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THE CONSTRUCTION AND TESTING OF A TEACHING MODEL
FOR ATTITUDE FORMATION AND CHANGE THROUGH
PHYSICAL EDUCATION

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

By

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* * * * * * *

The Ohio State University
1965

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## CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>2</td>
</tr>
<tr>
<td>Significance of the Problem</td>
<td>4</td>
</tr>
<tr>
<td>Implications for education</td>
<td>4</td>
</tr>
<tr>
<td>Implications for physical education</td>
<td>6</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>11</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>11</td>
</tr>
</tbody>
</table>

<p>| II. REVIEW OF THE PSYCHOLOGICAL LITERATURE CONCERNED WITH ATTITUDE FORMATION AND CHANGE | 13 |
| Phenomenological Interpretation of Attitudes | 14 |
| Cognitive selectivity | 16 |
| Cognitive organization | 17 |
| Attitude description | 19 |
| The objects of attitudes | 21 |
| Social Attitudes | 22 |
| Uniformity of social attitudes | 24 |
| The affect of membership and reference groups on social attitudes | 25 |
| Differentiation between social attitudes and other psychological functions | 26 |
| Attitudes and motives | 27 |</p>
<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes and behavior</td>
<td>27</td>
</tr>
<tr>
<td>Attitude Modifiability</td>
<td>29</td>
</tr>
<tr>
<td>Conditions and types of attitude modification</td>
<td>30</td>
</tr>
<tr>
<td>Affects of informational data on attitude modification</td>
<td>30</td>
</tr>
<tr>
<td>Characteristics of the situational factors of informational data</td>
<td>34</td>
</tr>
<tr>
<td>Characteristics of the source of informational data</td>
<td>35</td>
</tr>
<tr>
<td>Characteristics of the medium conveying informational data</td>
<td>38</td>
</tr>
<tr>
<td>Characteristics of the content of informational data</td>
<td>38</td>
</tr>
<tr>
<td>Affects of a group process on attitude modification</td>
<td>41</td>
</tr>
<tr>
<td>Affects of enforcing the modification of an attitude</td>
<td>50</td>
</tr>
<tr>
<td>Affects of personality modification on attitude change</td>
<td>51</td>
</tr>
<tr>
<td>III. THE TEACHING MODEL</td>
<td>55</td>
</tr>
<tr>
<td>Transfer of Learned Attitudes</td>
<td>55</td>
</tr>
<tr>
<td>Transfer of general principles</td>
<td>57</td>
</tr>
<tr>
<td>Positive and negative transfer</td>
<td>58</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>Groups used in study</td>
<td>88</td>
</tr>
<tr>
<td>Experimental design</td>
<td>89</td>
</tr>
<tr>
<td>Employment of groups</td>
<td>89</td>
</tr>
<tr>
<td>Rationale for different activities</td>
<td>91</td>
</tr>
<tr>
<td>Rationale for pre-test and post-test</td>
<td>91</td>
</tr>
<tr>
<td>Procedures for experimental group</td>
<td>93</td>
</tr>
<tr>
<td>Initial class meeting</td>
<td>93</td>
</tr>
<tr>
<td>Class meetings two through eight</td>
<td>93</td>
</tr>
<tr>
<td>Class meeting nine</td>
<td>95</td>
</tr>
<tr>
<td>Class meeting ten</td>
<td>96</td>
</tr>
<tr>
<td>Class meeting eleven</td>
<td>97</td>
</tr>
<tr>
<td>Class meeting twelve</td>
<td>97</td>
</tr>
<tr>
<td>Class meeting thirteen</td>
<td>98</td>
</tr>
<tr>
<td>Class meeting fourteen</td>
<td>99</td>
</tr>
<tr>
<td>Class meeting fifteen</td>
<td>99</td>
</tr>
<tr>
<td>Class meeting sixteen</td>
<td>100</td>
</tr>
<tr>
<td>Class meetings seventeen and eighteen</td>
<td>100</td>
</tr>
<tr>
<td>Description of Data Gathering Instruments</td>
<td>101</td>
</tr>
<tr>
<td>The semantic differential</td>
<td>101</td>
</tr>
<tr>
<td>Attitude concept stimuli form</td>
<td>108</td>
</tr>
<tr>
<td>Situation stimulus</td>
<td>112</td>
</tr>
<tr>
<td>Methods of Gathering Data</td>
<td>112</td>
</tr>
<tr>
<td>Organization of testing period</td>
<td>113</td>
</tr>
<tr>
<td>Scoring</td>
<td>114</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Methods of disguising cooperative attitude</td>
<td></td>
</tr>
<tr>
<td>object</td>
<td>117</td>
</tr>
<tr>
<td>V. ANALYSIS OF DATA</td>
<td>118</td>
</tr>
<tr>
<td>VI. SUMMARY AND CONCLUSIONS</td>
<td>125</td>
</tr>
<tr>
<td>Principal findings and conclusions</td>
<td>126</td>
</tr>
<tr>
<td>Recommendations for future study</td>
<td>127</td>
</tr>
<tr>
<td>APPENDIXES</td>
<td>131</td>
</tr>
<tr>
<td>Appendix A</td>
<td>132</td>
</tr>
<tr>
<td>Appendix B</td>
<td>134</td>
</tr>
<tr>
<td>Appendix C</td>
<td>137</td>
</tr>
<tr>
<td>Appendix D</td>
<td>139</td>
</tr>
<tr>
<td>Appendix E</td>
<td>141</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>144</td>
</tr>
</tbody>
</table>
TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>Description</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Distribution of Sums of Squares and Their Means for the Attitude Pre-Test</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>(Evaluative Factor)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Analysis of Variance of the Pre-Test Evaluative</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>Scores for Groups A, B, and C</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Distribution of Sums of Scores and Their Means for Attitude Post-Test</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>(Evaluative Factor)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Analysis of Variance of the Post-Test Evaluative</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>Scores for Groups A, B, C, D, and E</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>t-Ratio for the Comparison of Group A With Control</td>
<td>122</td>
</tr>
<tr>
<td></td>
<td>Groups B, C, D, and E</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Analysis of Variance of Evaluative Scores</td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>for Groups B, C, D, and E on Pre-Test and Post-Test</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Analysis of Variance of all Potency Factor Scores</td>
<td>124</td>
</tr>
<tr>
<td>8</td>
<td>Analysis of Variance of all Activity Factor</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>Scores</td>
<td></td>
</tr>
</tbody>
</table>
FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Teaching Model in the Initial Stage of Development</td>
<td>59</td>
</tr>
<tr>
<td>2. Representation of the Progressive Stages of the Teaching Model</td>
<td>65</td>
</tr>
<tr>
<td>3. Introduction of the Learning Principles in the Teaching Model</td>
<td>66</td>
</tr>
<tr>
<td>4. The Teaching Model Representing the Application of the Focus of Attention on an Attitude Target</td>
<td>76</td>
</tr>
<tr>
<td>5. The Temporal and Spatial Sequence of the Application of the Principles to the Teaching Model</td>
<td>79</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

There is increasing concern regarding the successful relationship between desirable social behavior and the school programs of America. In keeping with this concern it is the responsibility of physical education, as an integral phase of the school program, to investigate its contribution and attempt to find solutions to this problem.

The research and literature devoted to the educational outcomes of physical education unfortunately do justice neither to the problem nor to the physical educator. In the first place, most of the literature implies that social learnings and attitudes toward these learnings are inherent in the activities themselves. Hence mere participation is sufficient for the individual to manifest these desirable behaviors in future situations. This inference is drawn without substantial research evidence to support it. Secondly, if the learning of social behavior and attitudes is to be one of the products of a physical education experience, the literature and research conspicuously fail to show how these effects are to be realized through methodology. Such an omission logically proceeds from the above mentioned assumption that social learnings and attitudes are concomitant outgrowths of physical education activities.

It is thought that these prevalent assumptions are harmful to school physical education and its contribution as a laboratory experience in behavioral interaction. If social learnings are only concomitants of movement expression, then the entire process of social
development through physical education is left to chance. If the individual is left to his own devices when interpreting the physical education environment, the physical educator must assume that the student may gain either positive or negative learnings from exposure to his program.

I. Statement of the Problem

It is thought that a more tenable approach to this problem would be founded on the premise that anything which is capable of being learned is amenable to teaching techniques through a teaching medium. Individuals do learn social skills; therefore, it should be possible to learn social attitudes and behavior in the school. Also, school physical education curricula should have the organization to teach these social attitudes.

Three questions should be answered before this assumption can be tested. First, is mere participation in a physical education activity really sufficient to teach and learn social skills? Second, if the first conclusion is negative, is it possible to structure a representative teaching model which could be applied to a physical education experience through which the individual would learn social skills? Finally, if these social attitudes can be taught and learned through a physical education activity, will they be transferred to future situations (other than the physical education setting) which call for interpretation and action in accord with the previously learned attitude?

The following study and experimental design is an attempt to answer the first two basic queries. The third question will be treated
by *a priori* conclusions gained from research having to do with transfer of learning processes.

A teaching model designed to comply with the principles of attitude formation and change will be constructed in order to gain evidence affording some insight into the major issues. This model will be an outgrowth of intensive and extensive investigation of the characteristics of attitude formation and change as found in social psychological literature. This model will be then presented within the framework of a physical education activity. In this exploratory study of an attitude teaching model the activity will be the game of soccer. Groups engaged in the game of soccer plus groups participating in the singles game of tennis will be used for control grouping procedure. The attitude object of the model will be the operationally defined social concept of cooperation.

The first purpose of the teaching model is to strengthen or change attitudes toward cooperation. The second function is to construct the model in such a manner that attitude formation will carry over into future situations to which the individual may be exposed. To accomplish this the model must be designed so that an attitude is modified and transfer of this attitude is enhanced.

The experimental design is patterned in such a way that answers to the aforementioned basic questions may be attempted. First, control groups are subjected to attitude-determining instruments both before and after units of soccer and singles tennis. Some knowledge about the question of whether these physical education activities used in this study foster attitude change through mere participation should be gained.
Second, the experimental group is administered the attitude testing instrument before and after their experience with the game of soccer and the techniques represented by the teaching model. The data gathered from this group should lend evidence relative to the effectiveness of the model.

II. Significance of the Problem

The significance of this problem lies in its justification in terms of the implications it carries for general education as well as physical education. If physical education is to be an integral part of American education it must endeavor to accomplish the avowed purposes of the educational system as a whole. It should be realized that while this study attempts to analyze a particular segment of social development through physical education, this segment does not exhaust the contributions which physical education may make to the education of the individual.

Implications for Education

The inculcation of desirable social habits is a responsibility of the school systems of the United States. These school systems are institutions born of the necessity of the American society to perpetuate those characteristics which sustain it as a society.

The term institution has received a variety of definitions. For our purposes it is sufficient to say only that all social systems have certain imperative functions that are to be carried out in certain routinized patterns. The agencies established to carry
out these functions for the social system may be termed institutions. In this sense, we may think of education as an institution fulfilling certain requirements of the social system of which it is a part.\(^1\)

One of the functions of this institution is to foster an appreciation of the value of social relationships. It has been stated that we must equip young people to respect the worth of the individual; to work together for common purposes, and to apply the method of intelligence to the difficulties we face in living together, to the controlling of our material environment and to the use of our mounting scientific and mechanical inventions and discoveries for the welfare of mankind. In short, our major function should help young people understand and practice the democratic way of life in a technological age.\(^2\)

The Educational Policies Commission\(^3\) has made this social responsibility of the school quite clear. The Commission asserts that one of the four main objectives of American education is human relationship. Cowell\(^4\) states that "one of the great tasks of the school is the development of the individual for social living." Also, "in the democratic society in which we live it is necessary to have all individuals develop a sense of group consciousness and cooperative living."\(^5\)


\(^3\)Educational Policies Commission, Policies for Education in American Democracy (Washington: National Education Association and American Association of School Administrators, 1946)


Implications for physical education

It is axiomatic that physical education has a responsibility for desirable social development through its activities. The definitions of physical education selected for this study attest to this fact.

When a program of physical activities is conceived in accord with today's best knowledge and administered by persons aware of the many-sided potentialities of these activities, and when both the planning and execution of the program are aimed to serve the physical, mental, and social well-being of the participants—then the effort may be called physical education.6

Physical education is "that phase of the total process of education which is concerned with vigorous muscular activities and related responses, and with the modifications, or behavior changes, in the individual which result from these responses."7 Or, more succinctly, "physical education becomes education through the physical."8 Oberteuffer synthesizes these definitive beliefs when he states:

He becomes educated through the medium of activity. Physical education is concerned primarily with the qualitative aspects of human behavior. It rejects mere strength and motor skills as primary ends and uses them as means only. It is principally concerned with the totality of personal development, with all of man in relation to his ability to organize and control his society.9

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Physical educators acknowledge this social development responsibility by including it in the body of their stated objectives. Nixon\textsuperscript{10} distinguishes between primary and shared objectives classifying social habits and attitudes as shared objectives. Williams\textsuperscript{11} calls the "development of standard ways of behavior," a contribution of the physical education program. Adams\textsuperscript{12} found that the results of polling thirty-three selected leaders of physical education throughout the Country yielded "personal-social adjustment" as one of the four most frequently mentioned objectives of physical education.

That the teaching and learning of desirable social attitudes and behavior is necessary for a complete physical education program there is little doubt. It is generally felt that sports and games are laden with social implications. Does one simply participate in the activity to reap the social learning benefits from these experiences? From the dearth of information pertaining to this question it would seem that one must be subjected to something more than the sport or game experience.

\textsuperscript{10}J. E. Nixon, \textit{op. cit.}, p. 67.


Booth, Carter and Shannon, and Schendel contrasted personality traits of athletes and non-athletes and found the athletes to be superior in personal-social development. Sperling studied personality adjustment as it related to success in physical education activities. Again, the findings show that success in an activity correlates highly with desired personality traits.

Lakie, Biddulph and Keogh have attacked this problem eliminating the athlete-non-athlete contrast. The conclusions were in agreement that those who participated in motor activities exhibited desirable social traits.

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These conclusions are of little value for the main concern of this present study. The above mentioned studies fail to determine whether the subjects under investigation entered the activity situation with these desired personality traits or acquired them as a result of the experience. If an individual participates because motor activities are a means of expressing these social characteristics, this indicates little for a program of physical education which endeavors to have everyone participate.

Does a democratic climate produce democratic values? Does a sportsmanlike climate produce attitudes toward sportsmanship? Does a cooperative environment produce attitudes toward cooperation other than the attitude with which the individual enters the situation? These questions cannot be answered specifically. There is, however, some research evidence which gives direction to these problems.

Whittle and Bovyer found that physical and motor abilities improve as a result of the physical education program, but personality traits are not improved. Literature about sportsmanship characteristics may be an aid in changing behavior but only secondary aid. McAfee found upon retesting attitudes toward sportsmanship following physical education activities that the subjects scored lower in this factor.

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Smart, and Smart\textsuperscript{23} studied nursery school children and concluded that exercise is a tool of a sound personality rather than a source of personality. Seymour\textsuperscript{24} extends the age grouping of the nursery school subjects but arrives at the same conclusion. Participants of little league baseball teams did possess higher scores on desirable personality traits. They exhibited these traits before and after the observation period. They enter the situation at a higher personality level and retain that advantage. Merriman\textsuperscript{25} found few significant differences in personality traits when a comparison was made between individuals who participated in team sports, individual sports, and team-individual sports.

All of the above studies seem to support the contention that something must be added to a motor activity experience before desirable social traits and attitudes may be realized through the activity. For purposes of this study this additional requirement of the social learning process is represented by the teaching model.


III. Purpose of the Study

This study attempts to serve one purpose: to provide some insight into the methodology of manipulating attitudes toward a specific social concept through a physical education medium. It is an attempted means of providing some basic research for the problem of realizing social learnings through physical education.

Because of the nature of this study there are necessary limitations imposed as a result of the research design. The limitations are as follows:

1. Only one activity will be used to test the effectiveness of the teaching model.
2. Only one institution will be used.
3. The reliability of the effectiveness of the teaching model will be in doubt as only one instructor participated in the use of the model.
4. Only one sex (male) will be used in the study.
5. Only one age group will be used in the study.
6. Only selected individuals from the population will be used as subjects in the study.

IV. Hypotheses

The study will attempt to find evidence which will evaluate the following hypotheses:

1. Mere participation in a physical education activity is not adequate to induce specific attitude changes.
2. A teaching model may be structured to represent the necessary situational characteristics when attitude modifiability is desired in a physical education experience.

3. The employment of the techniques inherent in this teaching model may induce specific attitude modification through a physical education experience.
CHAPTER II

REVIEW OF THE PSYCHOLOGICAL LITERATURE CONCERNED WITH ATTITUDE FORMATION AND CHANGE

Man lives in a world composed of material and nonmaterial stimuli which have the affecting properties of influencing his actions and reactions. It is within the nature of man to attempt to give meaning to these external stimuli constantly impinging upon him from every direction. This process of meaningful interpretation of objects organizes a man's world and saves him from existing in an environment fraught with chaos. The rational powers he uses to control and organize this existence are termed cognitive. This cognition which includes thinking, imagining, perceiving, and reasoning are all efforts in the search for meaning.

Although these cognitive powers in man are uniformly in search of meaning the world does not look the same to all individual. Examples of classic studies which have investigated this conclusion are revealed by Piaget and Davis, Gardner, and Gardner. Both of these reports support the view that everyone lives in a different cognitive world. The basis for this hypothesis is that "there are no impartial


13
facts. Data do not have a logic of their own that results in the same cognitions for all people."

Krech, Crutchfield, and Ballachey have concluded that a person's image of the world is determined by the physical and social environment, and the individual's sensory capacity combined with his wants and goals and his past experience. In the subsequent analysis of attitude change and formation all of these factors will be used as if they were working interdependently to give meaning to sensory reality.

