THE EFFECT OF MODEL CONSISTENCY AND SEX ON THE SUBSEQUENT AGGRESSIVE BEHAVIOR OF MALE AND FEMALE OBSERVERS

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CHAPTER I

INTRODUCTION

America the beautiful is quickly becoming America the violent. Indeed, as we pass our bicentennial year, we celebrate the founding of this country - a beginning immersed in hostility. A major campaign issue this year concerns defense spending - if aggressed upon, do we have sufficient armaments to return that aggression? Championship fighters make more than one million dollars to fight contenders and demonstrate their ability to aggress against others. In Florida a trial was recently held in which the defense argued that a young man could not be held responsible for the murder of a neighbor because he had been "conditioned" by television violence. The role of aggression in our society is a most pronounced one.

Of course it is difficult to determine whether it is the exposure to aggression which produces our aggressive society or the type of society, with all of its stresses and frustrations, which produces the aggression, but there is considerable evidence that aggression breeds aggression. More specifically, the observation of an aggressive action performed by someone else may increase the inclination of the observer to act in an aggressive manner. Research sug-

gests that aggressive parents produce aggressive children (Baron & Walters, 1959). The concern over the effects of television violence on avid watchers led to a congressional investigation and the implementation of a children's hour in this season's prime time telecasts, during which shows were to have reduced violent content.

If, and exactly why, an aggressive model (an individual demonstrating an aggressive behavior) enhances the aggressive behavior of an observer is not known. Presumably, watching a model reduces the observer's inhibitions concerning his/her own aggression or aggressive feelings. The model, in effect, legitimizes the aggressive conduct of the observer and vicariously extinguishes the observer's fears and behavioral inhibitions. The effect of the model is affected by characteristics of the model. Research has shown that if the model is punished for the aggression, the observer is less likely to imitate that aggressive behavior (Bandura, Ross & Ross; 1963b). A model who appears competent, assured and intelligent is imitated more than one who appears unsure and incompetent (Bandura, 1973). A limited amount of research, mostly with children, has examined the effects of model-observer pairs of the same or opposite sex. The findings in this area are inconclusive, but generally a male model appears to be the most effective at eliciting aggressive behavior in an observer, while female observers tend to demonstrate aggression of a less intense measure (Nelson, Gelfand, & Hartmann, 1969; Bandura, 1965).

The fact that certain model variables affect that model's effectiveness in producing aggressive behavior in observers is important. Study of these variables may someday lead to the determination of variables which, when introduced into an aggressive situation, might greatly reduce the tendency for an observer to behave similarly. To further the investigation of model variables, this study has investigated the effect of model consistency on the subsequent behavior of observers. Additionally, the effect of the model's sex on the aggressive behavior of same or opposite sex observers will be examined.

It should be understood from the start that aggression is a wide-open variable - one which can be defined and manipulated in virtually infinite ways. The topic of human aggression can be examined through a variety of approaches, including laboratory and naturalistic studies, longitudinal and cross-sectional studies. This study is but one small laboratory study of human modeled aggression. It is recognized that the laboratory study discussed here is an artificial and contrived situation. It is further recognized that generalizations from the results of this study are, at best, speculative. The significance of this study rests not with the particular results found here, but, rather, with the additional contribution it makes toward the "total picture" of aggression research. Only through the examination of the total picture, the sum of all the studies of aggression, can

a true understanding of the factors affecting aggressive behavior be achieved.

CHAPTER II

REVIEW OF THE LITERATURE

In this paper, a review of the factors affecting modeled aggression will be presented. To understand this area it is necessary to examine the findings and assertions of other investigators in the area of aggression and modeling behavior. To that end, it seems appropriate to begin this review with a brief discussion of the theories of aggression and proceed to the theoretical postulates of modeled aggression. Although not directly relevant, these theories provide a framework within which the practical research findings can be considered. Additionally, it is informative to be aware of the research on parental modeling and its subsequent effects on children, as well as the massive amount of laboratory research with children investigating the effects of aggressive modeling. These areas, particularly the latter, have provided much of the information currently known about aggressive modeling. The implications of this research can be directly applied to research on aggressive modeling and adults. This chapter will conclude with a discussion of the research concerning factors affecting modeled aggressive behavior in adults.

Theories of Aggression and Modeled Aggression

There are a variety of theoretical explanations of human aggressive behavior. Freud considered aggression to be the outward expression of an inborn aggressive drive which made up the primary death instinct. In this view all aggressive behavior is an outward discharge of this death instinct (for further elaboration, see Freud, 1922, p.58). Lorenz accepted the idea of aggression being an instinctual system, but rejected Freud's idea of death instinct. In Lorenz' view, aggression is an instinctual system generating its own source of aggressive energy, independently of external stimulation. People are considered to have a natural fighting instinct similar to that of lower animals, except that man's instinct is poorly controlled (Lorenz, 1966).

Dollard, Doob, Miller, Mowrer and Sears (1939)proposed a frustration-aggression drive theory to explain aggressive behavior. This theory contends that interference with goal directed behavior induces an aggressive drive which motivates behavior designed to injure the person toward whom it is directed. The inflicting of injury is assumed to decrease the aggressive drive. Frustration is the precipitant of aggression.

One of the more recent theories of aggression refutes the ideas of inner needs, drives or impulses, and attempts to explain aggressive behavior using social learning concepts. Bandura (1973) states that

> . . . one can predict with much greater accuracy the expression of aggressive behavior from knowledge of the social contexts, the targets, the role occupied by the performer and other cues that reliably signify the potential consequences for aggressive actions, than from assessment of the performer. When diverse social influences produce correspondingly diverse behaviors, the inner cause implicated in the relationship cannot be less complex than its effects (p. 40).

The preceding material is intended only to serve as a superficial sprinkling of the content of the various theories of aggression to provide a view of the theoretical foundations upon which the practical experiments to be discussed here were performed. This paper is not intended to be an arena for the evaluation of the merits and weaknesses of these theories. The topic of discussion here is modeled aggressive behavior.

