Journal of Personality and Social Psychology, 1966, 3, 197-205.
- Mischel, W. and Liebert, R. N. Effects of discrepancies between observed and imposed reward criteria on their acquisition and transmission. Journal of Personality and Social Psychology, 1966, 3, 45-53.
- Moore, J. Status and influence in small group interactions. Sociometry, 1968, 31(1), 47-63.

- Mussen, P. H. and Distler, L. Masculinity, identification, and father-son relationships. Journal of Abnormal and Social Psychology, 1959, 59, 350-356.
- Osgood, Charles E., Succi, George J., and Tannenbaum, Percy, H. The Measurement of Meaning, Urbana: University of Illinois Press, 1957.
- Redl, Fritz. The concept of a therapeutic milieu. American Journal of Orthopsychiatry, 1959, 29, 721-736.
- Rosenbaum, M. E. and Tucker, I. F. The competence of the model and the learning of imitation and nonimitation. Journal of Experimental Psychology, 1962, 63, 183-190.
- Rothstein, Patricia and Davids, Anthony. Imitative behavior in emotionally disturbed boys after exposure to male and female aggressive models. Unpublished honor's thesis, Brown University, 1970.
- Rybolt, Gaylord. A factorial analysis of the semantic structures of retarded adolescents. American Journal of Mental Deficiency, 1968, 72(4), 512-517.
- Sarason, Irwin G. Verbal learning, modeling, and juvenile delinquency. American Psychologist, 1968, 23(4), 254-266.
- Sarason, Irwin G. and Ganzer, Victor J. Social influence techniques in clinical and community psychology. In C. D. Spielberger (Ed.) Current Topics in Clinical and Community Psychology. New York: Academic Press, 1969.
- Siegel, Sidney Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Book Company, Inc., 1956.
- Simon, Walter B. A comparison between free and forced responding to checklists: Assessment of the social desirability of stereotypes. Journal of Clinical Psychology, 1967, 23(4), 475-479.

- Small, E. R. Age and sex differences in the semantic structure of children. Dissertation Abstracts, 1958, 19, 872-873.
- Strodtbeck, Fred L., James, Rita M., and Hawkins, Charles. Social status in jury deliberations. In Maccoby, Newcombe, and Hartley (Eds.), Readings in Social Psychology. New York: Holt, Rinehart and Winston, Inc., 1958.
- Thibaut, John W. and Riecken, Henry W. Some determinants and consequences of the perception of social causality. Journal of Personality, 1955, 24, 113-133.
- Thorndike, F. L. and Lorge, I. The Teacher's Word Book of 30,000 Words. New York: Teachers College, Columbia University, 1963.
- Walters, Richard H. and Willows, Donna C. Imitating behavior of disturbed and non-disturbed children following exposure to aggressive and nonaggressive models. Child Development, 1968, 39, 79-89.
- Whelan, Richard J. Semantic differential behavior of normal and emotionally disturbed school age males. Dissertation Abstracts, 1966, 27 (6-A), 1677-1678.
- Zax, M. and Benham, F. G. The stimulus value of the Rorschach inkblots as perceived by children. Journal of Projective Techniques, 1961, 25, 233-237.