I. Phenomenological Interpretation of Attitudes

The exploration of research findings which have to do with this stated problem will adhere to that set of psychological interpretations which fall under the general category of phenomenology. Only those findings which take into account the perceiver as well as the external stimulus will be afforded credence.

"By the phenomenological method as applied to psychology, is meant the systematic attempt to observe and describe in all its essential characteristics the world of phenomena as it is presented to us." Further, "the phenomenological question is simply, 'What is there?', without regard to Why, Whence, or Wherefore." It will not be the

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6Ibid., p. 151.
intention to lift social phenomena and behavior from their context and look at them as an object apart from either the perceiving actor or the surrounding frames of reference. It is felt that excluding the object from the interpreter distorts the very thing which was intended, and redraws observable behavior meaning less.

When a person looks at this world there must be a standard which coordinates the external stimuli and the internal or personal predilections. These standards have been identified under many headings but generally they are referred to as frames of reference. Buxton defines the frame of reference as "the background of stimulation which influences our behavior in a particular situation." This background has centrifugal and centripetal properties. It includes stimuli which are internal and external to the perceiver. It is also significant that the effects of any given stimulus on the perceiver are not independent of other stimuli which have occurred at other times in his psychological history.

Sherif and Sherif call this frame of reference an anchoring point. They conclude that the reason two individuals may interpret and react to the same stimulus in the same manner is because they have similar anchoring points. Conversely, they will interpret the same stimulus differently if they have different anchoring points. It is an effect of these frames of reference, anchoring points, or points of view that

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man interprets and gives weight to certain data in his psychological world. In other words, selective behavior is possible. Because of the cognitive powers of man he is able to select from multiple behavior actions and reactions those which serve his purpose.

**Cognitive selectivity**

The principle that man does selectively organize into his behavioral patterns elements of his current personality based upon past experience and his physical and social environment is factor of his cognitive structure and the nature of the stimulus. A person does not absorb all impinging stimuli into his cognitive system. Krech, Crutchfield, and Ballachey\(^9\) have listed the personal conditions which limit a person from selecting and using all affecting stimuli in his environment. First, the individual is limited as to the number of objects or situations to which he can attend at a given time. Second, the perceptual mechanism becomes sensitized in various directions because of differences in experience. The mental set with which an individual enters a stimulating situation is crucial. Two persons viewing a situation may attend to two different properties of the situation because of past experiences. Third, momentary wants and needs may distort cognition so that the individual selects only those properties of the experience which relate to the need.

There are factors inherent in the stimulus which also condition that to which a person attends in a stimulating situation. An object which stands out from the other objects surrounding it because of color.

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\(^9\)Krech, Crutchfield, and Ballachey, *op. cit.*, pp. 21-23.
or form is more likely to be perceived than those which do not stand out. An object or occurrence which is repeated frequently will stand out from those which are not. Anything which has more intensity or force than its surrounding objects or occurrences will be perceived more readily. Something which moves or changes in an otherwise stable situation will be given attention. Finally, the more numerous the objects or occurrences the greater the selectivity. These are the conditions in a stimulating situation which make an object or event a figure and everything else in the situation background.

Cognitive organization

In any analysis of the social actions of man it is important that a workable dissection of the ways in which an individual cognitively organizes these singular perceptions into a system be formulated. There are certain laws which govern this organization in man. "Experimental studies of visual perception have demonstrated that proximity (nearness in time or space) and similarity are important organizing factors."\(^{10}\) Also, "the concepts which the individual has learned to determine the groupings which he imposes on the objects in his world."\(^{11}\) "Perhaps one of the most important kinds of cognitive system is the causal system, that is, our perception of two objects or events in a cause-effect relation."\(^{12}\)

\(^{10}\)Ibid., p. 26.

\(^{11}\)Ibid., p. 27.

\(^{12}\)Ibid., p. 27.
When each separate concept enters a cognitive system the concept is subject to change. For this reason "we cannot understand an individual's perception unless we know the properties of the system in which the perception exists for him." The above authors make mention of this consideration because of the importance it carries when individuals are subjected to new information or a new stimulus. The single stimulus will be assimilated into the cognitive structure and possess exaggerated influence when the physical differences are minimal. The single stimulus will be perceived as an exaggerated dissimilarity when the physical differences are maximal.

Sherif and Sherif concur that it is the sum of internal and external factors working interdependently to guide interpretation of stimuli.

Experience and behavior cannot be explained in terms of factors impinging on the individual from the outside, or merely in terms of influences coming from within the person. Both external and internal influences act and react on one another to shape a particular psychological patterning (integration, organization), which is revealed in judging, perceiving, imagining, and so on. When an individual is stimulated by an external object or situation he perceives this in relation to a certain context. This context, or frame of reference, reposes in the cognitive structure of the person. Because man is cognitively limited by the number of objects or events, his past experience, and his wants and needs, the individual is predisposed to weigh the significance of an object or event in relation to other objects, events, or feelings. Primarily his past

\[13\] Ibid., pp. 30-31.

\[14\] Sherif and Sherif, op. cit., p. 78.
experience, wants and needs precondition this frame of reference with
which he compares an object or event. These predispositional frames
of reference combined with emotion, feeling, and evaluation are called
attitudes.

Attitude description

Smith, Bruner, and White assert that "one's opinions or attitudes
serve as mediators between the inner demands of the person and the
outer environment the material, social, and, most immediately, the in-
formational environment of the person."15

Attitude as a psychological entity was introduced to the liter-
ature in 1918 when Thomas and Znaniecki defined this phenomenon as
"a state of mind of the individual toward a value."16 Asch states
that "... individuals act often in terms of a 'point of view,' that
they have an outlook or perspective toward the problems facing them.
In referring to these phenomena today we use a loose and comprehensive
term - attitude."17 Attitudes are most frequently thought of as a
background of ideas which condition the perception of an individual
and predispose him to act in a relational manner. Hovland18 defines

15M. B. Smith, J. S. Bruner, and R. W. White, Opinions and

16W. I. Thomas and F. Znaniecki, The Polish Peasant in Europe
and America (Boston: Badger Press, 1918), p. 22.

17S. Asch, Social Psychology (Englewood Cliffs, N. J.: Prentice-

these ideas as predispositions to respond in a particular way to a specified class of objects. Newcomb asserts that "... an individual's attitude toward something is his predisposition to perform, perceive, think, and feel in relation to it."¹⁹ Perhaps the most widely used definitive analysis of an attitude has been provided by G. W. Allport.

An attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related.²⁰

Opinion and attitude have been traditionally linked by the qualification that an opinion is merely a verbalization of an attitude. Smith, Bruner, and White, however, have expressed a workable solution to the dilemma that has arisen as a result of defining terms which are closely related to attitudes. "We shall not be fussy about the word used to denote the phenomenon described in our definition. Attitude, opinion, sentiment — all of these terms refer to the kind of predisposition we have in mind."²¹

"It would not be necessary to speak of social attitudes if action occurred merely in response to each momentary condition as it arises."²²

The individual when faced with a situation in which he must act or


²¹Smith, Bruner, and White, op. cit., p. 33.

react to an object in his environment calls upon his background of ex-
perience to identify the object. The manner in which he interprets this
object will precondition his action or reaction. Attitudes play an im-
portant role in this interpretation process. "... attitudes aid us in
classifying for action the objects of the environment, and they make
appropriate response tendencies available for coping with these objects."23

The objects of attitudes

"The object of an attitude may be anything that exists for the
individual."24 The relationship between these objects and the cog-
nitive processes of the perceiver is that "attitudes, like cognitions,
develop selectively in the process of want satisfaction. The indi-
vidual will pick and choose among the attitudes offered to him those
which are want satisfying."25

The most critical cognitions incorporated in the attitude system
are evaluative beliefs which involve the attribution of favorable
or unfavorable, desirable or undesirable, "good" or "bad" qualities
of the object.26

Because an individual's cognitions enter into the attitude it is
obvious that when one investigates the attitudes of a person he may
not see the world as the investigator does. All men live in different
cognitive worlds as the probability of exactly duplicating in two men
the myriad experiences which may form attitudes is virtually impossible.

23 Smith, Bruner, and White, op. cit., p. 41.
24 Krech, Crutchfield, and Ballachey, op. cit., p. 140.
25 Ibid., pp. 197-199.
26 Ibid., p. 140.
Further, "behavior is multdetermined - by situational conditions, cognitions, social habits and attitudes, as well as by the wants of the individual." It has also been stated that

Formation or change of an attitude is not self-generating. An attitude is not formed in thin air. It is formed in relation to an object, a person, a group, an institution, an issue, a value or norm through exposure to them in interpersonal relations, in communication from newspaper, book, poster, radio, television, and the like. However, these outside experiences alone are not sufficient to account for the formation or change of an attitude. The individual's own selectivity, largely determined by his existing motives and attitudes, has to be considered as well.

II. Social Attitudes

Not only does the individual hold certain attitudes toward objects in his psychological world but it is an observable fact that groups of individuals have very similar attitudes toward the same object. If men cannot have the exact same experiences as a background for their attitude formation they may have similar experiences. When this occurs as an effect of men banding together to solve problems which are common to the individuals who comprise the group it is known as a society. The fact that there is a certain uniformity and consistency in attitudes in society brings a society closer to organization and order. Krech, Crutchfield, and Ballachev maintain that this is the foundational principle upon which society is based when they state

As the individual acquires more and more attitudes — as he "assimilates" more and more objects in his world — his improvisations toward these objects and his fresh examinations and interpretations of these decrease. His actions become stereotyped, predictable, and consistent — and social life

27Ibid., p. 71.

28Sherif and Sherif, op. cit., p. 539.
becomes possible. For when there are no enduring beliefs, evaluations, and action tendencies which can be shared by a company of men, social life as we know it would be impossible.\(^{29}\)

The individuals that make up a particular society, or subdivision of that society, each are equipped with points of view that predisposes behavior toward their environment. Asch concludes "to have a point of view means first that we orient ourselves to wide areas of social reality, that we assess complex situations conceptually, and that emotions, motives, and actions become organized around ideas."\(^{30}\) Again, these predispositions or points of view are termed attitudes and they are formed in relation to situations, persons, or groups with which the individual comes into contact in the course of his development. Once formed, they determine that the individual react in a characteristic way to these or related situations, persons, or groups. This characteristic feature, which is inferred from behavior (verbal or nonverbal), denotes a functional state of readiness in relation to stimulus situations which elicit it.\(^{31}\)

It is the cognitive interpretation that one gives to social situations as a result of his being influenced by other persons or groups that this thesis will concern. It will not be necessary to include for consideration attitudes other than those termed social attitudes. "The feature which differentiates a social attitude from other attitudes is that a social attitude is formed in relation to social stimulus situations and is shared by members of a group or of a given society."\(^{32}\)

\(^{29}\)Krech, Crutchfield, and Ballachey, op. cit., p. 137.

\(^{30}\)Asch, op. cit., p. 521.

\(^{31}\)Sherif and Sherif, op. cit., p. 490.

\(^{32}\)Ibid., pp. 495-496.
Social stimulus situations are persons, groups, and the products of human interaction --- material and non-material, i.e., the man-made environment of things, technological devices, and values or norms. Attitudes formed in relation to these constitute the main body of what is socialized in man.33

**Uniformity of social attitudes**

It is because of this socialization, or interpersonal communication between individuals, that it was possible to speak of uniformity of attitudes among members of a given society. The end products of this socialization process are social attitudes. When men ban together it is because of mutual dependence. Because men perceive the conditions of mutual dependence, the social attitudes which arise from this grouping together are social not because other have similar attitudes but they are necessary outgrowths of this mutual dependence.

Within this structured society of men there is an emphasis placed upon certain predispositions to act and react. As a consequence certain predispositions or attitudes become valuable to the continuing existence of that society. Because of the communication which exists between the members of the society each individual has the opportunity to assimilate and understand the values and consequences of holding values particular to that society. To distinguish between what a group believes and what it values, Myrdal states that "people have ideas about how reality is, or was, and they have ideas about how it ought to be, or ought to have been. The former we call 'beliefs.' The latter we call 'valuations.'"34

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33 Ibid., p. 490.

Asch further indicates that

To be in society is to form views of social facts and relatively enduring concerns toward them. By means of these psychological operations we participate in the social process; they make possible the coherent interlocking of action between individuals and between groups; they define our position as members of the social body.\(^3\)

The outstanding characteristic of a good member of society is the attitudes he forms in relation to it. Attitudes develop selectively in the process of want satisfaction. Because an individual holds certain group-oriented attitudes it can be thought that the group to which he belongs values those behavioral reactions which satisfy his current wants and desires. As he continually participates in this society or group he actively coordinates his efforts toward group organization by a system of communication with other members of the group. As this is accomplished he gradually assumes more and more of the values and attitudes held by the group. "The self-esteem of most men is based on the achievement of goals which reflect group values. And of these goals the most important are those which represent the dominant values of their group."\(^3\) The life of his membership in a particular group depends upon how well he can represent the values of the group.

The effect of membership and reference groups on social attitudes

An individual's attitude system is affected not only by those groups to which he has immediate access — his membership group — but also by those groups to which he would like to belong but does not.

\(^3\)Asch, op. cit., p. 522.

\(^3\)Krech, Crutchfield, and Ballachey, op. cit., p. 80.
These latter groups are termed reference groups. If a group possesses qualities which are appealing to the individual it is possible for him to strive to attain membership in that group as an outlet for want satisfaction. This striving takes the form of assuming the attitudes and corresponding behavior patterns of the reference group. An individual's attitude system is constantly impinged upon by both membership and reference groups. It is possible for this to continue until both membership and reference group become one and the same in the individual's psychological world.

**Differentiation between social attitudes and other psychological functions**

Because the social attitudes of the individual are gained through participation in and communication with members of his membership or reference group the most salient concern for attitudes and their development or change is the fact that they are learned. Attitudes are quite different from other internal functions which the individual calls upon for precursors of behavior. Sherif and Sherif list five criteria which clearly differentiate attitudes from other psychological functions.

a. Attitudes are not inborn; they are learned via a definite cognitive process.
b. Attitudes are more or less lasting and not subject to temporary changes in the organism.
c. Attitudes always imply a subject-object relationship. They are formed or learned in relation to an identifiable referent.
d. The referent of an attitude may encompass a small or large number of items which have a direct bearing on the behavioral outcome.
e. Attitudes have motivational-affective properties.\(^37\)

\(^{37}\)Sherif and Sherif, *op. cit.*, pp. 494-495.
Attitudes and motives

An attitude is not to be confused with a motive.

An attitude is like a motive in that it refers to the direction of behavior and not to the behavior itself. It is different from a motive in two ways. First, it is not characterized by an existing state of drive, as in a motive, but merely refers to the likelihood that a given kind of motive (including its accompanying drive) can be aroused. . . . Secondly, a motive is more specific than an attitude.38

Motives are of short duration and usually stem from an attitude which is more general, more encompassing, as a predisposer to behavior.

Attitudes and behavior

If attitudes are general ideas about the value of an object in an individual's psychological world it is possible to draw a relationship between a man's attitudes and his overt behavior. Man behaves in a manner that implies some sort of organization. This organization, which is a conceptual thing, fulfills the definition of an attitude.

It is a tendency to respond to a given class of stimuli. Smith, Bruner, and White referring to these response tendencies state that, "without them, we should be in the constant throes of determining the relevance of events, of fashioning decisions and of deciding upon actions — all ab initio."39 An inference is that it would be folly to think that a person would deliberately act or react in contradiction to the manner in which he believes to be correct. If he holds these beliefs or ideas concerning items in his world because they are want-satisfying it is not likely that he will act in opposition to them.

38 Newcomb, op. cit., p. 119.

39 Smith, Bruner, and White, op. cit., p. 41.
Festinger offers a theory which seems to sum the research findings relative to this problem of the connection between behavior and the holding of attitudes. In his theory of cognitive dissonance he proposes that if two cognitions are in dissonant relation the individual will become psychologically uncomfortable. He will endeavor to reduce dissonance between these two (or more) cognitions and make them consonant. Although this theory applies to conflicting cognitions, it is a simple step to extend this to include the effects of a person holding an attitude toward an object and acting in a dissonant relation to it. The application would be that the individual would reduce dissonance by changing the action to agree with the attitude or change the attitude to agree with the behavior. Since attitudes have a cognitive basis and man acts in accordance with his beliefs and convictions which are the fruits of his cognitions there must be a one-to-one relationship between behavior and attitudes.

In summation of this section it may be stated that although the world is different to all men there are consistencies which aid in the regulation of the social order. As the individual develops in this social order "his cognitions, feelings, and action tendencies with respect to the various objects in his world become organized into enduring systems called attitudes." For future purposes, then, a workable definition of social attitude becomes "enduring systems of

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41 Krech, Crutchfield, and Ballachey, op. cit., p. 139.
positive or negative evaluations, emotional feelings, and pro or con action tendencies with respect to social objects. 42

III. Attitude Modifiability

In view of the multitude of factors which condition the formation of an attitude it is apparent that it is not an easy task to form or change this system once it is acquired and has established roots in the individual's behavioral patterns. Regardless of the difficulty encountered when one attempts to form or change attitudes, however, it must be asserted that it is possible. An individual's attitudes and behavior are not initially stable or implacable. He grows and develops, and as he does, attitude formation and attitude change do take place. As he gathers new information, adheres to different groups, and makes new interrelations between past experiences he is, at the same time, forming and changing attitudes. It is therefore possible to state that the principles surrounding attitude formation and change are mutually consistent with one another.

It will be the function of the remainder of this chapter to explore the conditions necessary to form or change the attitudes which relate to social objects. Since these phases of attitude development are considered to be governed by the same principles both formation and change will be referred to simply as change.