The investigation of modeled aggression, which was developed most intensely following the introduction of the social learning theory of aggression, is centered around two different theories. These are the catharsis hypothesis, developed from the Freudian theory of aggression; and the stimulation hypothesis, developed from the social learning of aggression. Anderson (1975) discusses the catharsis hypothesis in his unpublished dissertation.

> The catharsis hypothesis maintains that participation in an aggressive act, whether physically or vicariously through exposure via some medium, will serve to decrease the tendency toward further aggression by reducing the hostile or aggressive impulses within the individual. This view, which is an extension of the psychoanalytic concept of catharsis, is seen by many as having socially beneficial effects in reducing the amount of aggression in society. The presentation of hostility and aggression by the mass media is

> an effective way to provide socially-acceptable outlets for the release of aggressive impulses by allowing the individual to vicariously participate in the aggressive act, and thereby decrease his own motivation to aggress (p.4).

Recent research concerning the effects of television violence (Baker & Ball, 1969) and the research on modeling (to be discussed) strongly challenge this theory of modeled aggression.

The stimulation hypothesis differs from the catharsis hypothesis in that it suggests that witnessing an aggressive model stimulates the aggressive behavior of the observer regardless of prior arousal or emotional state. It implies that the observer will almost always do what the model does. This theory was developed from the social learning theory of aggression. From the brief discussion of the social learning theory it is obvious that, in this theory, models play an important role in determining the behaviors of their observers. In his book on aggression Bandura (1973) discusses how modeling is a social process which allows one to learn or perform a specific task without ever directly experiencing the task. This is an important function as one can learn to avoid dangers through modeling rather than having to experience them. It has been experimentally shown that acquisition of a task can be considerably shortened through the use of models (Bandura & Walters, 1963). Models are believed to have three effects: (1) they allow the observer to acquire new behaviors or knowledge without direct exposure to a task or object; (2) they can strengthen or weaken

inhibitory processes, usually depending on the consequences of the model's behavior as viewed by the observer; (3) they often serve simply as response facilitators where the observer knows a socially acceptable behavior but fails to emit it because of the situational circumstances. According to the social learning theory the function of a model in many situations can be quite beneficial (Bandura, 1973).

When a model performs a socially unacceptable behavior, such as an antisocial aggressive act, the learning of that antisocial act occurs, but the reproduction of the behavior is entirely dependent upon the situation within which the learning has occurred. Nelson, Gelfand, and Hartmann (1969) indicate that observation of an aggressive model is thought to (1) provide the opportunity for the learning and subsequent imitation of a novel aggressive response, and (2) increase the probability of the occurrence of previously learned aggressive responses. The latter effect has been attributed either to a decrease in inhibitions resulting from the observation of unpunished modeled aggression or to response facilitation due to the presentation of cues which arouse previously learned aggressive habits (p. 1086). It is precisely toward this point which much of the present investigation has been directed, i.e., which factors in the learning situation affect the subsequent aggressive behavior of the observer. It is toward this point, with particular emphasis upon model characteristics, that this investigation is directed.

Aggressive Modeling and Adults

It certainly is not a new finding that adults can be aggressive. All of the precipitants of this aggressive behavior cannot begin to be elaborated in this paper. Considerable research has been directed toward determining and evaluating the effects of aggressive parents on their children's behavior, innumerable studies with children and the effects of adult models, and the effects of the media on adult aggressive behavior. Knowledge of the research on familial aggression, aggression studies using children, and the effects of the media on aggressive behavior, but is not directly relevant to this study, therefore the interested reader is referred to Appendix A.

Adult aggression can be demonstrated in a variety of ways and measured in just as many. Because of the many ways to demonstrate and measure adult aggression, the comparison of studies can be a problem. A large number of studies examining aggressive model effects on adults have used a common dependent variable - intensity of shock (supposedly) administered to a confederate - which provides easier comparison among them. The usual procedure is to have the subject participate in the experiment with two confederates. One confederate serves as the model and the other as a learner. Using the guise of a learning experiment the subjects observe the confederate-model administer shocks to the confederate-learner, usually for making an error on the

learning task. Following the observation the subject then administers the shock. In most cases there are no shocks actually administered and the confederate's "errors" are programmed. Many studies use the Buss aggression box which has switches representing different shock intensity levels. The single overall finding of this type of study is that the aggressive model strongly affects the observer's aggressive behavior (Hartmann, 1969; Wolfe & Baron, 1971; Foster, 1975; Neiberding, 1973).

Before examining the research on aggressive modeling and adults, it is important to examine the relevancy of this type of research in the laboratory to actual occurrences in the real world. Wolfe and Baron (1971) conducted a study to investigate the validity, relevance, and accuracy of aggression measuring experiments. These experimenters tested two different populations displaying different levels of violence outside the laboratory - prisoners in a state penitentiary and college students - to see if they would differentially use a Buss aggression box. They also tested the effects of a model on both populations. The subjects were insulted and the usual learning paradigm was used. Shock intensity was the dependent measure. The results showed that prisoners directed more intense attacks against anger instigators (insult giver) than did college students. This finding suggests that laboratory measures of aggression do, indeed, accurately indicate the degree to which one person desires to harm another, according to Wolfe and Baron.

Research with adults has examined a variety of factors affecting the behavior of observers following exposure to a model. There has been a great deal of research examining the effects of an aggressive model was examined. Some investigations have looked at the effects of a nonaggressive model, and even discrepant models. Within the area of aggressive model research, factors such as model differences, victim differences, and subject differences have been investigated. This research is extremely relevant to the purposes of the present paper, which is a review of model factors affecting the aggressive behavior of observers. Therefore, it is necessary to examine this area of research carefully.

Aggressive Models

The principal paradigm of modeled aggression research involves the use of a highly aggressive live model or similar substitutes such as filmed models or radio broadcasts of violent material. Hartmann (1969) showed that a highly aggressive model increases the observer's aggressive behavior over that of the observer viewing a neutral model and that this effect is enhanced when the observers are previously aroused by an insult. Subjects in this study were adolescents with a court commitment to the California Youth Authority. These adolescent boys who had or had not been angered were shown one of three films, each of which portrayed two adolescent boys playing basketball. In the

neutral film the boys play actively but noncompetitively. In the other two films the boys get into an argument and fist fight. The pain cues film focuses almost exclusively on the pain cues of the boy who is obviously losing the fight while the instrumental aggression film centers on the assailant's actions. Following the film subjects were given an opportunity to shock the confederate who had insulted them or whom they had met earlier. The results showed that subjects exposed to the pain cues film or the instrumental aggression film administered more intense shocks than subjects viewing the neutral film. Those subjects who were previously aroused by insult and then shown the two fights gave significantly higher intensity shocks than their non-aroused counterparts.