42 Ibid., p. 139.
Conditions and types of attitude modification

Krech, Crutchfield, and Ballacheý\textsuperscript{43} have succinctly outlined the conditions through which attitude change is brought about. They conclude that exposure to additional information, changes in group affiliations, enforced modification toward the object of the attitude, and through procedures which change personality attitude change is accomplished. Further, the above authors differentiate between congruent and incongruent attitude change. A congruent type of attitude change is that which is characterized by the direction of change being congruent with the existing attitude. Incongruent change occurs when the direction of change is toward the sign opposite to that of the existing attitude. When one changes from a positive to a negative evaluation of an attitude object (or vice versa) it is termed an incongruent change. Congruent change may be referred to as the strengthening of a pre-existing attitude. "Congruent change is always easier to produce than incongruent change, other things being equal."\textsuperscript{44}

When planning change it is important that the changer be aware of the type of change which is desired.

Affects of informational data on attitude modification

Information about the attitude object is vital to the organization of attitude systems. Studies by Cartwright\textsuperscript{45} and Morrissette\textsuperscript{46} agree

\textsuperscript{43}Krech, Crutchfield, and Ballacheý, \textit{op. cit.}, pp. 225-268.

\textsuperscript{44}Ibid., p. 216.


that attitudes are shaped by the information to which the subject is exposed. Asch\(^47\) makes mention of this fact when he states

The everyday fact that attitudes unite and oppose individuals and groups hides a dramatic question. How does it happen that persons facing the same external situations, with very similar capacities for understanding and feeling, arrive so often at conclusions opposed and irreconcilable? One general answer is clear: beliefs depend upon available data; therefore differences in beliefs can be traced at least in part to differences in information and knowledge.

Smith, Bruner, and White also state that "there is probably some optimal rate of change in one's attitude for any given shift in environmental information."\(^48\) "Information, however, is rarely a determinant of an attitude except in the context of other attitudes. New information is frequently used to form attitudes which are consonant with pre-existing related attitudes."\(^49\) New information may be an important factor for congruent change because it adds support to an already existing attitude. New information, if it runs counter to a pre-existing attitude, may never accomplish incongruent change.

The availability of data is in a number of fundamental ways a function of sociological conditions. Not only does the level of historical development control the content of knowledge, but also existing social relations decide what data will become accessible and the emphasis they will receive.\(^50\)

Existing social relations not only has to do with the value judgments made by a particular group but also the degree to which these values

\(^47\) Asch, op. cit., p. 563.

\(^48\) Smith, Bruner, and White, op. cit., p. 46.

\(^49\) Krech, Crutchfield, and Ballachey, op. cit., p. 187.

\(^50\) Asch, op. cit., p. 565.
are communicated from member to member. Whether or not an individual will assimilate informational data becomes a problem of communication.

"For research purposes it is convenient to define communication as the process by which an individual (the communicator) transmits stimuli (usually verbal) to modify the behavior of other individuals."\(^{51}\)

Under what conditions does communication affect the listener? To investigate this problem the above author specifies that the communicator, the message, the predispositions of the audience, and the change in knowledge and attitudes resulting from the communication are the variables to be considered. Krech, Crutchfield, and Ballachey\(^{52}\) count the situational factors, the source, the medium, and the form and content of communication as the significant details to be considered when informational data is presented for behavioral or attitudinal change.

These authors do not believe, however, that it is possible to attack each of the above mentioned factors without regard for the organization of each factor. To them, the approach is to regard all variables as interdependent due to the fact that there have been such conflicting conclusions from studies which investigated these variables separately. Murphy, Murphy, and Newcomb\(^{53}\) found attitude change in the direction of the communication. They found that the change was most


\(^{52}\)Krech, Crutchfield, and Ballachey, op. cit., pp. 226-246.

\(^{53}\)G. Murphy, L. B. Murphy, and T. M. Newcomb, Experimental Social Psychology (New York: Harper and Bros., 1937).
significant when subjects were neutral or had no initial opinion or attitude. Peterson and Thurstone\footnote{R. C. Peterson, and L. L. Thurstone, \textit{Motion Pictures and the Social Attitudes of Children} (New York: Macmillan Co., 1933).} not only agreed with this conclusion as a result of their own study but also found that the attitude induced by communication had a lasting effect. Dobra\footnote{D. D. Dobra, "Education and Negro Attitudes," \textit{Sociology and Sociological Research}, 17: 137-141, 1932.} and Campbell and Stover\footnote{D. W. Campbell, and G. F. Stover, "Teaching International-mindedness in the Social Studies," \textit{Journal of Educational Sociology}, 7: 244-248, 1933.} found opposite results when they subjected high school classes to informational periods. Confusing the issue, Manske\footnote{D. Manske, Quoted in G. Murphy, L. B. Murphy, and T. M. Newcomb, \textit{Experimental Social Psychology} (New York: Harper and Company, 1937), p. 950.} found lessons on the Negro tended to shift in a direction opposed to the teacher's stand on the subject. This last example has been called a "boomerang effect" of communicative information.

Since these early inquiries there have been a number of studies which have investigated integral phases of the communication process. Sherif and Sherif state

The somewhat confusing bulk of experiments on attempts to change attitudes through specific communications led to increased emphasis on well-designed experiments which varied factors other than the content and style of communication.\footnote{Sherif, and Sherif, \textit{op. cit.}, p. 559.}

For purposes of attitude manipulation these later studies have given some insight into the ways in which additional information can be of assistance.
Characteristics of the situational factors of informational data

Kelley and Woodruff, Brodbeck, and Mitnick and McGinnies have all arrived at the conclusion as a result of independent study that information will more readily gain a desired effect if the individual listens as a member of a group rather than listening by himself. Hovland, Campbell, and Brock found that if this individual makes his stand public he will be less likely to change his attitude as a result of future counter-information. This finding agrees with Festinger's theory of cognitive dissonance. Psychologically, this public commitment must agree with the individual's attitude or he will try to reduce dissonance and, hence, structure the attitude so that it is more consonant with the commitment. It has not been determined whether he will alter the public commitment to agree with the pre-existing attitude toward the object.


Lewin,\(^6\) and Levine and Butler\(^7\) found that a group decision was extremely effective in producing attitude change in the direction of the communication. Later, however, Bennett\(^8\) found that group decision was not more effective than the lecture method of presenting information. Pennington, Hararey, and Bass\(^9\) questioned Bennett's conclusion and in a subsequent study found that when a group discussed the informational data it was more effective for attitude change than no discussion. Decision making was also found to be effective in causing attitude change but not to the extent that discussion was. It is significant to note that Bennett's subjects were asked to come to an individual decision while the latter subjects were requested to come to a group consensus.

**Characteristics of the source of informational data**

Regarding the source of information, it has been stated that "... whether or not a communication is effective in changing attitudes will depend very much upon how the communication is perceived by his audience."\(^{10}\)

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\(^10\)Krech, Crutchfield, and Ballachey, *op. cit.*, p. 231.
Hovland and Weiss found that the immediate effects of a trustworthy source attributed to information was positive for producing attitude change. Sherif and Sherif maintain that "attitudes toward the content of communication are not the only integral factors which affect reaction to it. Individuals' attitudes toward the source of the communication also take part in patterning their perception of the content." An extension of the above analysis by Hovland and Weiss, however, modifies Sherif and Sherif's contention. What has been called a "sleeper effect" takes place following presentation of information by a credible or non-credible source. After a four week period the amount of agreement tended to decrease with the group that was lectured to by a trustworthy source. The nontrustworthy source group tended to increase in agreement. Explanation of this "sleeper effect" is contained in the hypothesis that the communicator, over a period of time, is afforded less consideration and is more readily forgotten than the content of the communication.

Tannenbaum pursued this problem and determined that the communicator was perceived in an unfavorable manner when he advocated concepts different from those held by his audience. He was seen as favorable when the communication expressed similar ideas to those of the audience. He concluded that the degree of acceptance of a communication was directly related to the degree of attractiveness of the

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69 Sherif and Sherif, op. cit., p. 560.

communicator. In agreement with this finding Walter contradicted value judgments and attached his imposed judgments to a prestige group. The individuals changed their judgments to agree with the prestige group.

Katz and Lazarsfeld found that who says what is important for attitude change through communication of information. The communicator who has membership or reference group characteristics will be more effective in his presentation than one who has neither of these qualities. An interesting approach to this phenomenon has been proposed by Heider and called "balance theory." In support of this theory Osgood and Tannenbaum, Cartwright and Harary, Festinger, and Newcomb have arrived at similar conclusions. Simply stated, balance theory maintains


that if the perceiving subject identifies with the communicator who expresses a belief, the subject will adjust his pre-existing beliefs concerning the communication in order to agree with the communicator. If this adjustment is not possible he cannot rationally identify with the communicator.

**Characteristics of the medium conveying informational data**

Katz and Lazarsfeld\(^7^8\) in the study mentioned above have concluded that in modern society communications seem to flow from mass media to opinion leaders and by word of mouth to the populace. Preceding this discovery Lazarsfeld, Berelson, and Gaudet\(^7^9\) found that personal influence was much more effective in producing attitude change toward voting decisions than mass media. They maintain that people tend to select that information which is consonant with their existing attitudes. The mouth-to-mouth method of dissemination is more effective because it is more flexible with more give and take.

**Characteristics of the content of informational data**

Peak\(^8^0\) has found that any attitude toward any object or social situation has a bearing on the ends which the objects or situation serves. This refers to the consequences which are related to holding certain attitudes. She calls this the instrumental relation. "A

\(^7^8\) Katz, and Lazarsfeld, *op. cit.*, 1955.


communication that induces new beliefs about the instrumental or means attributes of an object will be more effective than one that does not have that advantage." The effective communicator will structure his information to change the beliefs about the object of the attitude. By accomplishing this he associates the object of the attitude with the pre-existing beliefs of the audience. Hammond broadens this conclusion with his finding that there is a tendency to accept facts which support one's view and reject those which are in opposition to one's pre-existing view.

Hovland and Pritzker found that the larger the change advocated, the larger the change produced as a result of information. It is worthy of mention that when advocating great change the communication must be in keeping with the instrumental value of the attitude object as it affects the subject's pre-existing attitudes.

The question of whether to present both the positive and negative aspects of informational data is pertinent here. Hovland, Lumsdaine, and Sheffield and Lumsdaine and Janis have offered evidence

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81 Kreh, Crutchfield, and Ballachey, op. cit., p. 238.


pertaining to this problem. They imply that a two-sided presentation was more effective in the production of incongruent change. A one-sided presentation was particularly effective in producing congruent change. A corollary finding was that the better educated the person subjected to the communication, the less he was influenced by the one-sided communication.

It would seem apparent that the termination of a communication or discussion should be accompanied by a summation or conclusion by the leader of the group or the communicator. Conflicting experiments have been reported on this problem. Hovland and Mandell\textsuperscript{86} assert that conclusion drawing by the leader or communicator affects not only the comprehension by the audience but changes attitudes as well. Thistlewaite, deHaan, and Kamenetzky\textsuperscript{87} found that comprehension was greater but attitudes were not changed. In view of this conflicting evidence it seems feasible to assert that since facts may be interpreted differently by different people the conclusion drawn by the leader or communicator is necessary for comprehension and mutual understanding. Attitude change, however, must be accomplished by other structuring devices.


McGuire\textsuperscript{88} reports that when desirable aspects of an argument, or those which agree with the audience's beliefs, were presented first and the undesirable aspects last it had a greater affect on attitude change than when the order was reversed. Also, Cohen\textsuperscript{89} found that presenting fear then fact changed attitudes much more significantly than fact first and then fear techniques last. Janis and Feshbach\textsuperscript{90} compiled results which indicated that when techniques were used which included intense fear, moderate fear, and mild fear, the intense fear technique was least effective for changing attitudes. They concluded that when intense fear permeated a communication the listener alienates himself from the communicator.

**Affects of a group process on attitude modification**

Since attitudes are learned from intercommunication between members of groups it is necessary to explore the conditions under which the group has influence on the individual. That the group is a determining factor in the attitude development and change process is well substantiated. Asch\textsuperscript{91} maintains that as the individual grows


\textsuperscript{91}Asch, op. cit., pp. 483-484.
and develops he comes to experience an environment which he shares with others. He finds he is in the same relative surroundings as other men. The individual perceives the fact that these other members in the environment are interpreting objects and situations and reacting to them. When this interpretation of objects and situations is shared, for whatever purpose or reason, attitudes are the fruition of this process. Attitudes play such an important role in group functioning that "the investigation of attitudes brings us to the center of the person's social relations and to the heart of the dynamics of group processes."92

Sherif and Sherif93 conclude from the studies of Lewin 94, 95 that "man's directive attitudes are derived from standards or norms of a group to which the individual relates himself. They are formed by the individual as a result of his active participation in a group setting." Cartwright96 states "to begin with the most general proposition, we may state that the behavior, attitudes, beliefs, and

92Asch, op. cit., p. 577.
93Sherif and Sherif, op. cit., p. 545.
values of the individual are all firmly grounded in the groups to which he belongs." "As soon as a person is in the midst of a group he is no longer indifferent to it." \(^{97}\)

Krech, Crutchfield, and Ballachey hold that not only are attitudes formed by group processes but "his attitudes tend to reflect the beliefs, values, and norms of his groups. And to maintain his attitudes, the individual must have the support of like-minded persons." \(^{98}\) These like-minded persons usually take the form of family groups, primary groups, membership groups, reference groups, and religious reference groups.

That a person will modify or condition his perception and cognition of an object or event is well illustrated by two classic experiments. Asch\(^{99}\) studied a "minority of one versus a unanimous majority." He found that the single person with a different interpretation of an event was uncomfortable by his not being in harmony with the group. The judgment of the single person can be modified by the pressures imposed by the group. Sherif's\(^{100}\) famous experiment using the autokinetic phenomenon adds to Asch's findings. Persons change their perception of the judgment of movement to comply with the group regardless of how different their initial judgments in the absence of a group.

\(^{97}\)Asch, \textit{op. cit.}, p. 483.

\(^{98}\)Krech, Crutchfield, and Ballachey, \textit{op. cit.}, p. 191.


\(^{100}\)Sherif and Sherif, \textit{op. cit.}, pp. 112-113.
An analysis of the factors which impinge upon the individual's cognitive processes when he is subjected to a group is the study of group dynamics. Cartwright, as an active proponent of this exploration, defines group dynamics in the following manner:

In careful usage of the phrase, "group dynamics" refers to the forces operating in groups. The investigation of group dynamics, then, consists of a study of these forces: what gives rise to them, what conditions modify them, what consequences they have, etc. The practical application of group dynamics (or the technology of group dynamics) consists of the utilization of knowledge about these forces for the achievement of some purpose. 101

Sherif explains what happens when a group is brought together with a mutual problem. "When two or three individuals give their judgments in the presence of each other, the whole group establishes a range and a point of reference peculiar to the group." 102 Without anchoring points, frames of reference, or points of view individuals would not be in a position to effectively communicate. This interplay of ideas and values based on a common reference point is the principle factor in attitude formation through group dynamics.

Asch concludes

That attitudes have such social roots and implications has consequences for their cognitive and emotional functioning, for the conditions of their growth and change. Their content and their persistence and change must be seen as an expression of the need to maintain viable group-relations. Only in this way can we fully understand the pull of social conditions in the modification of attitudes and the fact that they vary lawfully with group membership. 103

101 D. Cartwright, op. cit., p. 108.


103 Asch, op. cit., p. 577.
Kelman\textsuperscript{104} makes qualitative distinctions between different types of influence for the individual. He notes that the person who is influenced by the group will comply, identify, or internalize the norms, standards, or anchoring points and each of these processes have different motivational means. He defines \textit{compliance} as that which takes place when an individual accepts influence as a result of his hoping to elicit a favorable reaction from his single or group communicant. When an individual perceives a self-defined want-satisfying, means-end relationship between his acceptance of the modes of behavior of another person or group it is termed \textit{identification}. Finally, when the individual accepts behavioral standards because they are congruent with his pre-existant value system the influence is said to take the form of internalization.

The above theory has an important bearing when one wishes to control or change attitudes through group dynamics. If an individual will become influenced by a group through compliance, identification, or internalization there will be conditions present in the group situation which will tend to bring out one of these types of influence on attitudes. If the agent of the attitude change is in a position to withhold the means needed by the stimulated individual for the achievement of his goals compliance will take place. If the stimulating agent is attractive and if he occupies a position or role which the stimulated individual perceives as desirable for himself, identification will occur.

If the agent is perceived as having credibility and if his information is considered truthful and valid then internalization of the concepts will be a result.

The type of influence in the above theory may be extended to include the manner in which prepotency of group influence is achieved. Compliance will occur if the individual sees himself restricted as to the alternative ways of behaving. Identification is gained if the alternative behavioral responses open to the individual are confined by limiting the point of view of a particular role. Internalization will be the type of influence if new channels of information and new relationships between these data are perceived by the stimulated individual. It must be noted that whatever type of influence used by the agent or the perceiving individual behavior which is consonant with the information will occur. This theory delineates between qualitative types of influence but the behavioral manifestation of the attitude remains constant.

Cartwright\textsuperscript{105} has established principles relative to the manner in which groups affect the process of attitude change in an individual. He views groups from at least three different aspects. He sees groups used as a medium of change, groups used as a target for change; changing attitudes of individuals in the group by changing the standards

\textsuperscript{105}D. Cartwright, \textit{op. cit.}, pp. 111-113.
of the group, and groups as agents of change. He proposes the follow-
ing principles:

1. If the group is to be used effectively as a medium of change, those people who are to be changed and those who are to exert in-
fluence for change must have a strong sense of belonging to the same group.

2. The more attractive the group is to its members the greater is the influence that the group can exert on its members.

3. In attempts to change attitudes, values, or behavior, the more relevant they are to the basis of attraction to the group, the greater will be the influence that the group can exert upon them.

4. The greater the prestige of a group member in the eyes of the other members, the greater the influence he can exert.

5. Efforts to change individuals or subparts of a group which, if successful, would have the result of making them deviate from the norms of the group will encounter strong resistance.

6. Strong pressure for changes in the group can be established by creating a shared perception by members of the need for change thus making the source of pressure for change lie within the group.

7. Information relating to the need for change, plans for change, and consequences of change must be shared by all relevant people in the group.

8. Changes in one part of the group produce strain in other related parts which can be reduced only by eliminating the change or by bringing about readjustments in the related parts.
Regarding membership groups and reference groups, the research indicates that "both the amount and the direction of a person's attitude change over time depends on the attitude norms of his membership group (whether or not that group is chosen by him) and on the attitude norms of his reference group." A norm is "a rule which states the attitudes and actions expected of members under given circumstances and which specifies the consequences of compliance and noncompliance."  

Siegel, and Siegel found the attitudes of the girls in their study were determined by groups they belonged to, by groups they wanted to belong to, and by the combined influence of these two kinds of groups. Watson reported that a change in group membership was the most dominant factor in changing attitudes toward the Negro. 

A group to be an effective medium for attitude change must have some means of monitoring its members. "Unless agents of the group can maintain surveillance over the members and thus detect and punish deviant behavior the impact of norms may be greatly reduced."

107 Krech, Crutchfield, and Ballachey, op. cit., p. 247.  
110 Krech, Crutchfield, and Ballachey, op. cit., p. 247.
Attitudes play an important role in this policing action as "the effectiveness of the monitoring system of a group is influenced by the visibility of the behavioral expressions of an attitude."\textsuperscript{111}

Kelley and Volkart\textsuperscript{112} add support to the now famous Bennington study by Newcomb\textsuperscript{113} when they assert that group anchored attitudes increase as the value of group membership increases. "If a person comes to accept the imposed group as his reference, . . . , then the change in his attitudes toward the level of the group norm is even more pronounced."\textsuperscript{114}

King and Janis\textsuperscript{115} studied the effects of active versus passive participation by groups who were asked to communicate informational data. Their findings indicate that those who were active in the group and participated in the distribution of data were more influenced and had more confidence in their post-communication attitudes. Zander arrives at the same conclusion but relates his findings to resistance of change of attitude in groups which were active against those which were passive. "Resistance was least in groups in which those to be

\textsuperscript{111}Ibid., p. 247.


\textsuperscript{114}Siegal, and Siegal, \textit{op. cit.}, p. 268.

affected discussed the nature of the change, laid plans for making it, and as a total group made decisions which were satisfactory to the entire group."^116  Lewin^117 found that a method that used a group discussion and decision to have group members change or modify their opinions was from two to ten times as effective in actually eliciting change than was passive observation of a lecture.

As far as enforcing the change of an attitude by manipulating the attitude object Guttman and Foa^118 found that those with little or no contact with the attitude object tend to derive attitudes from those who have contact. As a consequence these attitudes are not as strong as those which are assimilated by direct contact with the object.

**Affects of enforcing the modification of an attitude**

Rosenberg^119 suggests that objects which are seen as a means of goal achievement are evaluated favorably. Those objects seen as sources of frustration are evaluated as unfavorable. Krech, Crutchfield, and Ballachey, in keeping with this, state that "it is difficult to teach an individual a new belief . . . unless we can first produce a situation

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which his old concept . . . is no longer adequate for the achievement of his goals."120 Although "there is a need to put up with or come to terms with a 'negative' object, there is also a tendency to seek to discover favorable aspects about that object."121 In spite of the tendency to perceive an object favorably it is more feasible that enforcing an unfavorable interpretation on the old concept, and therefore presenting a psychological block, would be more effective in attitude change. Along with the unfavorable association of the old concept the new concept could be made to appear in a favorable light consonant with pre-existing attitudes toward the object.

Enforced role playing also is a consideration for attitude change. Culbertson122 used racially prejudiced subjects and required that they act out roles of non-prejudiced people. Her control group was asked simply to observe. Those who acted out their roles were found to have significantly changed their attitudes over those who merely observed.

Effects of personality modification on attitude change

It has also been established that attitude change procedures encompass techniques which, in effect, change personality. As was pointed out, attitudes held by an individual are employed by him in a number of ways. "They may aid him in his search for meaning, they may be means

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120Krech, Crutchfield, and Ballachey, op. cit., p. 37.
121Ibid., p. 254.
of satisfying his wants, they may enable him to maintain his self-concept. 123 In general, the attitudes of an individual reflect his personality. If personality is the sum total of behavioral acts of an individual Adorno 124 and Smith, Bruner, and White 125 through their work have established that these acts are related to held attitudes.

There are many personality factors which have conditional qualities for attitude modification. "Individual differences in intelligence help determine differences in rate of attitude change." 126 All things being equal the more intelligent the individual, or the better able he can see relationships between objects in his world, the better he can comprehend information. Intelligence plays a role in argumentation and discussion. The more intellectually adept the individual, the better he can evaluate opposing information.

The above authors posit a factor of general persuasibility in the personality of the individual. They maintain that certain personality systems are more readily subject to the pulls of influential informational material. Also the personality factor of self-defensiveness predisposes a person to tenaciously adhere to attitudes which increase their self-esteem. Finally, a person who typically reacts to ambiguous objects or events by striving to clarify and understand would tend to be open to new information.

123Krech, Crutchfield, and Ballachey, op. cit., p. 263.


125Smith, Bruner, and White, op. cit.,

126Krech, Crutchfield, and Ballachey, op. cit., p. 220.
In addition to the above characteristics of the personality of the individual there are characteristics of the attitude system entering into the analysis of their susceptibility to change. Tannenbaum\textsuperscript{127} found that the more extreme the attitude the more difficult it is to change in an incongruent direction.

The multiplexity and consistency of an attitude system conditions its change qualities. A multiplex attitudinal system is one which is effective because of the number of separate facts which support it. In contrast, a simplex system is characterized by one or very few separate facts supporting it. "A simplex attitude will be relatively more susceptible to incongruent change than will be a highly multiplex attitude."\textsuperscript{128} If an attitude contains one fact about the attitude object it would be relatively easier to change. The more facts there are which give meaning to the attitude object, the more difficult it becomes. The above authors also hold that a multiplex attitude will be more easily changed in a congruent direction.

A consistent attitude system is one in which the facts entering the system mutually support one another. McGuire\textsuperscript{129} found that when one's attitude system toward an object is consistent, a communication which is aimed at the change of this attitude will change related facts as well even though the related facts are not mentioned in the communication. This is also applicable to the degree to which the

\textsuperscript{127}Tannenbaum, \textit{op. cit.}, 1956.

\textsuperscript{128}Krech, Crutchfield, and Ballachey, \textit{op. cit.}, p. 217.

\textsuperscript{129}McGuire, \textit{op. cit.}
attitude systems are interconnected. If an influential agent wished to change an interconnected attitude it would be possible only if the linking attitude system were manipulated. "... we should expect interconnected attitudes to be relatively more susceptible than isolated attitudes to influences making for congruent change."

Since attitudes are want-satisfying, an individual forms and holds these attitudes with strong emoional loadings. "An attitude based on strong and multiple wants, therefore, will be relatively immune to incongruent change." And, "... the individual whose prejudice serves a major want or many wants is easily induced to become still more prejudiced in order to experience still greater want satisfaction."131

Finally, the importance of the group evaluation of an object or event cannot be overestimated in the configuration of an attitude. "An attitude that stems from a value that is basic to the individual and strongly supported by his culture will be difficult to move in an incongruent direction." Further, "we should expect to find that the more central the value base of an attitude, the more susceptible would the attitude be to congruent change."

130Krech, Crutchfield, and Ballachey, op. cit., p. 219.
131Ibid., p. 220.
132Ibid.
CHAPTER III

THE TEACHING MODEL

The present chapter will attempt to utilize the conclusions pertaining to attitude change established in Chapter II. These conclusions form the basis for techniques to be used when attitude change is desired. Since social attitudes modification takes place through a social medium it is necessary to employ these techniques in an environment where interpersonal communication exists within the framework of group organization. The environment for this study will be a physical education activity.

The learning of social attitudes through a physical education activity medium is accomplished by structuring the events of that activity in such a way that this learning is more than likely to occur. The structuring of the attitude change techniques may be depicted by the use of a teaching model. The teaching model in this study is a schematic representation of sequential events which occur in temporal order so that they may induce social attitude modifiability.

I. Transfer of Learned Attitudes

It is thought that conducting the learning of social attitudes and responses which are specific to the medium is not in keeping with the aforementioned responsibilities of formal education in this country. "The problem of transfer may be considered almost all-pervasive educationally. It might almost be said that if there is to be education
there must be transfer, for the purpose of education is to prepare people to meet situations which inevitably differ in many respects from the situation in which the educational preparation was acquired.\textsuperscript{1}

If social attitudes and dependent behavioral responses are learned in such a way that they are manifested only upon involvement in the medium in which they were learned, the experiences of each individual, in order to grow in social relationships, would be staggering. Since it is the avowed purpose of physical education as a learning medium to inculcate social attitudes and behavior, the model will be employed through this medium to the effect that the learning occurred will have transfer qualities.

The physical education medium for this model is selected on the basis of its inherent potency for producing the desired attitude. Because there is selectivity involved it must be assumed that the various activities of physical education are often distinct in their instrumental value. Certain activities are more conducive to certain social attitude learnings than are others.

The practitioner of the model has the responsibility of ordering events so that the learners responses are applicable not only to the initial situation, but also to all similar, subsequent situations which the individual may encounter. The events must be structured so that the individual assimilates the attitudinal learnings. He then is afforded the opportunity to arrive at general principles regarding

this behavior. It is as a result of these general principles surrounding his behavior, and his comprehension of them, that learning in one situation will transfer to another situation.

Transfer of general principles

Sufficient supportive evidence has been accumulated to attest to the above conclusion. Judd's classic experiment on the transfer of the principle of refraction is perhaps best known. Throwing at an underwater target, boys who had been taught the principle of refraction were much more effective at hitting a submerged target than boys who did not have an understanding of the general principle. McGeoch and Irion state that understanding "merely means that the individual is able to verbalize, more or less clearly, the principle involved." These authors cite the studies of Baker and Wylie, Vandell, Davis, and Clugston, and Perry as evidence of the fact that transfer can occur from verbal knowledge to a performance of a non-verbal task.


\[ ^6 \text{H. M. Perry, "The Relative Efficiency of Actual and 'Imaginary' Practice in Five Selected Tasks," Archives of Psychology (number 243), 1939.} \]
"If there is to be transfer, there must be teaching for transfer."\(^7\)

This teaching for transfer is accomplished on the conceptual level. The conceptualization of the common elements between two or more situations must be established. When these common elements are sufficiently accurate, one has a general principle which will apply to all subsequent situations having properties similar to the initial situation which may be confronted. If this is placed on a social learning basis, it may be assumed that an individual can perceive common elements in situations involving people. One common element, for example, being the presence of other people. If he has learned general reactions to people the chance that he will transfer these generalizations to all situations involving people is increased.

**Positive and negative transfer.** Adherence to the above view is in keeping with what is known regarding positive and negative transfer of learning. 

"... learning to make an old response to a new stimulus uniformly yields positive transfer."\(^8\) The general principle common to all situations which have like elements are old responses, while the stimulus situations, although containing familiar elements, are new. Negative transfer has been defined as "learning to make a new response to an old stimulus."\(^9\)

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\(^7\)Pressey, Robinson, and Horrocks, *op. cit.*, p. 299.

\(^8\)McGeoch, and Irion, *op. cit.*, p. 319.

\(^9\)Ibid., p. 320.
Cronbach\textsuperscript{10} cites methods by which transfer is encouraged:

a. Identifying the desirable response in the form of a general principle.

b. Making that principle very clear to the pupil (drawing on his past experience or providing lucid illustrative material).

c. Drawing the pupils attention to places where the principle applies, and

d. Giving him opportunities to recognize its applicability in increasingly varied and complex situations.

Figure 1 diagrammatically represents the teaching model in this stage of development. The learning acquired in one situation will thus serve to transfer to other situations which have common elements but do not appear to be exactly the same to the observer. This consideration circumvents the possibility of requiring specific learning tasks for specific social responses. It also will yeild positive transfer of learning since the individual is able to make an old response to a new situation.

![Diagram of teaching model]

FIGURE 1. The Teaching Model in the Initial Stage of Development.

Arrival at principles through induction and deduction. The process by which an individual cognitively arrives at universal or general principles from particulars or specifics may be termed induction. Conversely, arriving at particulars from universals is termed deduction.

For purposes of the model reference made to the formation of general principles from a learning situation will be considered as the occurrence of induction. When the application of the principles is transferred to a new situation the process will be termed deducation.

Smith explains that

Induction is the passage of the mind from particular cases of a given kind of thing to a general or universal notion concerning all cases of the same kind. It is a movement from knowledge of individuals to a generalization about a whole species and at times a movement from knowledge to several species to a conclusion about a whole genus.\(^{11}\)

He emphasizes the importance of this operation of the intellect by asserting that nearly all of the knowledge man possesses is inductive, or that it is a generalization about a whole kind of thing based upon the experience of only a few cases of its kind.

The method of induction may be accomplished by abstraction. That is, "the process by which the mind leaves aside the individual character of sensible reality to consider the universal essences ...."\(^{12}\) Social modes of behavior possess properties, the sum of which make up standard ways of conduct. Abstraction of the properties of a social learning situation, then, would be a function of identifying these singular properties and establishing actions and reactions which would be acceptable when they are present in future behavioral situations.

The cognitive recognition by the individual of the properties which are common to the generalization is the process of deduction.


\(^{12}\) Ibid., p. 159.
Once a general standard has been established by extension of a particular experience to its universality, the standard becomes a whole entity which is distinguished from its original context. This entity has properties in itself. It is through these properties of the standard or generalization that identifies subsequent experience as being in common with the generalization.

II. The Structure of the Model

Attention to the attitude object. In the preceding chapter discussion centered around the fact that an individual selects that to which he will attend in a given stimulating situation. Because of limitations, the individual's perception of stimuli is conditioned by the number of objects to which he can attend, his immediate wants and needs, and his mental set. All of these are personal in that the individual brings with him these limitations to a situation. The latter two, however, are at once a part of the individual's psychological make-up and a reflection of some process of learning through social intercommunication stemming from past experience.

Notice was also given to the conditions present in the stimulus which promote attention to the attitude object or event. These conditions were differentiation in color or form, repetition, intensity, and force, movement, and numerical occurrence. For the individual to perceive an object or an event, one, or a combination of the above, may be present.

The initial stimulating situation represented in the model is an endeavor to combine the personal conditions and the conditions of the
stimulus which lead to making an object or event figure and everything else in the situation background. The primary function of the initial stimulating event will be to make certain that the individual attends to that social occurrence which is the target of the teaching. Unless there is attention to the social occurrence in question, it is impossible to expect that an individual will be able to do anything about it.

The use of the generalization method of transfer permits the learning of reactions through a medium not exactly similar to future situations in which the individual should use these responses. In this case the initial learning situation could be anything containing elements from which general principles could be formed. This is true only if the perceiver attends to those elements which are germane to the teaching target.

Again, as a person looks at a situation he selects from this experience those aspects to which he will attend. It is the function of the initial situation represented in the model to make certain that the teaching target is perceived as figure. To accomplish this, the first order of function in the initial stimulating situation will be to identify the events within the physical education activity which contain the attitudinal target. Concomitant with this process is the identification of the social attitude.

Rather than perceiving the whole physical education activity with whatever apperceptive connotations the individual brings with him, the participator is directed to focus upon a segmented portion of the whole experience. This segmented portion then becomes an entity in itself
and as such possesses whole characteristics. This reverses the process of focusing upon the activity with the social actions and reactions simply in the background. When attention is directed at the social considerations, the physical education activity is background and can be perceived as merely a medium through which these social relations can be learned. This operation of a physical education activity seems to be more in keeping with the definition of physical education proposed by J. F. Williams which has been previously mentioned.

Focus is brought to bear upon the social experience by identification and isolation of the social experience. The success of the individual's participation in the physical education activity must be related to the attention he affords to the social experience in question. The futility of participating in the activity without attention to the social stimulus and its ensuing behavioral actions and reactions associates the focus on the social target with the individual's wants and needs.

Also, the form of the social experience must be such that it is perceptibly different from the form of the medium. This experience must be encountered in a repetitious fashion throughout the medium. The force with which the event occurs must be of sufficient magnitude that it can be differentiated from the activity.

The above is taken to involve both the personal and stimulus factors which condition the perception of an event or object by an individual. This being the initial step represented in the model, it can be assumed that not much, if any, learning has taken place. By attending to the learning target event the individual will interpret its significance or meaning in view of his mental set provided by past
experience and learning. The meaning, for example, of the event and the subsequent behavioral reaction to the event by the individual could be quite different from that of any other co-participant in the experience.

**Modification of attitudes toward the social object**

The learnings which accrue through the medium as a result of the application of the model are introduced at this point. The successful instrumentation of the model can not only call attention to the learning target but also possesses the qualities necessary to modify attitudes toward that target in a socially acceptable direction. The modifying of attitudes may be thought of as learning since there is cognitive change associated with the modification.

The second step represented in Figure 1 is the arrival at general principles, through induction, common to all experiences which contain an element similar to the initial situation. The focal point in the initial stimulating situation would depend upon the social learning which one wished to impart. If, for example, the social learning were cooperation, the common element in all cooperative endeavors could be the presence of a group of people working toward a goal which would benefit all the group members.

The third function of the model is the allowance for the encountering of subsequent situations which have the properties of the previously established general principle. If the personal and stimulus factors involved in perceiving an event or object have been carefully selected and successfully structured the individual will have the
apperceptive ability to extract the desired targets from the mass of stimuli impinging upon him. Without this step which involves the deductive process, it is difficult to know whether or not the individual has properly participated in the initial stimulating experience.