As was discussed earlier, Wolfe and Baron (1971) exposed their subjects to an aggressive model. Their results showed a strong modeling effect for both the college students and the prisoners. The model exerted almost equal effects on both groups, as measured by increased aggressive behavior following exposure to a model, which suggests a model's influence may be largely independent of the initial strength of the observer's aggressive tendencies.

These two studies represent the consistent finding of modeled aggression research, i.e., a strong modeling effect. Rather than discuss similar studies producing similar results the interested reader is referred to Bandura (1973, pps. 120-155). The studies to be discussed here involve the

investigation of particular factors involved in modeled aggression research.

Model characteristics. Epstein (1966) investigated the effects of a black or white model administering shocks to a black confederate on the subsequent aggressive behavior of white subjects varying in degrees of authoritarianism. The models also differed in apparent socioeconomic status. With intensity of shocks administered in a serial learning task as the dependent measure, the results indicated that subjects who viewed any of the models gave higher intensities of shocks to the confederate than subjects who did not view a model. Subjects who viewed the black model gave significantly more intense shocks than subjects who viewed the white model. No other significant results were obtained. The results might be explained by the fact that watching a black shock another black may give the impression that the aggression is justified, while watching a white shock a black may give the impression that outside factors, such as prejudice, are affecting the model's behavior and the amount of aggression is not justified.

Model-related characteristics. Meyer (1972) conducted an elaborate study in which he investigated the effects of observing justified and unjustified aggressive behavior in real and fictional situations on the subsequent aggressive behavior of college students. Prior to viewing a film the subjects were angered by being insulted. The measure of ag-

gression was number and intensity of shocks administered to a confederate as an evaluation measure of a composition. The results for number and intensity of shocks administered indicated that number and intensity of shocks administered by angered subjects who viewed the justified real film violence and the justified fictional film violence were greater than the unjustified violence groups. Berkowitz (1970) would account for these results by suggesting that viewing justified aggression reduces inhibitions toward aggression and the observer begins to attack " villians" in his own environment. Bandura (1973), on the other hand, would suggest that justified aggression is rewarded in our society and the rewarding nature of viewing justified aggression reinforces the observer's aggression. Regardless of the theoretical viewpoint, the fact remains that observers become more aggressive following exposure to a model whose aggressive behavior has been justified in some manner.

In a similar experiment Hoyt (1970) exposed subjects to a filmed fight scene in which one fighter sverely defeats the other to investigate the effects of vengeance and self-defense justifications of a model's aggressive behavior on the subsequent behavior of observers. Prior to viewing the film all subjects were angered by being shocked for disagreeing with the views of a confederate. Subjects then heard an introduction to the film which stressed vengeance for a past wrong or self-defense motivations for the winning fighter's actions. Following the film, the subjects

presented a list of letter combinations to a confederate and shocked him for incorrect responses (the aggressive behavior measure). Subjects who heard the vengeance justification for the film demonstrated the most aggression while those not hearing a justification for the film demonstrated the least. The vengeance group gave significantly more intense shocks than either of the other two groups, which did not differ from each other statistically.

In addition to the research on the justification of the aggressive model's behavior and its effects on observers, there has been some research investigating sex differences in aggressive behavior resulting from viewing a model of the same or opposite sex as the model. Discussion of this research will be reserved for the subject characteristics section.

Victim characteristics. Berkowitz has shown that various stimulus characteristics affect the amount of aggressive behavior a person will direct to a human target, but one of the most important is whether or not the target is associated with the aggressive model in some manner (Berkowitz & Geen, 1966; Geen & Berkowitz, 1966; Berkowitz & Geen, 1967). These experimenters found that, consistently, more shocks were administered to a target person when that target person's name was similar to the name of the aggressive model. In one of these studies, Berkowitz and Geen (1967), subjects were exposed to a fight scene from a movie in which Kirk Douglas starred. Following this subjects were introduced to

a confederate whose name was given as either Kirk or Bob. The situation was created where the subject had to give shocks to the confederate. The results showed that subjects gave more shocks to the confederate when he was introduced as Kirk, and thereby associated with the aggressive model Kirk Douglas, then when he was introduced as Bob. These results were not affected by the subjects' perceiving the aggression in the movie as justified or unjustified.

Several interesting non-modeling studies of aggressive behavior examined the effects of using a male or female confederate on the amount of shocks subjects would administer. All of these studies showed that a male victim received higher shock intensities than a female confederate (Buss, 1966; Taylor & Epstein, 1967; Youssef, 1968). One of these studies, Taylor and Epstein (1967), additionally found that when a female victim was used, subjects of both sexes were in a higher arousal state as measured by their (GSR) response.

Subject characteristics. A variety of subject differences, and their subsequent effects on the subject's aggressive behavior following exposure to an aggressive model, have been investigated. These differences include the effect of prior arousal on the part of the subject and differences in the subjects inclination toward aggression, as well as sex differences.

Doob and Wood (1972) had a confederate insult their subjects and than had the subjects shock, or watch the ex-

perimenter shock, the confederate. The subjects were then given the opportunity to shock the confederate for the first or second time, depending on the condition they were in. The results showed that insulted subjects administered shocks of less intensity when the confederates had been previously shocked by either the experimenter or the subject. Subjects gave more intense shocks when they had no previous opportunity to shock or witness the shocking of the confederate. Uninsulted subjects gave more intense shocks to the previously shocked confederate than when the confederate was not previously shocked. Doob and Wood suggest that the insult produced aggressive "feelings" which, when followed by the opportunity to shock or witness the shocking of the insulter, allowed the subjects to vent their pent-up emotions. Non-insulted subjects did not experience this previous aggression arousal, so the shocking of the confederate only served as a model for the second shocking sessions, resulting in higher shock intensities. For a further discussion of this line of thought, based on the catharsis hypothesis, see Dollard, Doob, Miller, Mowrer and Sears (1939). Other studies have found conflicting results and suggest that insult increases the aggressive behavior of subjects (Hartmann, 1969; Meyer, 1972).