This third step also makes it possible to begin again the entire process of the model if desired results are not obtained with the initial try. That is, if focal attention and attitudinal reaction is not given to the desired target in the new experience (which has common properties with the derived principle) this could be again a stimulating situation. In fact, this process as represented in Figure 2 could go on indefinitely in a teaching situation. The termination of this process would then be dependent upon the teacher's evaluation of the successful instrumentation of the general principle in new situations.

FIGURE 2. Representation of the Progressive Stages of the Teaching Model.

Little learning would take place, however, if this were the extent of the function of the model. The only concrete event that has occurred in the individual's psychological world has been that of recognition of separate aspects of a stimulating situation. If the mental set and general interpretation of an individual is different from that which is desired by the teacher the model has served little
purpose. If the individual interprets the general principle in a negative fashion his reaction can and may be very similar to his reaction to the initial situation. If his reaction to the basic stimulating situation is acceptable to the conductor of the model there is little need to pursue this method further. The chances, however, of all participating individuals having the same socially interpreted attitudes toward the learning target are very low.

**Application of attitude change techniques**

The learning phase of the model is now introduced as a function of arriving at general principles surrounding the focus of attention associated with the initial stimulating experience. Figure 3 indicates the introduction of the learning of principles in their logical position in the model. It is at this point that the methods of attitude formation and change must be included in the process. Learning implies change and the change in this case is the re-education of ways in which the learner interprets and reacts toward the social target in situations subsequent to the initial experience.

![Diagram](image)

**FIGURE 3. Introduction of the Learning Principles in the Teaching Model.**

Whether the individual will learn from what he is exposed to by virtue of his participation in the experience depends upon a
number of factors. The teacher who uses the model must manipulate the characteristics of the situation so that the desired results will be more likely realized. The determination of desired results is not important for this consideration. The objective is to modify or change attitudes and the desired attitude may be operationally defined by the teacher. In order for the teacher to insure operationally defined results he must make certain that group processes, exposure to additional information, enforcement toward the modification of the attitude toward the object or event, and the procedures which affect the holding of the attitude are based upon sound ground. These conditioning factors of attitude change are now introduced into the model and their justification is based upon the conclusions found in Chapter II.

Social attitudes are formed through intercommunication between an individual's membership and/or reference groups. Within this group by means of mutual understanding, mutual interpretation, and mutual value judgment, an attitude target becomes shareable between the group members. To be a member of the group it is expected that predispositions to respond to a certain class of objects are similar among members.

Group processes. The first responsibility of the model in the re-education process is to allow for the presence of a group. There must exist between members of this group an awareness of mutual dependence. The evaluation of membership in this group must be communicated between members. The values of this group as well as the values of a common reference group must be brought out in the open by means of intercommunication.

The group participating in the formulation of shareable judgments concerning an attitude target must be attractive to each individual
member. There must be constraints upon leaving the group. There must be ensuing satisfactions derived from each member's active participation in the verbal exchange of the ideas which have to do with attitudes. If there is disagreement among the members concerning the manner in which the social object in the initial experience is interpreted, there must be an establishment of the need for alteration and change.

By reference to the principles purported by Cartwright\(^\text{13}\) concerning the manner in which groups affect attitude change, it is imperative that the advocators of the change have a strong sense of belonging to the group. If the change advocated stems from the intercommunication between members of a group in which each member is mutually dependent one upon the other, this belongingness is immediately perceptible. If the proposer of the change is not perceived to possess membership or reference group qualities the individual member may believe this change to be an invasion of his privacy.

According to Kelman,\(^\text{14}\) there are three types of influences upon the individual when he declares the value of a group. If membership or reference norms of the group are strong enough, certain individuals will comply with the norm because they wish to be associated with those who hold this view. If the group restricts alternative ways of looking at the social object, those group members who wish to belong will be strongly motivated to do so. Those who see a means-end relationship

\(^{13}\text{Cartwright, cf. ante, p.}\)

between the manner in which the group views a social object and his own wants will identify with the group's way of perceiving the object. Further, if the interpretations of the social object by the group can be communicated in such a manner that it opens new interrelationships between pre-existing interpretations of the social object and the group interpretation of the object, the individual will internalize the new relationship.

In view of the aforementioned research concerning this topic it is further known that, to be effective, a group should have some sort of a monitoring system. The individual group member must be able to overtly manifest his reactions to social stimuli. He must be able to accomplish this in situations observable to other group members.

**Exposure to additional information.** It has been found that merely exposing subjects to additional information is not effective for changing attitudes. Sherif states that

One of the main reasons for the ineffectiveness of attempts to change attitudes through information or logical argument alone is that the change often implies to the individual a break from the security of cherished group ties. However, if social interaction focused on an issue of considerable significance takes place among members of a group, the individual participant can safely move with the developing trend toward crystallization of a group decision or norm.\(^{15}\)

It is thus important that any additional information that is involved in attitudinal change be disseminated by and through the group process.

It is also extremely necessary, in view of conclusions reached in Chapter II, that exposure to information be handled in a special

manner aside from placing it in a group environment. As has been found, the situational factors, sources of information, the medium of information, and the form and content of information are unique factors in attitude manipulation.

It is important that information concerning attitudes toward social objects be attended to and perceived by individuals in the presence of the group with which they are going to work or perform. It is important that the attitude toward the object be gained through group decision and that there is group consensus of opinion. Once a group consensus has been reached, the attitude is further strengthened by the individual's public commitment to that attitude.

How the communicator as a source of information is perceived by the audience is significant to this process. As was mentioned above, the success of the content of information depends upon the communicator's membership qualifications. Not only must the communicator be viewed in a favorable light but the source of his information must be credible. The audience must be able to believe that the source of information is verifiable.

With regard to the medium of the information, it has been observed that the personal, face-to-face, communication is the more effective when compared to mass communication procedures. The group which has the advantage of discussion among individual members is most likely to meaningfully modify attitudes in the direction of the group consensus. A personal appeal by the teacher to each member of the group has more chance for success in modifying attitudes than communication to all members at one time.
The form of the attitude change information as well as the content of the message will affect the modifiability of an attitude. The beliefs about the object of the attitude must be changed if they are not in keeping with the desired direction of the attitude. An appeal which contains the desired attitude must be related to the beliefs that are held by the group. Inducing new beliefs or attitudes is then a product of reorganizing the instrumental value of this new belief so that the individual will more clearly see that the new belief will better accomplish his wants and goals. This new belief should be over-emphasized since the larger the change advocated, the greater the attitude change in the desired direction.

Whether to use a two-sided or a one-sided presentation is a matter of choice depending on the intelligence level of the audience. As was found in Chapter II, the more intelligent, informed, and advanced the audience, the more susceptible they are to two-sided communications. In the order of presentation regarding the information it has been discovered that the desirable information, that which is consonant with existing beliefs, should be presented first. If threat is to accompany the information in order to insure enforcement of the desired attitude, only mild fear tactics should be employed and the fear should precede the facts.

Since one can never be confident that all members of the group are perceiving exactly the same event or stimulus, it is important that conclusions be drawn by the teacher or the group. Only if this step is accomplished can the attitude modifier be certain that total comprehension of the desired outcome is in evidence. It is also through this
latter process that the event or stimulus which is figure and desirable of attention is brought to the fore and all else is background.

**Enforcement toward the modification of the object.** When group values and attitudes are held by members of that group there must be a method of enforcing conformity. If the group is viewed by each member as a means of want and need satisfaction this alone may be sufficient to enforce behavior which is in keeping with the norms of the group. If the individual values membership in the group, he will adjust his behavior to group demands in order to avoid ostracism from its ranks.

Previously it has been established that those with little or no contact with the value or attitude object will derive their attitudes from those who have had experiences with the object. In a group process incorporating free discussion, it is possible for those who have had little contact with the object to arrive vicariously at conclusions.

To add strength to the enforcement of group-oriented attitudes, each individual must have the opportunity to act out his role in a practical situation. The more experiences with the attitude object or event the better the chance of the individual's assimilation of the reactions required by the group. This also gives the group the opportunity to evaluate each member's behavior as it compares with the group standard.

**Procedures which affect the holding of attitudes.** The procedures which are used to modify attitudes must be in keeping with the intellectual level of the individuals who compose the group. It is at
once obvious that this requirement will ensure better understanding of the ways in which the attitude object may be viewed. With better understanding it is conceivable that each individual will be better able to perceive the group standard and its relationship to his personal wants and needs.

Since the new belief or attitude may be for some individuals an acute departure from that which he previously held, rational appeals to his cognitive powers must be made. Along with the other techniques represented in the model the instrumental value of changing his views and frame of reference must become evident to him. Through the communication in which he is participating a relation between his changing of his attitude and the accomplishment of his ends must be indicated.

Lewin and Grabbe have commented on the interdependence between a set of values, techniques for communicating these values, and the individual's acceptance of the group which holds these values. They conclude by stating

Re-education influences conduct only when the new system of values and beliefs dominates the individual's perception. The acceptance of the new system is linked with the acceptance of a specific group, a particular role, a definite source of authority as new points of reference. It is basic for re-education that this linkage between acceptance of new facts or values and acceptance of certain groups or roles is very intimate and that the second frequently is a prerequisite for the first. This explains the great difficulty of changing beliefs and values in a piecemeal fashion. This linkage is a main factor behind resistance to re-education, but can also be made a powerful means for successful re-education.16

Summation of principles and techniques

The above general principles which have been synthesized from the research presented in Chapter II will serve as necessary inclusions in the model. These principles and techniques of presenting communications designed to modify attitudes are to be employed immediately following the groups perception of the attitude target. The attitude target is contained as a whole entity in the initial stimulating experience.

If one wished to use a physical education activity to modify attitudes he would first select that activity which contained the attitude target. If, for example, attitudes toward competition were desired, a competitive activity would be used as the initial stimulating experience. By means of using techniques which take into account the personal and stimulus factors involved in the perception of a specific object or event, these target objects or events are made the focus of attention (figure). When one focuses on a particular object or event, the medium becomes supportive and non-dependent (background).

According to the principles in Chapter II, the following procedures or steps are necessary to establish a figure-background relationship within a total activity:

1. Opportunity for all members of the group to participate physically in the experience or event.

2. Explanation (verbal) of component parts or whole entities contained in the activity. e.g., skills, rules, playing area, competition, cooperation, health practices, and so on.
3. Limit number of components to which the group will attend in a given period of time. The fewer components the greater possibility for attention.

4. Establish through communication (lecture) or group discussion the relationship between the focus of attention and each individual's wants and needs.

5. Require that each individual in the group arrive at his own conclusions concerning the focus of attention. Since the individual may enter this experience with a mental set pertaining to the target this step simply acknowledges this fact.

6. Establish by communication (lecture) or group discussion those characteristics which differentiate the target from all else in the activity.

7. Establish by communication (lecture) or group discussion the manner in which the target repeats itself throughout the activity. This step also emphasizes the force with which this target enters the total situation.

The above procedures are necessary to establish the focus of attention. It is obvious that these steps are necessary for requiring attention to any phase of the activity. For example, it is practical to think that prior to motor skill instruction these steps would be invaluable if followed to their successful conclusion.

For purposes of the model, however, the focus of attention will be upon those objects or events which are important because of their social attitude structure. However, attitudes toward motor skill development and learning could also be considered if one wished the group
to hold a particular attitude toward this area of the total activity.

Figure 4 represents the model in its present stage of development.

FIGURE 4. The Teaching Model Representing the Application of the Focus of Attention on the Attitude Target.

Once attention has been focused upon the attitude target it becomes a function of the model to order events so that the learning of attitudes toward the target is accomplished. This learning assumes the form of either changing or strengthening the individual's mental set with which he originally enters the experience. To accomplish this, the following events should take place:

8. Formation of mutually dependent group through:
   a. Allowance for interpersonal communications through active participation by each member of the group.
   b. Perception of mutual dependence among members.
   c. Discussion and conclusions relative to disadvantages of leaving group.
   d. Establishment of monitoring system through further participation in medium activity.
9. Group determination of mutual reference group and its standards or norms through:
   b. Mutual agreement concerning advantages of each member of present group assuming reference group values and ensuing attitudes.

10. Establishment of group norms through interpersonal communication by:
   a. Synthesis of present group norms and reference group norms. Appeal to legitimacy or reference group norms.
   b. Mutual acceptance of need to alter or strengthen present beliefs to be in agreement with reference group norms.
   c. If change of attitude or belief is desired, allow for communication or discussion which advocates as much change as possible.
   d. Formation of general principles applicable to attitude target by synthesis of reference group and present group standards with reference to the target or event.
   e. Establishment of advantages to each group member of holding beliefs of membership and reference groups. Establishment of attractiveness of combining standards of both groups.
   f. Allowance for each member to make a verbal commitment before entire group.
11. Enforcement toward attitude object or event through:
   a. Reemphasis through group discussion upon disadvantages of leaving group followed by advantages of remaining in group.
   b. Restriction of alternate ways of holding attitudes toward the target.
   c. Emphasis on assumed fact that the group norm is a product of each member's past experience.
   d. Allowance for new supportive ideas and beliefs which add strength to the group attitude standard toward target.

12. Summation by appointed leader (teacher) or group leader by:
   a. Presentation of disadvantages of leaving group then advantages of remaining in group.
   b. Presentation of desirable group oriented attitudes toward the target prior to undesirable attitudes.
   c. Allowance for personal contact by teacher or leader with each individual group member.

Figure 5 represents the temporal and spatial sequence relationship of steps H through L. It concludes the learning phase depicted in the model. If the present group standards and attitudes held by each group member are directly related to the discovered attitudes of the reference group, then the application of the model serves only to strengthen the mental set of each member. The likelihood of this latter assertion's being a reality is at best improbably.
FIGURE 5. The Temporal and Spatial Sequence of the Application of the Principles to the Teaching Model.

The model represents several levels in the process of modifying attitudes through a medium not immediately devoted to these attitudes. The practical utilization of the model is a process of first selecting an activity which inherently possesses the characteristics of the desired attitude target and second, structuring events such that transfer of learned principles and attitudes toward this target are manifested by subjection to subsequently unlike situations.

Attention to the target is brought about by temporarily cessating activity and dissecting the activity using steps A through G indicated above. This analysis of the activity may be accomplished by the verbal demonstration of the leader or by the group as a whole, through a process of verbal intercommunication affecting the analysis. This supposedly may be done sitting down, standing up, inside a classroom-like environment, or outside.
Once focus of attention is gained the manipulation of steps H through L is introduced to the group. This also is a group discussion process which occurs in the absence of actual activity. Upon the successful assimilation of the operationally defined principles which are desired by the teacher, the group is then allowed to resume activity. Throughout this second phase of activity the leader has the advantage of determining the effectiveness of the attitude learning phase of the model.

The order of presentation of steps H through L are at this time vague and unstructured. It is not the function of the ensuing experiment to determine the order in which the steps may be more fruitfully generated. The order in which the model is presented is simply an attempt to place in logical sequence the necessary circumstances under which attitudes are modified.
CHAPTER IV

EXPERIMENTAL EMPLOYMENT OF ATTITUDE TEACHING MODEL IN A PHYSICAL EDUCATION ACTIVITY EXPERIENCE

The purpose of this chapter is to recount the manner in which the teaching model was related to a selected physical education activity for experimental purposes. The step-by-step process through which the data presented in Chapter V was obtained will be outlined. To accomplish this necessary considerations must be entertained. The most important of these is the analysis given to the selection of an attitude object and its medium, and the synthesis of both of these operations utilizing the principles discussed in Chapters II and III.

I. Selection of Social Attitude Object and Activity Medium

Since it has been concluded that not all activities which are a part of the physical education process are conducive to serve as a medium for all social attitude objects, it is essential to treat this particular question with deliberation. It is incumbent upon the practitioner of the model to make certain that the activity medium contains the characteristics of the social attitude target. For the experiment presented in this study the rationale for selection was based on empirical observations of both activity and medium.

1 cf. ante, Chapter III, pp.2-3.
Attitude object

The age and background of the subjects used in this study were major considerations when selection of the attitude object was made. All of the participating members of the groups in this experiment were college students in their first year of residence. It was believed that because these freshmen had analogous backgrounds in terms of years of schooling, the selection would be made with this similarity as a basis.

The attitude target which was chosen was cooperation. The model was to be used in a physical education activity to strengthen or change the students' attitude toward cooperative endeavors. The abovementioned basis adds support to this choice of targets. It was deemed that since the school environment is primarily competitive, the attitude of these students toward cooperation would be vague and unrealistic. When modification of this attitude was tried, it was believed there would be many facets of which they had little insight or understanding. Because of this probable lack of understanding there would be an abundance of opportunity and allowance for modification.

Defining cooperation for this study was an operational matter. For this study the following definitive analysis will apply

In a cooperative social situation the goals for the individuals or subunits in the situation under consideration have the following characteristics: the goal regions for each of the individuals or subunits in the situation are defined so that a goal region can be entered (to some degree) by any given
individual or subunit only is all the individuals or subunits under consideration can also enter their respective goal regions (to some degree)²

The above author also makes reference to the fact that any person who has cooperative goals and shares this goal with any number of other persons will have cooperative locomotions in the direction of the goal. This agrees with the aforementioned³ "balance theory" as well as Festinger's "theory of cognitive dissonance."⁴ If the individual's attitudes toward cooperation are of sufficient magnitude he will tend to be motivated to act in a cooperative manner when presented with a cooperative goal stimulus.

It is believed that cooperation is but a subunit of some larger system of human phenomena. This larger system will be termed human interaction. Human interaction may be thought of as any behavioral act a person performs in the presence of another person. In terms of reaching a defined goal a person may behave in any number of ways. Cooperation is one of these ways of behaving. For purposes of the model cooperation can be thought of as a specific behavioral action or reaction which falls into the category of human interaction. The formation of the general principles in the model, for example, will be assigned to human interaction.