Recent research has investigated whether subjects who have different prior dispositions toward aggressive behavior will react differently to an aggressive model. Using the psychopathic deviate scale (Scale 4) of the Minnesota Multi-

phasic Personality Inventory (MMPI) to divide subjects into those who have a high prior disposition to behave aggressively (aggressive types) and those who have low prior disposition to behave in an aggressive manner (nonaggressive types), subjects are exposed to an aggressive model and then given the opportunity to shock a confederate in a learning paradigm study. Wilkins, Scharff and Schlottmann (1974) conducted a study in which a number of differences were found between aggressive and nonaggressive types of subjects. The aggressive model in this study was verbal news of violent events which the subjects listened to from a tape recorder. They found that on a pretest shock intensity measure that aggressive-type subjects gave significantly higher intensity shocks than nonaggressive subjects. In the experimental conditions it was found that only when nonaggressive subjects were insulted prior to hearing the violent events tapes did their shock intensity level reach a level comparable to that of the aggressive type subjects.

Neiberding (1973) investigated the hypothesis that people with different personality types will show varying probabilities of retaliation following exposure to an aggressive model. Also using the MMPI to separate subjects into aggressive and nonaggressive types, subjects were exposed to a highly aggressive and consistent live model. The results, contrary to Wilken et al., (1974) showed no differences between aggressive and nonaggressive types on either the shock intensity or shock duration measures.

Neiberding attributes these findings to the extremely aggressive nature of the model.

Also using a live model, this writer found no differences between aggressive and nonaggressive subjects on a pretest measure while an observer, who later served as the model, was in the room. In the experimental conditions, subjects did not differ in their aggressive behavior following exposure to an aggressive model, regardless of the consistency with which the aggressive model administered the shocks (Foster, 1975). The results of these studies, though differing in the effects of prior disposition toward aggression, definitely support the finding, however, that subjects observing an aggressive model demonstrate more aggressive behaviors than subjects who do not observe an aggressive model.

As has also been the case with the research on children and aggressive modeling, research with adults has examined the differences in aggressive behavior of males and females. Interestingly, there have been virtually no investigations of the differential effects of aggressive modeling on the subsequent aggressive behavior of male and female subjects. Generally the findings of non-modeling studies show that men give higher intensity shocks to a learner than do women (Buss, 1966; Epstein, 1965; Shuck, Shuck, Hallam, Mancini & Wells, 1971). The primary investigative direction of aggressive behavior and sex differences research has been in examining the effects of same and opposite sex subject-con-

federate pairs. Buss (1966) found that male subjects gave higher intensity shocks to a male learner than to a female learner, while women gave lower but similar levels of intensity to both male and female learners. Taylor and Epstein (1967) found that both male and female subjects delivered higher intensity shocks to a male confederate than to a female confederate. Skin resistance was measured as an estimate of the subjects' arousal level. It was found that subjects were in a higher state of arousal when administering shocks to the female confederate. Youssef (1968) found that his male confederate received higher intensity shocks than did his female confederate. Subjects appear to be less inhibited when a male learner participates in a study.

It is pointless to speculate on why the effects of same and opposite sex aggressive models have been investigated in children's research (see Appendix A) and not in adult research, but it does seem to be a fact. Shuck et al., (1971) exposed male and female subjects to a violent radio broadcast and then had them deliver shocks to a same sex confederate whenever the confederate gave a wrong answer in a learning experiment. The results showed that the radio broadcast had no differential effects on the intensity of shock delivered to the confederate by their subjects. Larsen et al., (1972) found that when male and female subjects were exposed to a highly aggressive male model, the males gave higher intensity and longer duration shocks than women did. These two studies represent virtually the entire

body of research examining the effects of a same or opposite sex aggressive model on the subsequent aggression of their observers. It would seem there is a need for further research in this area as part of the total examination of the factors affecting an aggressive model's influence on his or her observers.

Nonaggressive Models

Just as Neiberding (1973) and Foster (1975) suggested that a highly aggressive model so strongly affected their observers' behavior that all other variables were "washed out", other investigators in aggression research have found a nonaggressive model produces similar results. Baron and Kepner (1970) investigated the effects of a model who deliberately gave low intensity shocks on the subsequent behavior of the observer of that model. Using a rigged questionnaire to show the similarity of, or differences in, attitudes on various topics between the model and subject, both were insulted by a second confederate and later given the opportunity to shock that confederate in a learning paradigm situation. The results showed that exposure to the nonaggressive model resulted in subjects delivering significantly less intense shocks on a Buss aggression machine as compared to similar subjects who did not witness the model's behavior. This study further showed that a high level of attraction is not a necessary condition for the emulation of an aggressive model. In a similar study, Waldman and Baron (1971) inves-

tigated the effects of modeling, prior arousal, and similarity of the subject and model on subsequent aggression using a modified aggression box. These experimenters found that exposure to a nonaggressive model was effective in reducing the observer's aggressive behavior, regardless of the existence of prior anger arousal, as measured by shock duration. The intensity measure showed that the observer's aggressive behavior decreased only in the absence of provocation from the victim. Additional results showed that model-observer similarity, as measured by clothing similarity and rigged attitude scale questionnaires, failed to affect the magnitude of the aggression-inhibiting influence of the model.

Discrepant Models

In an attempt to investigate further the effects of aggressive and nonaggressive models on the subsequent aggressive behaviors of observers, Baron (1971) investigated the effects of presenting discrepant modeling cues to observers. The subjects were each taken to a room in order to participate in a learning experiment involving shock. On the way there they were insulted by a confederate and then participated in one of five conditions. They watched either an aggressive model, a nonaggressive model, an aggressive model followed by a nonaggressive model, a nonaggressive model followed by an aggressive model or no model at all. Then the subject had to administer shocks to the insulting con-

federate for incorrect responses. The aggression measure was the intensity and duration of shock. The intensity measure data indicated that aggressive model observers gave the highest shock intensities. The aggressive-nonaggressive models observers gave the next highest intensities, but at a level significantly lower than the aggressive model observers. The other three groups were equal in intensity but significantly lower than the aggressive-nonaggressive models observers. The duration data were similar except that the aggressive-nonaggressive models observers did not differ from the no model and nonaggressive-aggressive observers. These results strongly indicate that the aggression-eliciting influence of an aggressive model can be reduced by the presence of a nonaggressive model. In other words, when discrepant cues are presented the subject tends to behave in a more socially accepted manner. Similar findings have also been demonstrated with children (Allen & Liebert, 1969; Bandura, Grusec & Menlove, 1967; McMains & Liebert, 1968).

Baron's (1971) study presents some interesting findings concerning model factors which affect the observer's behavior. There is a distinct need for further research investigating ways in which the effects of observing an aggressive model may be tempered. Baron showed that two models presenting discrepant aggressive cues can produce such an effect, but perhaps a single aggressive model can present aggressive cues in such a way as to produce a similar effect.

Foster (1975), discussed earlier, investigated the effects of aggressive models who varied in the consistency with which they presented shocks to the confederate. Because many of the studies investigating modeled aggression used models who were very aggressive and very consistent, Foster contended that it might be the consistency which the observer attends to in presenting similar shock intensity rather than the aggressiveness of the model. The lack of significant findings about this hypothesis may have been due to methodological problems, one of which was that the inconsistent model appeared more aggressive than inconsistent. The investigation of the effects of a consistent aggressive model versus an inconsistent aggressive model should be continued.

CHAPTER III

STATEMENT OF THE PROBLEM

A number of studies have demonstrated that exposure to a model performing a particular type of aggressive behavior will have a subsequent effect on the observer's aggressive behavior. Bandura, Ross and Ross (1961), Wolfe and Baron (1971) and Neiberding (1973) showed that a highly aggressive model will produce significantly increased aggressive behaviors in observers of such a model. Baron and Kepner (1970) and Waldman and Baron (1971) demonstrated that a nonaggressive model is effective in reducing the aggressive behavior of observers regardless of the similarity between the subjects and the model. Other studies (Neiberding, 1973; Foster, 1975) suggest that stimulus conditions are more important determinants of an observer's behavior in modeled aggression studies than the individual personality characteristics of the observers.

Foster (1975) examined the possibility that these stimulus determinants were not a function of the intensity of the shock delivered by the model but were more a function of the consistency of shock intensity delivered by the model. Foster found that in nearly every study of modeled aggression using a Buss aggression machine, the model presented

shocks in a very consistent fashion. Waldman and Baron (1971) had their model use only levers 1,2, and 3 of 10, while Neiberding (1973) had his model use only levers 7,8, and 9 of 10. It was Foster's contention that these models were so blatantly consistent that the subjects perceived demand characteristics in such a situation, suspecting that they should do the same thing because the experimenter wanted such behavior or possibly not wishing to appear different from the model.

Foster (1975) tested the hypothesis that if the consistency of the model's aggressive behavior is reduced, then the individual personality characteristics of the observers may become more important in determining the observer's aggressive behavior as compared to situational determinants. He had aggressive and nonaggressive subjects (as determined by scores on scale 4 of the MMPI) participate in a paired-associate learning task supposedly involving shock for incorrect responses both prior to and following exposure to a consistent, highly aggressive model, an inconsistent highly aggressive model, or no model at all. The results of the study showed that relative to exposure to a model, whether consistent or inconsistent, resulted in a significantly greater increase in intensity of shocks administered from pretest to posttest than no exposure to a model, regardless of the personality type of the subjects. A reduction in the consistency of the model did not result in the personality characteristics of the subjects becoming more important

determinants of their behavior.

Examination of the Foster (1975) study reveals that the methodology may not have allowed a true test of the model consistency-inconsistency hypothesis. The models in the study were highly aggressive overall, regardless of the consistency with which the shocks were administered. Each model delivered a mean intensity of 7 where 10 was the highest possible shock intensity. This meant that the inconsistent model had to deliver a large number of strong shocks for every weak shock delivered. It is very possible that subjects perceived both models as "aggressive", rather than consistent and inconsistent.

Baron (1971) found that exposing subjects to discrepant models, i.e., an aggressive model and a nonaggressive model, resulted in significantly reduced aggressive behavior from the observers; in several conditions the observer did not differ from the aggressive behavior demonstrated by subjects who did not observe a model. The implication of this finding is that when placed in an ambiguous situation, where social learning theory does not apply due to discrepant social cues, subject's inhibitions about behaving aggressively become cognitively controlled. The key to this finding is in providing sufficiently discrepant cues that the subjects's behavior cannot be affected by what he or she has observed without cognitively evaluating what has been observed and choosing a behavior to emit.

Foster (1975) attempted to present a single, inconsis-

tent model, behaving both aggressively and nonaggressively, which would require the observer to consider the behaviors he or she observed and decide which behavior to emit when placed in a similar situation. Because of the methodological problem the inconsistent model may simply have appeared aggressive and the observers were therefore not required to cognitively evaluate the model's behavior. The observers, therefore, acted aggressively also.

In the present study, subjects were exposed to a consistent, an inconsistent, or no model delivering shocks to a confederate themselves. The inconsistent model presented an equal number of high and low intensity shocks. Subjects were told the study was designed to the effects of stimulation on concentration for receiving extrasensory messages. The model's presence was justified by informing the subjects that two senders were needed (the model and the subject) because they must concentrate harder than the receiver (confederate). The senders were asked to stimulate (shock) the confederate for incorrectly received messages. The dependent measures were the intensity and variability of the shocks administered by subjects in the three modeling groups. In addition, because of the lack of research concerning sex differences in adult modeled aggression, male and female models were used with male and female subjects to allow comparison of all possible same and opposite sex pairs.

It was predicted that subjects exposed to the consistent model would administer shocks of a higher intensity

level than subjects exposed to the inconsistent model. Because subjects exposed to the consistent model were expected to behave similarly to the model, but subjects exposed to an inconsistent model were expected to evaluate their behavior prior to administering shock, it was expected that subjects exposed to the discrepant cues of the inconsistent model would administer shocks of lower intensity.