³cf. ante, Chapter II, pp. 28-29.

⁴cf. ante, Chapter II, p. 18.
Within the number of responses to other people in the individual's world there are responses which may be cooperative. It is hypothesized that whenever the stimuli capable of cooperative action are present in human interaction it is a function of the social learning process (and/or the model) to make certain that these cues are perceived. This is one way of assuring that the experiencing individuals at least have the necessary beginning in a certain manner for behaving. This essential process corresponds to the personal and stimulus techniques for attention and focus.

The modification of the attitude should be concerned and have to do with the attitudes toward these cues for cooperative behavior. The learnings which may be assimilated through the use of the model are nothing more than behaving in a cooperative fashion whenever these cooperative cues are present in human interaction. One's attitude, however, may not permit acting in a cooperative manner when faced with these cues. It is the function of the use of the model in this case to strengthen the attitudes toward the value of cooperative action. This is modifying an attitude toward cooperation.

The cue for cooperation in a human interaction experience is contained in the analysis provided by Deutsch. A cue is present whenever a person is aware of a goal which is desired by himself or by a group of which he is a member. This becomes a stimulus for cooperative behavior when the only way in which he can attain this goal is by all the members of his group accomplish this also.

\[5 \text{cf. ante, pp. 2-3.}\]
What distinguishes a cooperative situation from another type of situation? How do the members of a group conduct themselves when they act cooperatively? An answer to these questions has been submitted by the above author. He concludes when comparing a cooperative group with a competitive group, that members of the cooperative group showed

(a) more coordination of efforts; (b) more diversity in amount of contribution per member; (c) more subdivision of activity; (d) more achievement pressure; (e) more communication to one another; (f) more attentiveness to fellow members; (g) more mutual comprehension of communication; (h) more common appraisals of communication; (i) greater orientation and orderliness; (j) greater productivity per unit time; (k) better quality of product and discussion; (l) more friendliness during discussions; (m) more favorable evaluation of the group and its products; (n) more behavior directed toward helping the group improve its functioning; (o) greater feeling of being liked by fellow members; and (p) greater feeling of obligation and desire to win the respect of others.

**Attitude medium**

The attitude medium for purposes of this study will be that physical education experience through which the attitude object is modified. In order to manipulate the attitude it is imperative that this object is contained in the medium which is selected. Not all physical education activities are adaptable for the modification of the numerous attitude objects found in human perception.

In order to qualify as a medium there must be events within the activity that allow for the expression of the attitude. There must be a relationship between the nature of the activity and the characteristics of the attitude object. For this study the physical education experience must allow for cooperation to be exchanged between members of the group.

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Cooperation can become essential to an activity only if there is a goal to be reached by the entire group. Further, it is necessary that each individual member of the group can attain this desired goal only if all the members of the group accomplish the purpose at the same time. As the group sets its sights on the successful attainment of the goal, there must be allowance for diversity of contribution between each member. Coupled with this diversity there must be an opportunity for intercommunication among individuals.

The phases of the activity must be susceptible to subdivision. Each member must be permitted to function with a separate but integral phase of the goal-seeking activity. The member not only must be able to work on his portion of the total responsibility but also he must be able to help other members function with their tasks. Each member must also be made to feel pressure toward the attainment of the goal through the completion of his particular task.

In all, there must be contained in the medium a group, a group goal, and an orderly means of all members affecting the goal. It is believed that the game of soccer contains these qualities. Mere participation, however, does not posit these requirements in the activity. There must be allowance for verbal communication and/or planning to take place. Within the participation phase of the game adequate time must be used for group strategy or organization. This latter requisite is significant because only through this will there be understanding of the necessity for cooperation. Further, through this, the teaching model may be used to modify attitudes toward cooperation.
For this presentation the learning of the game of soccer is divided into five phases. These are (1) the learning of the skills associated with the game; (2) the learning of the employment of the skills in the game situation; (3) the actual participation in the game; (4) the verbal communication directed at the better coordination of individual efforts to participate in the game; and (5) the game participation using all learnings to this point.

Although manipulation of attitudes toward cooperation is a concern of all five phases it is the verbal communication stage that carries the most weight. It is here that the teaching model is consummated. Through this phase of the entire presentation the individual's attitudes are subject to alteration by means of the introduction of the principles and techniques outlined in Chapter III.

II. Experimental Application of the Teaching Model Within a Physical Education Activity

The combination of the teaching model and the activity medium is now necessary to test the original hypotheses. As stated, one hypothesis maintains that it is possible to modify attitudes through a physical education laboratory experience. This study attempts to determine attitudes toward cooperation can be modified through the game of soccer. The additional hypothesis, that mere subjection to an activity which contains the attitude object is not sufficient to modify attitudes toward that object, is also considered.

Subjects

The subjects for this study were all males enrolled in their freshman year of studies at Rhode Island College, Providence, Rhode
Island. The subjects were geographically homogeneous in that they all commuted from homes within a twenty mile radius of the College. Their course of studies will be either teacher education or liberal arts. The curriculum for all first year students at Rhode Island College is relatively the same.

Class organization

The freshman physical education curriculum at Rhode Island College divides the academic year into quarters. Freshman men meet two times a week for forty minutes a period. The number of periods which constitute a quarter is eighteen. Class instruction facilities for the soccer unit in this study included a regulation soccer field and a classroom located in the gymnasium.

Groups used in the study

Five separate groups and three instructors were used in this experimental study. The time devoted to the instruction of all groups was equal. The differences between the groups were as follows:

1. Group A. The experimental group consisting of twenty-eight males engaged in a soccer unit of instruction. Instruction was administered by this experimenter.

2. Group B. A control group with twenty-four males engaged in a soccer unit of instruction. Instruction was given by teacher X.

3. Group C. A control group with thirty-three males engaged in a beginning tennis unit of instruction. The duration of this unit was equal to that of the soccer units. Instruction was given by teacher Z.

4. Group D. A control group with twenty-nine males receiving a soccer unit of instruction. Instruction was given by teacher X.
5. Group E. A control group with twenty-four males receiving a beginning tennis unit of instruction. The duration of the unit was equal to that of the soccer units. Instruction was given by teacher Z.

Experimental design

The purpose of the study was to determine whether the experimental group had significantly changed their attitude toward cooperation as a result of being subjected to the techniques and principles of the teaching model. The experimental group was the only group which experienced the model as it was presented in Chapter III. Teacher X, and Teacher Z had no knowledge of the purpose of this study. The basic objective of their instruction was the learning of soccer (or tennis) skills.

Employment of groups. The experimental group (group A) was administered an attitude test toward cooperation upon meeting for the first time. This test will be referred to as the pre-test. They were then given soccer skill instruction. Following eight meetings of soccer skill instruction the experimental subjects were then placed in a game situation with the total class divided into two teams.

The group then was subjected to the techniques of the teaching model during their final ten meetings of the quarter. The teaching model was interspersed with participation in the game. The final meeting, which occurred the first day of the new quarter, was devoted to the administration of the test to determine the group's attitude toward cooperation. This final attitude test will be referred to as the post-test. All instruction and testing was accomplished by the experimenter.
Group B, a control group, was given the attitude pre-test at the time of their initial meeting. They were then given soccer skills instruction for their next nine meetings. For their final eight meetings they were allowed to participate in game situations with teacher X correcting skill and game technique errors. Teacher X followed the exact soccer unit outline for skill instruction as the experimenter used with group A. The final meeting of this group was devoted to completing the attitude post-test. All soccer instruction was given by teacher X. All of the attitude testing was done by the experimenter.

Group C, a control group, was given the pre-test of attitude toward cooperation when they met for the first day of the quarter. They were then involved in beginning tennis instruction for the following nine meetings. The entire class then competed in "singles" tennis for the remainder of the quarter. The final meeting was given to completing the attitude post-test. All instruction was given by teacher Z. All attitude testing was done by the experimenter.

Group D, a control group, received soccer instruction from the first meeting to the tenth meeting. There was no attitude pre-test. For the subsequent meetings of the quarter they participated in game situations. The final meeting they completed the attitude post-test. All soccer instruction and supervision was given by teacher X. The attitude testing was done by the experimenter.

Group E, a control group, received beginning tennis instruction for their first ten meetings. There was no attitude pre-test. For the remaining meetings of the quarter they participated in "singles" tennis games. They were given the attitude post-test upon meeting for
the final day of the quarter. Teacher Z was involved in all instruction with this group. The attitude test was administered by the experimenter.

**Rationale for different activities.** It was felt that in order to determine statistically the affect of merely subjecting a group to an activity which inherently possesses the attitude objects it would be necessary to measure the difference between an activity that did have this object or objects against an activity which did not. If the results obtained from the soccer groups were significantly different from the tennis groups it would be concluded that in this specific study mere participation is enough to bring about attitude change. If the scores obtained were not different it could be concluded for this study that participation is not adequate for attitude change.

Soccer was considered to possess the attitude object which was desired. Cooperation, the attitude object, is inherently contained in affecting the purpose of soccer. Tennis was not considered as possessing the attitude object. The "doubles" game of tennis was not presented to the students participating in this study.

**Rationale for pre-test and post-test.** Groups A, B, and C were each subjected to the pre-test and post-test of attitude toward cooperation. Groups D, and E were only required to take the post-test.

Since all freshman classes in physical education at Rhode Island College are selected in an arbitrary manner, it could be assumed that there would be no significant differences in students when analyzed as groups. To test this assumption the pre-test was given to groups A, B, and C. If the results of the tests differed significantly this assumption would be incorrect. If the results of the pre-test did not
differ significantly it could be concluded that all three groups were homogeneous in their attitude toward cooperation. Individuals may not be similar but the conclusion would apply only to the groups as whole entities.

If the groups were evaluated as homogeneous by means of the pre-test, it could be proved statistically that they were or were not similar following the experiment in this study. If, for example, the experimental group A was significantly different from group B, and C as a result of data obtained from the post-test, it could safely be assumed that some variable was responsible for the change. The variable in this study would be the experience represented by the teaching model.

The pre-test was not given to groups D, and E. Since the classes at Rhode Island College are divided by means of random selection it must be assumed that if groups A, B, and C were not significantly different in their pre-tests, groups D, and E would be as similar. The purpose of not requiring groups D, and E to take the pre-test was to determine if completing the initial test had a learning effect upon the students in this study. If the post-test evaluation of groups B, C and D, E were not significantly different it could be concluded that taking the pre-test had no influence on the scores of the post-test.

The above assumption is made more tenable if the pre-test scores of groups B, and C were not significantly different from the post-test scores of groups B, C, and D, E. If this were the case it could be deduced that attitude change toward cooperation as measured by the instruments in this experiment was not affected by participation in an
activity which contained the attitude object, by an activity which
does not contain the attitude object, or by prior experience with the
measuring instrument.

Procedures for experimental group

If the control groups in this study were focused upon development
of the skills associated with soccer and tennis, how was the experimental
group different? Simply stated, the difference lies in the application
of the attitudinal teaching model during the game participation phase
of the unit. A class-by-class sequence of events which took place
will illustrate the difference.

Initial class meeting. As it was stated above, the first meeting
of the experimental group was devoted to completing the attitude in-
ventory. During this same class the students were also asked to in-
dicate on a separate sheet of paper the five most important names
whom they believed to have influenced history more than any other men.
This was performed in the classroom.

Following these paper assignments, the quarter's activities then
were presented by the experimenter. The game of soccer was discussed
by the lecture method. This was followed by a brief demonstration of
the motor skills used in the game of soccer.

Class meetings two through eight. These next meetings were de-
voted to the instruction of the individual motor skills of the game.
The time allotment for each skill is not pertinent to this study.
The function of these classes was to adequately prepare the students
to participate in the game. The outline of the skills instruction is as follows:

1. Fundamentals and basic skills.

A. Kicking skills

1. Short kicks
   a. Inside-of-the-foot kick
   b. Outside-of-the-foot kick
   c. Heel kick
   d. Sole-of-the-foot kick

2. Long kicks
   a. Instep kick
   b. Pivot kick
   c. Outside-of-instep kick

3. Volley kicks
   a. Overhead kick
   b. Lob volley kick
   c. Punt volley kick

4. Common faults in kicking

B. Trapping

1. Sole-of-foot
2. Inside-of-foot
3. Limp leg
4. Body traps
5. Common faults in trapping

C. Dribbling

1. Technique
2. Common faults in dribbling

D. Heading

1. Technique
2. Common faults in heading
E. Charging and tackling
   1. Technique
   2. Common faults in charging and tackling

F. Goalkeeping
   1. Catching
   2. Punting and striking
   3. Deflecting
   4. Throwing

2. Review rules of soccer.

3. Individual position play.
   A. Offensive position play
   B. Defensive position play

4. Team position play.
   A. Offensive position play
   B. Defensive position play

5. Officiating the game of soccer.

Class meeting nine. This meeting was primarily devoted to dividing the class into two separate teams. The division into teams was made as equal as possible on the basis of each individual's performance during the drills surrounding the skills segment of the unit. Following a hasty warm-up period the teams were allowed to compete against one another for a thirty-minute period.

To establish the organization for the ensuing nine classes the group was then moved into the classroom. While in the classroom the students were placed in circular alignment so that each person faced every other person. They were instructed that this would be the procedure for the remaining classes of the quarter.
The experimenter then called for discussion to center around the occurrence of individual skills which had happened on the field during this meeting. The students were asked to relate specific skills which they had observed during the game. Through this technique the tone for future discussion sessions was established. The students were instructed that when they had a response to make this known to the group without the traditional raising of the hand. Any response, supportive or argumentative, was acceptable.

The students were then asked to reflect upon their game experience and relate anything that occurred that was not classified under the heading of fundamental skill application. The experimenter directed the discussion to arrive at the observation that individual interacted with individual on the field. This event, whenever it happened, was termed human interaction by the group. They were dismissed with the assignment of determining how many ways an individual could interact with other individuals.

**Class meeting ten.** Following the warm-up period the dates for class competition were announced. These were the seventeenth and eighteenth class meetings. The students were informed that all members of the best team would receive recognition on their report sheet and in some instances this may mean an improvement of a letter grade on their grade report at the end of the semester. For the poorer team this may mean a reduction of a letter grade for each individual. Each team was then allowed to practice in game competition for thirty minutes.

During the classroom discussion period the students were asked to verbalize on their conclusions about the previous assignment. They
volunteered that aspects of cooperation, competition, conformity, and individualism were present in the game of soccer. Discussion then centered around the fact that there is mutual dependence in society. Conclusions were made that linked these abovementioned interaction aspects with the interactions in society as it exists today.

Class meeting eleven. Again, the warm-up and team practice period began the class. It will be assumed that each class period will begin in this fashion until meeting number fifteen is reached. The practice was performed by each team playing the other with intermittent breaks for organizational purposes. The experimenter served as a resource person to answer any questions which arose pertaining to skill, formation, or strategy problems.

The discussion period following the field work established the advantages of belonging to a group which was matriculating through college. It was brought out that all wished to achieve college success. This success, it was reported, was partially dependent upon each individual's acceptance of the standards and requirements imposed by the college. Finally, the disadvantages to each individual leaving college were enumerated.

Class meeting twelve. The discussion during this period defined the aspects of human interaction found in the game of soccer. They concluded that as people interact, there are times when cooperation, competition, individualism, and conformity are called for. It is noted that the aforementioned definition of cooperation was arrived at by the group. They acknowledged that when a particular goal was desired by a number of people and could only be attained by all gaining
the goal simultaneously, or could be attained with less effort if all worked on a separate phase, cooperation was necessary. They concluded that competition was opposed to cooperation. Through leading this phase of the discussion, the experimenter brought out responses that agreed with the proposition stating that when a goal is desired by a group of people and only one may attain this goal competition is the prescribed order.

The students were instructed during the first meeting to report on paper the five most important men who influenced history. These papers were returned to the students. Each student was told to select one of his choices and from library research find what this prestigious person believed to be the definition, advantages, and disadvantages of cooperation, competition, individualism, and conformity.

**Class meeting thirteen.** The students were asked to discuss what human interaction phases are most common in a soccer situation. The discussion brought out the belief that cooperation and competition were the most outstanding elements of human interaction during a soccer game. The experimenter then asked the group to talk about why it is better to have formations of attack and defense in the game of soccer. Why remain in formation? Why is it not advantageous for one person to dominate play with the ball? The group was led to allow that in all these questions cooperation was required and should be called upon to successfully attain the goal.

Discussion then centered around the characteristics of a cooperative situation in a group and the characteristics of a competitive group. They were released with the task of finding six examples each of
cooperation, competition, individualism, and conformity in a soccer game.

Class meeting fourteen. From the previous day's assignment the group concluded through discussion that all examples of individualism and conformity could be grouped under either competition or cooperation. They then discussed how cooperation and competition responses were most important elements of the game.

Class meeting fifteen. Rather than practice soccer activities this day a new game was introduced. The teams were the same as those during the soccer games. The boundaries of the field and the soccer cages were used to play a modified version of speedball. The very brief instructions were to organize the team in any fashion and kick, basketball dribble, or pass the ball with the hands so that they may throw or kick the ball into the cage. This modified game lasted for thirty minutes.

The discussion period brought out the similarities, advantages and disadvantages of cooperation and competition, as it applied to this innovative game. The futility of not being able to call upon cooperative interaction when presented with this game was discussed.

Randomly selected students were then asked to report what their prestigious personage had to say about cooperation, competition, individualism, and conformity. The group was then asked to discuss how these reports agree with their previously established definitions, advantages, and disadvantages of the same modes of behavior. The experimenter stressed similarities rather than dissimilarities.
Class meeting sixteen. Both groups were allowed to practice separately in preparation for class competition. Leaders or captains were selected. The teams discussed game techniques and strategies for the coming days. A plan for substitution was also agreed upon.