It was predicted that subjects in the consistent and inconsistent model conditions would administer shocks of higher intensity than subjects in the no model condition. This result was expected because of the overwhelming evidence showing that a model reduces the inhibitions of observers. It was assumed that watching a model administer shocks, a very socially unacceptable behavior, either reduces inhibitions or stimulates similar behavior, even when subjects evaluate their behavior prior to administering shocks themselves.

Similarly, it was predicted that the subjects exposed to an inconsistent model or no model would deliver shocks with a greater variance than subjects exposed to a consistent model. It was further predicted that subjects exposed to an inconsistent model would deliver shocks with greater variability than subjects not exposed to a model. Previous research (Neiberding, 1973; Foster, 1975) has shown that subjects tend to perform similarly to the model on intensity measures. It seemed reasonable to expect that a similar finding would occur on an intensity variability measure.

A variety of planned comparisons were proposed to examine the various differences between male and female subjects exposed to the three types of models. Specifically, male subjects were compared with female subjects in each of the model conditions. Male subjects in the consistent model group were also compared with male subjects in the inconsistent and no model groups, and male subjects in the inconsistent group were compared with male subjects in the no model group. Likewise, female subjects in the consistent model group were compared with the female subjects in the inconsistent model group were compared with female subjects in the no model group.

CHAPTER IV

METHOD

Subjects

Forty-eight male and forty-eight female college students enrolled in introductory psychology classes at Towson State University, Towson, Maryland, participated in this experiment, each received class credit for participation.

Apparatus

An Aversive Shock Apparatus (model 82426), manufactured by Lafeyette Instrument Company, Lafeyette, Indiana, was used in this study. This apparatus was a gray metal box measuring 10" x 5" x 6". On the front of the apparatus was a large current gauge, a shock range switch, a power switch, and a continuous range intensity switch. There were wires from the back of the apparatus which in the present experiment, were extended through a conduit to an adjacent room. An external shock initiate button was also used in this study.

Lists of animal names were used for the ESP task (Appendix B). There was a two-way communication system through which the male receiver's responses were delivered to the sender and through which the sender told the receiver

the correct word he or she was sending.

A small bell and a clock were used by the non-participating sender to time and signal the "sending" sender when his sending time limit was up, at which time he or she administered a shock to the confederate receiver.

Procedure

The experimenter visited the classes and recruited subjects for participation in this study. The students were told the study dealt with factors facilitating extra-sensory perception (ESP) and that three persons would participate in the study at a time, but no two participants could be from the same class section. The students were told this minimized the possibility of friends participating together , a situation which might affect the results. Actually, the other two participants were confederates. This procedure prepared the subjects for the other two participants (confederates) and hopefully reduced the possibility of subjects perceiving the confederates for what they really were.

There was a "Please remain quiet until the experimenter comes" sign on the waiting area wall, posted to decrease the interaction between the subject and confederates. As soon as the subject and two confederates, posing as other students, were seated in the waiting room, the experimenter arrived and led them all to the experimental room. The experimenter explained the study was designed to investigate extra-sensory perception and how stimulation affects the

receiver's concentration. In order to do this, the experimenter explained that two persons would serve as senders and one as a receiver. The participants were told two senders were used because previous research had shown that senders often tire quicker than the receiver due to the intense concentration they must produce. Having two senders, therefore, facilitated the running of the study. Through the use of a rigged lottery system, each of the participants drew a card to create the impression that their roles in the experiment were due to chance. For the modeling conditions all the cards read "sender 2," so the subject was assured of that role. In the no modeling condition all the cards read "sender 1." The confederates reported they received the other two roles. At this point the experimenter explained that shock would be used in the study (see Appendix C for detailed instructions). The subjects were told that shocks would be used as the stimulating agent, but that at no time would the shocks be of sufficient intensity to cause physical harm to the receiver. Subjects were given the opportunity to leave the study at this point, without forfeiting class participation credit. They also were asked to sign a statement indicating they were informed about the use of shock and agreed to participate.

For the subjects who remained (two asked to leave), the experimenter continued with the instructions, explaining the procedure for the experiment and the function of the shocking device. The receiver and experimenter then went to an

adjoining room, presumably for the purpose of attaching the receiver to the shock apparatus. Actually no shocks were given. The connections from the shocking device were connected to a metal rod to complete the circuit so the intensity needle on the shock box indicated the passage of current. During his absence the experimenter requested that the subject and model-confederate remain quiet.

When the experimenter returned, the procedure varied depending on the condition the subject was in. To better understand the different groups in this study, it should be pointed out that the model confederate had two roles in this experiment. In all groups the confederate was an observer, because he or she remined in the room with the subject while the subject administered shocks to the receiver. In some of the groups the confederate was also a model for the subject prior to observing the administration of shocks. This arrangement produced 12 groups varying in model consistency (consistent, inconsistent, no model), sex of observer, and sex of subject.

Four groups of subjects were exposed to a consistent model. In these groups sender 1 (confederate-model) was to go first. Both senders presented different lists of animal words. The senders were instructed how to conduct the experiment and were informed the experimenter would go in the adjoining room with the receiver. Before each word, the sender verbally requested whether the receiver was ready. Upon his acknowledgement the sender was to concentrate on

the first word. The second sender (subject) had a clock and a bell. After 10 seconds he/she would ring the bell. If the receiver had not responded in that time or had responded incorrectly, Sender 1 was to administer some intensity of shock. Sender 2 was told to record the intensity for data purposes from the dial in front of the shocking device. (This manipulation was designed to keep the subjects' attention on what the model was doing. When the subject was "sending", the confederate-model observer also recorded the intensities and these were the data used in the study.) Following the shock, Sender 1 told the receiver the correct word. On those trials where the receiver was correct, the sender told the receiver his response was correct and proceeded. This procedure was followed for the twelve words on the list. The confederate was incorrect on 10 of the 12 words. The incorrect responses, as well as the two correct responses, were the same for all subjects. The responses included both no responses and incorrect ones. To appear consistent, Sender 1 (model-observer) administered the 10 shocks at the same intensity. This intensity was at the midpoint of the intensity range of the shocking apparatus. All shocks were administered for two seconds. When Sender 1 completed the list, the experimenter returned and the senders exchanged places and duties. Following the subject's list, the experimenter returned to the room and asked everyone to fill out a questionnaire (Appendix D). This concluded the experiment. The four consistent model groups

received the same procedure. The sex of the model and subject were different, as listed in the following group names:

Consistent model, male observer, male subject
Consistent model, male observer, female subject
Consistent model, female observer, male subject
Consistent model, female observer, female subject

Four groups were exposed to an inconsistent model. In these groups the same procedure was followed as for the consistent model groups except the model here was inconsistent in his administration of shocks. This model administered shocks at various intensities changing randomly from a high intensity shock to a low intensity shock through all 10 shocks. The duration was constant (see Appendix E). The mean of the 10 shock intensities and durations was the same as the intensity and duration of the consistent model's shocks. Here again the groups exposed to the inconsistent model differed only in the sex of the model and subject:

Inconsistent model, male observer, male subject
Inconsistent model, male observer, female subject
Inconsistent model, female observer, male subject
Inconsistent model, female observer, female subject

Four groups of subjects were not exposed to a model. In these groups the subject was Sender 1 and Sender 2 was the confederate. The subject, therefore, administered shocks to the receiver without exposure to a model. These groups served as control groups for the modeling groups. To equate the time all subjects spent in the room, these subjects were informed, after the instructions, that there was a delay due to a malfunction in the intercom system. After an equal length of time to that which the model took in the

other groups, the experimenter, who had left the room supposedly to correct the problem, returned and had the senders begin. The procedure otherwise was the same as the other groups for administering the words and shocks. After the subject had completed the list, the experimenter returned and asked that the senders and receiver fill out the questionnaire before the senders changed places. The experiment was then concluded. After the questionnaire the experiment was concluded. All no model groups received the same procedure except the sex of the observer and subject was changed:

No model, male observer, male subject
No model, male observer, female subject
No model, female observer, male subject
No model, female observer, female subject

After each subject had completed their questionnaire a complete debriefing followed. Subjects were informed that no shocks had actually been administered. A brief description of the theoretical foundations for the study were discussed. The subjects were asked to maintain silence about their participation and the true purpose of the study until the end of the semester.

Statistical Analysis

The data were considered as a 3 x 2 x 2 completely randomized factorial analysis of variance. The factors involved were model condition (consistent model, inconsistent model, no model), model-observer sex and subject sex.

Separate analyses were performed for intensity (using mean intensity data) and variability. The analysis of the variability of each subject's shock intensities. A priori comparisons were made to test each of the hypotheses concerning the intensity and variability measures. The appropriate planned comparisons, as discussed in the statement of the problem, were also performed.

To enable a better understanding of the subjects' impressions of the study and motivations for their performance, a post-experimental questionnaire was given to each subject. The dependent variable for these questionnaires was the distance, measured in centimeters, that the subject placed a slashmark from the left-hand edge of the answer continuum (see Appendix D). These data were entered into separate 3 x 2 x 2 analyses of variance for questions 1 through 4. Questions 5a and 5b were presented to subjects in the consistent and inconsistent model conditions only, therefore, these data were entered into a 2 x 2 x 2 analysis of variance.

CHAPTER V

RESULTS

The mean shock intensity score of male and female subjects after exposure to either the male or female observer-model in each of the three conditions is shown in Table I. The summary table for the analysis of variance is shown in Table II. There was a significant main effect for model conditions, and one-tailed t tests were used to make pairwise comparisons in accordance with the hypotheses stated previously. As hypothesized, subjects in the no model condition administered significantly less intense shocks than subjects in either the consistent ($t = 2.72$, $df = 60$, $p < .01$) or the inconsistent ($t = 1.82$, $df = 60$, $p < .05$) model conditions. However, the mean levels of shock administered by subjects in the consistent and inconsistent model conditions were not significantly different ($t = 0.87$, $df = 60$, $p > .05$) from each other.

Planned comparisons using two-tailed t tests were used to investigate the effects of exposure to a consistent model, an inconsistent model, or no model on males and females separately. It was found that females exposed to a consistent model administered significantly more intense shocks than females exposed to an inconsistent model ($t = 2.33$,

TABLE I

MEANS FOR MALE AND FEMALE SUBJECT SHOCK INTENSITY

Model Condition	Sex of Model-Observer	Male Subject	Female Subject
Consistent Model	Male	2.45	2.57
	Female	2.50	2.57
Inconsistent Model	Male	2.75	1.69
	Female	2.68	2.44
No Model	Male	2.19	2.09
	Female	2.20	1.66

TABLE II

SUMMARY TABLE OF THE ANALYSIS OF VARIANCE

FOR THE SHOCK INTENSITY MEASURE

Source	SS	df	MS	F
A (Model Condition)	4.06	2	2.03	4.27*
B (Sex of Observer)	.06	1	.06	< 1
C (Sex of Subject)	2.04	1	2.04	4.29*
AB	1.23	2	.62	1.30
AC	2.23	2	1.12	2.36
BC	.07	1	.07	< 1
ABC	1.66	2	.83	1.75
Error	39.91	84	.43	

* $p < .05$

df = 30, $p < .05$) or to no model (t = 2.60, df = 30, $p < .05$. However, the intensities of shock administered by females exposed to an inconsistent model or to no model were not significantly different (t = 0.58, df = 30, $p < .05$) from each other. In contrast, male subjects exposed to an inconsistent model administered significantly more intense shocks than males exposed to no model (t = 2.41, df = 30, $p < .05$). On the other hand, the mean level of shock administered by male subjects exposed to a consistent model was not significantly different from that administered by males exposed to an inconsistent model (t = 1.26, df = 30, $p > .05$) or to no model (t = 1.20, df = 30, $p > .05$).