Classroom discussion this day was devoted to randomly selected students gaining the floor and verbally making known what they felt regarding competition and cooperation. The entire group discussed how they would be competitive or cooperative with other individuals if presented the proper opportunity. Discussion ended with the group's citing examples of cooperation and competition in endeavors outside the realm of soccer or speedball.

Class meetings seventeen and eighteen. The bulk of the allotted time during these two meetings was spent in class competition. During the game the experimenter would offer verbal commendations to each member of either squad exhibiting cooperative actions or reactions. If a student would not act cooperatively the experimenter would simply ask him during time-out why he acted in that manner.

Following the completion of class competition the experimenter summed the discussions of the previous days. This summation was accomplished by reporting from a log maintained each day by the experimenter. Each phase of the summation was preceded with a statement linking what was reported with the conclusions arrived at by the students.
III. Description of Data Gathering Instruments

The pre-test and the post-test of attitude toward cooperation is a combination of two different instruments. The first instrument is a device used to consider the characteristics of a cooperative situation. The second device is a standardized method of determining attitude toward a particular stimulus. The first instrument provides the stimulus while the second instrument quantitatively measures the individual's reaction to the stimulus.

The pre-test and the post-test were exactly the same. They were administered in exactly the same fashion. It is believed that this arrangement was necessary because of the encompassing nature of the stimuli instrument. If there are numerous characteristics of a cooperative experience and these characteristics have been delimited in the pre-test, it is not necessary to reduce them further in subsequent tests.

The reliability of the combined instruments may be evaluated. If the two control groups in the experiment that received both the pre-test and the post-test (groups B, and C) did not differ significantly this would statistically substantiate the reliability of the total device. Experimental group A would not be considered in this case as it is in keeping with the hypothetical contention that this group will vary from test to test.

The semantic differential

The Semantic Differential is a general measuring tool developed by C. E. Osgood, and associates, to determine the connotative meaning

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of a concept or a group of concepts. It is a technique which uses words which have definite and reliable meanings. These words may be associated with any concept and through this association the meaning of the concept is made clear to the administrator of the instrument. The authors have uncovered a list of these connotative words by means of factor analysis. Each word is a polar extreme and when paired with the word which represents the other extreme constitutes a semantic space.

We begin by postulating a semantic space, a region of some unknown dimensionality and Euclidian in character. Each semantic scale, defined by a pair of polar (opposite-in-meaning) adjectives, is assumed to represent a straight line function that passes through the origin of this space, and a sample of such scales then represents a multidimensional space.  

An example of a pair of polar adjectives is "good" and "bad." Osgood has determined that these words have definite and universal denotative and connotative application and interpretation. The area between the two words is the semantic space. If an individual were evaluating a concept with reference to these polar adjectives it would be possible for his interpretation to fall on either side of the scale. If he were not so favorably or unfavorably disposed he may fall somewhere along the continuum between the two extremes.

An example of three scales follows:

PHYSICAL EDUCATION (concept)

Bad _____ _____ _____ _____ X _____ Good

Pleasant _____ X _____ _____ _____ _____ Unpleasant

Happy _____ _____ X _____ _____ _____ Sad

8Ibid., p. 25.
With reference to the above illustration the originators of the
semantic differential state:

Each judgment represents a selection among a set of given
alternatives and serves to localize the concept as the point in
the semantic space. The larger the number of scales and the
more representative the selection of these scales, the more
validly does this point in the space represent the operational
meaning of the concept.\(^9\)

The X's in the above illustration serve to represent the re-
 sponses of an individual using the semantic differential. From the
responses it could be inferred that this person is favorably disposed
toward the concept of physical education.

By semantic differentiation, then, we mean the successive
allocation of a concept to a point in the multidimensional
semantic space by selection from among a set of given scaled
semantic alternatives. Difference in the meaning between two
concepts is then merely a function of the differences in
their respective allocations within the same space, i.e., it
is a function of the multidimensional distance between the
two points.\(^10\)

Through their factor-analytic studies the authors have found
certain adjectives to be examples of evaluation, potency, or activity
when related to an object. The evaluative factor is the first con-
sideration and is identifiable by the bipolar scales which have high
loadings on it. These are good-bad, beautiful-ugly, sweet-sour,
pleasant-unpleasant, and so on.

The second factor found in this description is the potency loading.
This factor is as the name implies and is determined by such polar ex-
tremes as large-small, strong-weak, heavy-light, and so on. The third


factor is activity and is determined by scales such as fast-slow, active-passive, hot-cold. Evaluation, potency, and activity responses serve to indicate to an observer of this tool where the individual falls on this three-dimensional representation when he relates the bipolar adjectives to a concept. Evaluation, potency, and activity scores are quantitative ways of assessing the meaning of a concept. "The meaning of a concept is defined operationally as the set of factor scores in the column representing that concept."11

Of these three factors involved in the meaning of a concept "it seems reasonable to identify attitude, . . . , with the evaluative dimension of the total semantic space."12

In terms of the operations of measurement with the semantic differential, we have defined the meaning of a concept as its allocation to a point in the multidimensional semantic space. We then define attitude toward a concept as the projection of this point onto the evaluative dimension of that space.13

Although the evaluative scales will be used to determine the attitude one has toward a concept the authors recommend that a considerable number of scales representing other factors be used. This is advised for two reasons. First, to obscure or hide the purpose of the instrument. Second, to obtain additional information about the meaning of the concept. For example, if the post-test scores for the experimental group on the evaluative factor were higher than the control groups' it may mean that their attitudes were manipulated through the use of the teaching model. If, at the same time, the potency and activity scores on the post-test were relatively the same

11 Ibid., p. 87.
12 Ibid., p. 190.
13 Ibid.
it may mean that the meaning of the concept has not changed--only the attitude has changed.

How were the scales selected? The authors have outlined four criteria for the choice of scales. First, scales should be chosen for their factoral composition. "...we usually select about three scales to represent each factor, these being maximally loaded on that factor and minimally on the others."\(^{14}\) Second, the scales should have relevance to the concepts being examined. Certain scales do not lend themselves to certain concepts. The concept of "working together," for example, could not be judged against a hot-cold bipolar scale.

Third, the selection of scales should have semantic stability. "Whereas high-low can be expected to be stable across a set of sonar signals, it would not across a set of concepts which included both auditory and social concepts."\(^{15}\) Finally, "...scales should be linear between polar opposites and pass through their origin."\(^{16}\) When adjectives in the scale can be used separately and both are favorable in meaning they should not be used.

Use of this instrument for this study conformed to the above recommendations. Four scales were used on the evaluative factor and three scales each on the factors of potency and activity. It was discovered from the author's factor analysis of polar adjectives

\(^{14}\) Ibid., p. 78.
\(^{15}\) Ibid., p. 79.
\(^{16}\) Ibid.
that the following more nearly meet the suggested criteria when the
concepts are social in nature:

<table>
<thead>
<tr>
<th>Evaluative scales</th>
<th>Evaluative Factor Loading</th>
<th>Potency Factor Loading</th>
<th>Activity Factor Loading</th>
</tr>
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<tbody>
<tr>
<td>Good-bad</td>
<td>1.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>Wise-foolish</td>
<td>0.57</td>
<td>0.06</td>
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<tr>
<td>Successful-unsuccessful</td>
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<tr>
<td>True-false</td>
<td>0.50</td>
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<tr>
<th>Potency scales</th>
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<tr>
<td>Strong-weak</td>
<td>0.30</td>
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<td>0.10</td>
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<tr>
<td>Tough-fragile</td>
<td>-0.24</td>
<td>0.97</td>
<td>0.00</td>
</tr>
<tr>
<td>Brave-cowardly</td>
<td>-0.06</td>
<td>0.34</td>
<td>0.06</td>
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</table>

<table>
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<tr>
<th>Activity Scales</th>
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</thead>
<tbody>
<tr>
<td>Motivated-aimless</td>
<td>0.29</td>
<td>0.09</td>
<td>0.23</td>
</tr>
<tr>
<td>Active-passive</td>
<td>0.17</td>
<td>0.12</td>
<td>0.98</td>
</tr>
<tr>
<td>Interesting-boring</td>
<td>0.40</td>
<td>-0.09</td>
<td>0.22</td>
</tr>
</tbody>
</table>

The higher the loading in the respective column the better that set of adjectives measures the intended factor. It should be obvious that except in rare instances the adjectives will not exclusively represent the evaluative, potency, or activity factor. Good-bad is one of these exceptions. Active-passive is nearly one of these exceptions. It may be observed that this set has minimal loading on the evaluative factor (.17), less loading on the potency factor (.12), but high loading on the activity factor (.98). Because of this distribution of loadings active-passive was one of the three scales selected to represent the activity factor. It was this same process that was applied to the selection of all ten scales on the semantic differential used in this experiment.

The final question concerning the use of this instrument has to do with the desirability of using a seven-step or a five-step scale. The authors of the semantic differential found when the use of a seven-
step scale was divided into very+, quite+, slightly+, neutral, slightly−, quite−, and very−, all of them were used with considerable frequency. They also found, however, that college students "expressed irritation at being unable to indicate 'slightly' as different from 'quite a bit' . . . this is one of the interesting empirical problems with which we've done very little."^17

From verbal information received from the Institute of Communications Research, at the University of Illinois, nothing has been done about this problem at the time of this writing.

Because of the dearth of investigatory research concerning the scale alternatives it was deemed that as this study intended to use college students the scales would be reduced to five in number. Using extremely+, somewhat+, neutral, somewhat−, and extremely−, would reduce irritation stemming from not being able to distinguish between "slightly" and "quite a bit."

The completed semantic differential is shown in appendix A. The quantitative weights given to the possible responses are 5, 4, 3, 2, and 1. The order in which the scales are presented is reversed for every other scale. The reason for this is to eliminate repetition in response by the student using the instrument. It is a lengthy task to complete the form and it was feared that after judging two or three concepts the student would simply respond without actually using the semantic differential.

^17 Ibid., p. 85.
Attitude concept stimuli form

An attitude concept stimuli form was used in conjunction with the semantic differential. The semantic differential provides the interpretation or meaning given to the stimulus. The purpose of the concept form is merely to place before the students in this study an idea to which he may react positively or negatively.

The attitude in question for this study has been cooperation. It is not the purpose of the concept form to determine if a person or group is basically cooperative. It is the purpose to judge whether or not the individual or group can perceive the necessary characteristics of a cooperative situation and respond to this through a manifestation of his attitude toward cooperation.

The first problem with this form was to establish the characteristics of a cooperative environment. It was felt that since Deutsch provided this study with the operational definition of cooperation it would be consistent to turn again to his analysis of the qualities of a cooperative situation. These characteristic qualities could be then translated into assertions to be evaluated by the students in this experiment.

The translation of these characteristics into statements made it possible to provide thirty-one stimulating alternatives. The form used in the experiment will be found in appendix B. There are thirty-two concept stimuli on this completed form. Stimuli number thirty-one does not pertain to cooperation but was inserted in the form to determine the student's attitude toward his college peer group.

\[18^{\text{cf. ante., p. 5.}}\]
Cooperation for this study was operationally defined. The characteristics of a cooperative situation can be also thought of as operationally deduced. With this approach it was possible for the experimenter to determine which of the stimuli would be accepted as evidence of positive attitudes toward cooperation. The question-by-question analysis of the form is as follows:

1. Working alone. Unfavorable reaction indicates positive attitude toward cooperation.

2. Myself being allowed to finish the task only when all the others are finished. Favorable reaction indicates positive attitude toward cooperation.

3. Myself being in a situation where I can finish a task even if the others in the group have not. Unfavorable reaction indicates positive attitude toward cooperation.

4. Myself in a group working with others. Favorable reaction indicates positive attitude toward cooperation.

5. Myself taking one part of the task and letting the others do the other parts. Favorable reaction indicates positive attitude toward cooperation.

6. Myself being the best in the group doing the task. Unfavorable reaction indicates positive attitude toward cooperation.

7. Myself being in on every part of the task rather than only one part. Unfavorable reaction indicates positive attitude toward cooperation.

8. The entire group getting credit for the work I do. Favorable reaction indicates positive attitude toward cooperation.
9. **A group is faster than an individual when a task must be performed.** Favorable reaction indicates positive attitude toward cooperation.

10. **A group can get more done than an individual working alone.** Favorable reaction indicates positive attitude toward cooperation.

11. **Myself being criticized.** Favorable reaction indicates positive attitude toward cooperation.

12. **Too many cooks spoil the broth.** Unfavorable reaction indicates positive attitude toward cooperation.

13. **Doing something because the group thinks you should.** Favorable reaction indicates positive attitude toward cooperation.

14. **Myself having an obligation to others.** Favorable reaction indicates positive attitude toward cooperation.

15. **Myself working with others I do not like.** Favorable reaction indicates positive attitude toward cooperation.

16. **Encouraging others in the group.** Favorable reaction indicates positive attitude toward cooperation.

17. **Getting my ideas across to others.** Favorable reaction indicates positive attitude toward cooperation.

18. **Working with other people I do not know well.** Favorable reaction indicates positive attitude toward cooperation.

19. **Thinking for yourself.** Unfavorable reaction indicates positive attitude toward cooperation.

20. **Each individual getting credit for the work he does.** Unfavorable reaction indicates positive attitude toward cooperation.
21. A group can get things done better than one person working alone. Favorable reaction indicates positive attitude toward cooperation.

22. Encouragement from others. Favorable reaction indicates positive attitude toward cooperation.

23. Working with those members of the group who contribute very little. Favorable reaction indicates positive attitude toward cooperation.

24. Cooperation every time in this group situation. Favorable reaction indicates positive attitude toward cooperation.

25. Orderliness in this group. Favorable reaction indicates positive attitude toward cooperation.

26. Myself understanding everyone in a group situation. Favorable reaction indicates positive attitude toward cooperation.

27. Correcting others mistakes in this group situation. Favorable reaction indicates positive attitude toward cooperation.

28. Always feeling a part of the group regardless of who is in the group. Favorable reaction indicates positive attitude toward cooperation.

29. Togetherness. Favorable reaction indicates positive reaction toward cooperation.

30. Individualism. Unfavorable reaction indicates positive attitude toward cooperation.


32. Myself getting a good part of my ideas from others in the group when a task has to be performed. Favorable reaction indicates positive attitude toward cooperation.
Situation stimulus

In order to be as liberal as possible and not to impose a frame of reference upon the students taking this completed inventory, it was felt that the instructions should be as general as possible. In this way the student would be free to respond using the frame of reference he usually approaches a situation of this type. The situation stimulus was used only to give some orientation to the Attitude Concept Stimuli Form.

This Situation Stimulus was printed on a separate sheet of paper. It reads as follows:

For the following thirty minutes you will be completing the forms on your desk. All Freshman men here at Rhode Island College are being asked to do the same. We are trying to find out if young people in your age group find it is better to work on a task alone or if it is better to work on a task in a group. The questions you are about to answer may give us a clue as to what this Freshman class believes regarding this issue. This does not count for a grade in this course.

There are not correct answers and there are not incorrect answers. Simply state your position. As you complete the form please remember the following situation. This situation should be reviewed preceding each question. The situation:

You have been asked to complete a task (any task). When this task is finished it will benefit you personally.

This task may be organized and completed by your working by yourself or it may be organized and completed by the entire group (of which you are a part) working as a group.

Please look up for further instructions.

IV. Methods of Gathering Data

The total testing procedure for the attitude pre-test and the post-test consumed the greater portion of eight class periods. This
is accounting for three pre-test groups and five post-test groups. The single class time allotment, including identical instructions to all groups, was thirty minutes. It was found that this spanse of time was adequate.

**Organization of testing period**

Identical tests were supervised and administered by this experimenter in a classroom located in the gymnasium. Prior to the entrance of the students in the forms were placed face down on the desks they would occupy. The order for the placement of these forms were Answer Sheet (see appendix C), Response Sheet, Attitude Concept Stimuli Form, and the Situation Stimulus or instruction sheet. Because these were face down the student would turn them over in reverse or from the above sequence.

The students were instructed to turn over the top sheet (Situation Stimulus) and read. When all heads were raised the experimenter stated that he would report the verbal instructions only once. After the test had begun he would not entertain further questions.

The verbal instructions were directed at the method used to fill out the answer sheet. The Attitude Concept Stimuli Form was then turned over. The students were told that these thirty-two ideas were the basis for the test. Each of the thirty-two ideas would have ten responses. The next sheet of paper was turned over (Response Sheet). These vertical letters, ten in all, would correspond to the ten responses the students would make for each idea. One example of this procedure was provided by the experimenter.
The Answer Sheet was then turned over. The student placed his name on the paper. He was informed that the thirty-two vertical numbers on the Answer Sheet corresponded with the thirty-two ideas on the Attitude Concept Stimuli Form. The ten horizontal letters on the Answer Sheet were related to the letters on the Response Sheet. By means of reading the idea and then turning to the Response Sheet the student could have ten responses for each idea. The Response Sheet was referred to for each idea.

Rather than have the student write-in his response it was found that numbering each response on the Response Sheet was time saving. The student merely places the number in the space provided under each letter on the Answer Sheet. If, for example, the student thought that the concept "working alone," which is idea (concept) number one, was "extremely good" he would put the figure one (1) in the space on the Answer Sheet reading 1 A. He then would proceed down the Response Sheet using the other nine responses and placing their respective numbers in the horizontal spaces provided on the Answer Sheet.

**Scoring**

This instrument is scored quantitatively. Generally, the higher the score the closer the individual arrives at the operationally defined attitude toward cooperation. Because the semantic differential measures meaning by classifying the evaluative, potency, and activity factors each individual will receive three scores.

Letters A, B, C, and J on the Response Sheet measure the evaluative factor. This is the primary score as this reflects the individual's attitude toward cooperation. Letters D, E, and F
measure the potency factor. Letters G, H, and I measure the activity factor. Each of these letters when grouped for a particular factor constitute a set. When the arithmetic quantities of each set is totaled the individual receives an evaluative, potency, and activity score for that particular concept. His total evaluative score then would be the sum of the thirty-two evaluative sets. The same applies for his potency score and his activity score.

Quantifying this instrument is a process of translating the number the student places on the Answer Sheet into a score derived from the operational analysis afforded to each concept. The numbers on the Response Sheet are constant but the positive and negative bipolar adjectives are in reverse order for every other scale. Because of this arrangement of the three hundred and twenty responses on the Answer Sheet all of these scores must be keyed.

If an individual responds that "working alone" (concept 1) is "somewhat good" he places the number two (2) in the space provided. Referring to the analysis of each question it is found that an unfavorable reaction to this concept indicated a positive attitude toward cooperation. In keeping with this, then, the weights given to this concept for response A would be as it appears on the Answer Sheet. He would receive a score of two (2) for that space. For response B, where the adjectives are reversed, the individual (to be consistent) places the number four (4) to indicate he believes "working alone" is "somewhat wise." Here the weight he receives must be opposite to what

\[ \text{cf. ante., p. 33.} \]
he has on his Answer Sheet. Rather than a score of four (4) he receives a score of two (2). This system applies to all responses given by the student. He will be scored according to the nature of the concept and his response to that concept.

Because of the randomly reversing order of all responses the entire key will be presented below. The key is presented in the same form as the Answer Sheet. To read the key it is necessary to interpret the meaning of forward (F) and backward (B). In the space that contains a forward symbol (F) like the scorer simply gives the individual the number with which he has responded. If the space contains a backward symbol (B) he simply subtracts that number from six (6) to obtain the individual's correct score for that response.

The key is as follows:

<table>
<thead>
<tr>
<th>Stimulus number</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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</tbody>
</table>

Methods of disguising cooperative attitude object

It has been the purpose throughout this study to disguise the attitude object. If cooperation were stressed exclusively during the teaching model phase of the instructional portion of the soccer unit or if the stimuli were directed at cooperation on the Attitude Stimuli Concept Form this would not be the case.

It was felt that other phases of human interaction should be included in the attitude modifying section of the unit. It was felt, also, that the students should initiate these additional aspects of human interaction. Because of this it will be noted that competition, conformity, individualism, as well as cooperation, were taken into consideration.

The attitude testing instrument also avoided concentration on cooperation. By establishing the fact that there were no correct or incorrect answers the student was not required to give a response that he thought was expected of him.
CHAPTER V

ANALYSIS OF DATA

It is the purpose of this chapter to record the data which have been obtained by the administration of the instrument mentioned in Chapter IV. In review, the data are gathered to evaluate the hypotheses mentioned in Chapter I:

1. Mere participation in a physical education activity is not adequate to induce specific attitude changes.

2. A teaching model may be structured to represent the necessary situational characteristics when attitude modifiability is desired in a physical education experience.

3. The employment of the techniques inherent in this teaching model may induce specific attitude modification through a physical education activity experience.

To test these hypotheses the groups used in the experiment were subjected to the following design:

1. Groups A, B, and C were given the pre-test of attitude toward cooperation.

2. Group A, the experimental group, was involved in the process represented by the teaching model.

3. Groups A, B, C, D, and E were given the post-test of attitude toward cooperation.

Each individual received three total scores upon his completion of the instrument. It will be noticed that the evaluative total scores are
slightly higher than the potency and activity total scores. This is due to the inclusion of four scales measuring this factor. The latter two factors are judged on the basis of three scales. The reason for this is that the evaluative score relates to attitudes and the inclusion of one more scale adds further credibility to the results. The individual pre-test scores will be found in Appendix D.

Table 1 shows the distribution of scores as they occurred upon completion of the pre-test of attitude toward cooperation. Throughout the presentation of this data the evaluation, potency, and activity scores will be shown as separate totals. Generally, evaluative scores determine attitude as it has been defined in Chapter II, while the potency and activity scores establish the meaning of the concept of cooperation. It is possible for an individual to remain stable in his potency and activity judgments while his attitude toward the object in question may fluctuate considerably.

**TABLE 1**

**DISTRIBUTION OF SUMS OF SCORES AND THEIR MEANS FOR THE ATTITUDE PRE-TEST (EVALUATIVE FACTOR)**

<table>
<thead>
<tr>
<th></th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=28</td>
<td>N=24</td>
<td>N=33</td>
<td></td>
</tr>
<tr>
<td>evaluation</td>
<td>11699-M=414.25</td>
<td>9877-M=411.54</td>
<td>13723-M=415.84</td>
</tr>
<tr>
<td>potency</td>
<td>9178-M=328.88</td>
<td>7927-M=330.29</td>
<td>10809-M=327.54</td>
</tr>
<tr>
<td>activity</td>
<td>9572-M=341.18</td>
<td>8189-M=341.20</td>
<td>11417-M=345.97</td>
</tr>
</tbody>
</table>

To justify any change which may take place as a result of the experimental group being subjected to the methods of the teaching model it is necessary to determine if the evaluative scores of these three groups which completed the pre-test are from the same population.

Table 2 shows the results of the analysis of variance technique as it
applies to this question. Statistically the groups were from the same population as there was not a significant difference between the three group scores.

TABLE 2

ANALYSIS OF VARIANCE OF THE PRE-TEST EVALUATIVE SCORES FOR GROUPS A, B, AND C

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Variance Estimate</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>between</td>
<td>464</td>
<td>2</td>
<td>232</td>
<td>.4288a</td>
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<tr>
<td>within</td>
<td>44377</td>
<td>82</td>
<td>541</td>
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<tr>
<td>total</td>
<td>44841</td>
<td>84</td>
<td></td>
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</table>

a. Not significant.

Since the classes in physical education at Rhode Island College are randomly selected it is assumed that groups D, and E are also from this same population. The chances of there being a significant difference between the former and the latter groups is negligible.

The post-test instrument scores for all five groups will be found in Appendix E. It will be noticed that the number of subjects within groups vary slightly from pre-test to post-test. This is due to absenteeism on either testing day. If a student was found missing on the day of either test he was not permitted to complete the instrument. The distribution of scores and their means are shown in Table 3.
TABLE 3

DISTRIBUTION OF SUMS OF SCORES AND THEIR MEANS FOR ATTITUDE POST-TEST (EVALUATIVE FACTOR)

<table>
<thead>
<tr>
<th></th>
<th>group A</th>
<th>group B</th>
<th>group C</th>
<th>group D</th>
<th>group E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=24</td>
<td>N=23</td>
<td>N=29</td>
<td>N=29</td>
<td>N=24</td>
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<tr>
<td>evaluation</td>
<td>10498</td>
<td>9541</td>
<td>12113</td>
<td>12175</td>
<td>9962</td>
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<tr>
<td></td>
<td>M=437.41</td>
<td>M=414.82</td>
<td>M=417.68</td>
<td>M=419.82</td>
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<td>potency</td>
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<td>7601</td>
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<tr>
<td></td>
<td>M=333.00</td>
<td>M=330.47</td>
<td>M=346.27</td>
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<tr>
<td>activity</td>
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<td>7959</td>
<td>10183</td>
<td>10216</td>
<td>8244</td>
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<tr>
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<td>M=355.37</td>
<td>M=346.04</td>
<td>M=347.69</td>
<td>M=352.27</td>
<td>341.82</td>
</tr>
</tbody>
</table>

Table 4 shows the analysis of variance for all groups on the post-test evaluative (attitude) factor. With the results being significant beyond the .05 level of significance it is assumed, on the basis of the results of the post-test, that one or all of the groups represent a different statistical population.

TABLE 4

ANALYSIS OF VARIANCE OF THE POST-TEST EVALUATIVE SCORES FOR GROUPS A, B, C, D, AND E

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Variance Estimate</th>
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<tr>
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<td>89464</td>
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<td>total</td>
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</tbody>
</table>

a. Significant beyond the .05 level of significance.

To determine which of the groups were not from the same population a t test of significance between selected groups was used. A reading of each mean score found in Table 3 shows that the means of groups B, C, D, and E are so similar that it may be assumed there is no difference between them. Further testing with the analysis of variance technique
will substantiate this claim. Table 5 shows the results of the t testing between the experimental group and each of the control groups. Group A, the experimental group, is found to differ significantly beyond the .05 level of significance in each case.

**TABLE 5**

**T-RATIO FOR THE COMPARISON OF GROUP A WITH CONTROL GROUPS B, C, D, AND E**

<table>
<thead>
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<th>comparison</th>
<th>N</th>
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<tr>
<td>A and B</td>
<td>47</td>
<td>22.59</td>
<td>2.626b</td>
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<td>A and C</td>
<td>53</td>
<td>19.73</td>
<td>2.403b</td>
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<td>A and D</td>
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<tr>
<td>A and E</td>
<td>48</td>
<td>22.33</td>
<td>2.697c</td>
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*Significant beyond .05 level of significance.
^Significant beyond .02 level of significance.
^Significant beyond .01 level of significance.

If the groups were from the same population, as it was statistically indicated from the analysis of variance of the pre-test, it may be assumed that as the experimental group was found to differ in the post-test they had changed since completing the pre-test. To substantiate this assumption a t test was conducted for group A between the pre-test score and the post-test score. It was found that this group did differ significantly beyond the .01 level of significance from test to test. These results are as follows:

<table>
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<th>Comparison</th>
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<td>A and A</td>
<td>52</td>
<td>23.16</td>
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<td>pre-test to post-test</td>
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</table>

Did the control groups differ significantly from pre-test to post-test? If an analysis of variance of both pre-test scores and
post-test scores of all control groups is determined this would allow a further assumption. There was no significant difference between all control groups for both tests and it may be assumed that was no change from pre-test to post-test.

A second analysis may be conducted from the above analysis of variance. That is, if there is no significant difference between pre-test and post-test for all control groups what is the difference between the tennis groups and the soccer groups? Table 6 shows there is no difference between these groups. Further, this analysis identifies the learning relationship between those groups taking the pre-test and those groups taking the post-test. From the results of the data it can be assumed that the experience of taking the pre-test had no influence on the post-test.

**TABLE 6**

**ANALYSIS OF VARIANCE OF EVALUATIVE SCORES FOR GROUPS B, C, D, AND E ON PRE-TEST AND POST-TEST**

<table>
<thead>
<tr>
<th>Source</th>
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</table>

^a. Not significant.

Table 7 shows the analysis of the potency scores for all groups, experimental and control, on both the pre-test and the post-test. The groups did not vary significantly. It is assumed that the groups did not differ from pre-test to post-test. The scores did, however, show that they were taken from the same population.
### Table 7

**Analysis of Variance of All Potency Factor Scores**

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</table>

*a. Not significant.*

Table 8 indicates that the same pattern which applies to the potency factor persists for the activity factor as well. There was no significant difference between all groups as they were involved from pre-test to post-test.

### Table 8

**Analysis of Variance of All Activity Factor Scores**

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*a. Not significant.*
CHAPTER VI

SUMMARY AND CONCLUSIONS

The basic purpose of this study has been to provide a theoretical and methodological approach to the subject of social learnings through physical education activities. These social learnings have been related to the attitude system of the individual. An attempt was made to justify and develop a systematic sequence of events which would prove effective as a means of manipulating these attitudes.

Initially, it was assumed that mere participation in a physical education activity which inherently contained an attitude object was not sufficient to alter one's attitude toward this object. For experimental purposes, an operationally defined concept of cooperation was selected as the attitude object. The game of soccer was chosen as the physical education medium. It is believed that the game of soccer is one of the activities where cooperation is a necessary variable for the proper execution of the game.

It also was hypothesized that attitudes could be strengthened or changed through a physical education medium if certain events of the activity were arranged in logical sequence. This ordering sequence has been identified as a teaching model. The model is founded upon conclusions derived from research concerning attitude modifiability.

Further, it was believed that one way in which attitudes may be modified would be the employment of the techniques implied in this teaching model within the structure of a physical education activity.
Attitudes toward cooperation could be modified if these techniques were applied to a soccer activity experience. Attitudes would not be modified if the individual simply was subjected to a soccer situation without benefit of some device which would give direction to attitude modifiability. Attitudes toward cooperation would not be modified if the individual experienced an activity which did not contain the object of cooperation.

The strengthening or changing of a social attitude through a physical education activity should lead to the transfer of this attitude to subsequent situations. The teaching model represents an attempt to modify attitudes to the extent that they positively transfer. Also, experiences of the individual which have previously altered attitude cues will be interpreted as related to the learning experience.

Principal findings and conclusions

The data collected from the experiment in this study indicate the following:

1. The group attitudes toward cooperation were not modified by merely participating in an activity which contained cooperative objects.

2. A theoretical teaching model may be constructed to represent the necessary situational characteristics which modify attitudes toward an object which is social in nature.

3. The group's attitudes toward cooperation were modified significantly when the teaching model was applied to a soccer situation.
4. The groups involved in a medium which contained a cooperative object did not differ in their attitudes from groups which participated in a medium which did not contain a cooperative object. These groups were exclusive of the experimental group.

5. The meaning of the concept "cooperation" was not modified during the course of the experiment.

6. The group subjected to the techniques of the teaching model were able to transfer their modified attitude toward cooperation to a task which was not identical to the task through which the attitude was originally modified. They were able to transfer their attitude to a test which was unlike the learning situation.

7. The instruments used in this study are reliable in that they are capable of inducing similar responses from a test situation to a subsequent test situation.

Recommendations for future study

Because of the limitations imposed on this study it will be necessary to broaden the scope of the investigation of this problem. Since the conclusions mentioned above are specific and only related to the subjects and instruments used in this experiment, the following recommendations for further study are offered:

1. The entire experimental design should be replicated using a variety of experimenters. The experiment above was conducted by one experimenter and replication would eliminate his individual personality.

2. The number of subjects should be increased to determine the effectiveness of the model with a larger sampling.

3. The model should be operated with various age levels.
4. The application of the model should be conducted with a female population.

5. Other physical education activities which contain the attitude object of cooperation should be used as a medium.

6. Different attitude objects should be applied to the structure of the model.

7. Different control groups engaged in various physical education activities should be a part of the experimental design.

8. The effectiveness of the model should be correlated with each individual's motor ability as he (or she) participates in an activity.

9. The period of time devoted to attitude manipulation through physical education activities should be varied. It is not known how long an effective attitude learning situation should be prolonged. This entails varying the length of the periods as well as the number of periods during a unit.

10. Various ways of improving group identification should be found. Since group cohesion is the foundation of the attitudinal experience, this is an important factor which will vary with different age levels.

11. The relationship between identification with a learning group and strengthening or changing attitudes should be determined. Perhaps only those with strong identification characteristics are predisposed to the effectiveness of the model.

12. A method for investigating an individual's attitude toward physical education in relation to his (or her) susceptibility to attitude modification through physical education activities should be found.
13. The question of whether an individual perceives a game situation apart from other situations should be investigated.

14. An investigation of the relationship between success in physical education activities and attitude modifiability should be conducted.

15. Since attitudes are conditioned by viable group relations, it should be determined whether this method is conducive to motor skill learning. It may be found that individuals learn motor skills better when separated from the group.

16. A study should be conducted which would list the physical education activities with reference to their inherent qualities for producing certain kinds of attitude objects.

17. The importance of role-playing in physical education activities as an agent for modification of attitudes should be decided.

18. A longitudinal study of the permanence of attitude modification through physical education activities should be executed.

19. The question of whether the number of students in a physical education class unit has a relationship to social learning should be solved.

20. A relationship between the holding and the expression of an attitude gained through a physical education activity should be determined.

21. An investigation of the leadership structure of a physical education situation as it relates to the assimilation of attitudes should be accomplished.
22. The teaching model should be separated into phases. An examination of each phase would indicate those factors which were most important for developing attitudes through physical education activities.

23. The order of the presentation of controlling events represented in the model should be varied to arrive at a definite teaching and learning sequence.

24. The instruments should be studied to arrive at a more facile method for obtaining data.
APPENDIXES
APPENDIX A
### RESPONSE SHEET

<table>
<thead>
<tr>
<th></th>
<th>A. EXTREMELY GOOD</th>
<th>SOMEWHAT GOOD</th>
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<th>EXTREMELY BAD</th>
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<td>4</td>
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<table>
<thead>
<tr>
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<th>B. EXTREMELY FOOLISH</th>
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<table>
<thead>
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ATTITUDE CONCEPT STIMULI FORM

1. Working alone.

2. Myself being allowed to finish the task only when all the others are finished.

3. Myself being in a situation where I can finish a task even if all others in the group have not.

4. Myself in a group working with others.

5. Myself taking one part of the task and letting the others do the other parts.

6. Myself being the best in the group doing the task.

7. Myself being in on every part of the task rather than only one part.

8. The entire group getting credit for the work I do.

9. A group is faster than an individual when a task must be performed.

10. A group can get more done than an individual working alone.

11. Myself being criticized.

12. Too many cooks spoil the broth.

13. Doing something because the group thinks you should.

14. Myself having an obligation to others.

15. Myself working with others I do not like.

16. Encouraging others in the group.

17. Getting my ideas across to others.

18. Working with other people I do not know very well.

19. Thinking for yourself.

20. Each individual getting credit for the work he does.

21. A group can get things done better than one person working alone.

22. Encouragement from others.
23. Working with those members of the group who contribute very little.
24. Cooperation every time in this group situation.
25. Orderliness in this group.
26. Myself understanding everyone in a group situation.
27. Correcting each others mistakes in a group situation.
28. Always feeling a part of the group regardless of who is in the group.
29. Togetherness.
30. Individualism.
31. College students.
32. Myself getting a good part of my ideas from others in the group when a task has to be performed.
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