As shown in Table II, there was also a significant main effect for subject sex. Males gave significantly higher shocks overall than did females. Although the interaction effect was not statistically significant ($p < .10$), planned comparisons using two-tailed t tests were made to investigate possible differences between male and female subjects in each of the three conditions separately. It was found that male subjects exposed to an inconsistent model administered significantly more intense shocks than female subjects (t = 2.95, df = 30, $p < .05$). However, the mean levels of shock administered by male and female subjects in the consistent model group and the no model group were not significantly different (t = 0.49, df = 30, $p > .05$ and t = 1.03, df = 30, $p > .05$, respectively).

The mean shock variability score of male and female

subjects after exposure to either the male or female observer-model in each of the three conditions is shown in Table III. The summary table for the analysis of variance is shown in Table IV. As predicted there was a significant main effect for model conditions, and one-tailed t tests were used to make pairwise comparisons in accordance with the hypotheses stated previously. Subjects in the consistent model condition administered shocks with significantly less variability than did subjects in the no model condition (t = 12.0, df = 60, $p < .001$) or the inconsistent model condition (t = 21.5, df = 60, $p < .001$). Additionally, subjects not exposed to a model administered shocks with significantly less variability than subjects exposed to the inconsistent model (t = 4.01, df = 60, $p < .001$).

The main effect for subject sex, although not significant at traditional significance levels, did approach significance ($p<.06$). Examination of these data indicates that males tended to administer shocks with greater variability than females.

Pearson product-moment correlation coefficients were calculated to determine whether there was a relationship between shock intensity and shock variability in each of the twelve groups. These correlations are presented in Table V. This data must be evaluated conservatively as the number of pairs of observations in each group is small and, therefore, the correlation coefficient must be large to reach significance. A significant positive coefficient was obtained for

TABLE III

MEANS FOR MALE AND FEMALE SUBJECT

SHOCK VARIABILITY

Model Condition	Sex of Model-Observer	Male Subject	Female Subject
Consistent Model	Male	.256	.324
	Female	.297	.351
Inconsistent Model	Male	1.172	.737
	Female	1.004	.895
No Model	Male	.820	.615
	Female	.702	.530

TABLE IV

ANALYSIS OF VARIANCE SUMMARY TABLE

FOR SHOCK VARIABILITY

Source	SS	df	MS	F
A (Model Condition)	6.68	2	3.34	31.09*
B (Sex of Observer)	.01	1	.01	<1
C (Sex of Subject)	.42	1	.42	3.91
AB	.09	2	.05	<1
AC	.48	2	.24	2.23
BC	.09	1	.09	<1
ABC	.13	2	.07	<1
Error	9.024	84	.11	

* $p < .001$

TABLE V

CORRELATIONS OF INTENSITY AND VARIABILITY

FOR ALL SUBJECT GROUPS

Model Condition	Sex of Model-Observer	Male Subject	Female Subject
Consistent Model	Male	.67	.37
	Female	-.53	.30
Inconsistent Model	Male	.05	.90*
	Female	.52	.57
No Model	Male	-.34	.84*
	Female	.21	.94*

* $p < .01$

female subjects in the inconsistent male model condition and for female subjects in the no model conditions with either a male or a female observer. These positive coefficients indicate that these female subjects increased the variability of their shock presentations as they increased the intensity of those shocks.

In addition to the intensity, variability, and correlational data, there were four questions which all subjects answered and two additional questions which subjects exposed to a model answered about the study. Subjects answered each question by placing a mark across the scale. The distance from the left end to the mark, measured in centimeters, was the dependent measure. Each line was 6.5 centimeters long. Table VI shows the means and analysis of variance summary table for the first question about the concern the subjects had about shocking the receiver. The grand mean of the responses to this question of 4.16 indicates that all subjects were somewhat concerned about shocking the receiver. There was a significant main effect for model conditions. Duncan's Multiple Range Test indicates that subjects exposed to either the consistent or inconsistent model were significantly less concerned than subjects not exposed to a model. There was no difference between consistent and inconsistent model subjects (see Table VII). The main effect for subject sex was significant indicating that males, with a mean score of 3.81, were less concerned about shocking the confederate than were females, with a mean score of 4.52.

TABLE VI

MEANS AND ANALYSIS OF VARIANCE SUMMARY

TABLE FOR QUESTION 1

Model Condition	Sex of Model-Observer	Male Subject	Female Subject
Consistent	Male	3.55	4.90
	Female	4.20	3.59
Inconsistent Model	Male	3.08	4.80
	Female	2.76	3.80
No Model	Male	4.20	5.16
	Female	5.05	4.86

Source	SS	df	MS	F
A (Model Condition)	23.91	2	11.96	4.27*
B (Sex of Observer)	1.35	1	1.35	<1
C (Sex of Subject)	12.18	1	12.18	4.35*
AB	3.57	2	1.79	<1
AC	5.37	2	2.69	<1
BC	9.63	1	9.63	3.43
ABC	1.67	2	.84	<1
Error	235.10	84	2.80	

* $p < .05$

TABLE VII

DUNCAN'S MULTIPLE RANGE TEST FOR QUESTION 1 MODEL CONDITION DIFFERENCES

Model Conditions		Consistent	Inconsistent	No Model
	Means	4.05	3.61	4.82
Consistent	4.05	--	.44	.77*
Inconsistent	3.61		--	1.21*
No Model	4.82			--

Truncated range	r = 2	r = 3
Critical difference	.70	.80

* $p < .05$

The means and analysis of variance summary table for question two concerning how well subjects like participating in this study are presented in Table VIII. The grand mean of 4.11 suggests that, overall, subjects liked participating in this study. There were no significant differences between groups of subjects on this question.

Question three examined the degree to which subjects felt ESP is a real phenomenon. The means and analysis of variance summary table for this question are presented in Table IX. The grand mean of 2.24 suggests that subjects generally believe ESP is a real phenomenon. The main effect for model type was significant. Duncan's Multiple Range Test showed that subjects exposed to an inconsistent model felt that ESP is significantly less real a phenomenon than did subjects not exposed to a model. Subjects exposed to a consistent model fell in between these two groups and were not significantly different from either (see Table X).

Subjects were asked to indicate the degree they felt stimulation aided the receiver's concentration. The means and analysis of variance summary table are presented in Table XI. The grand mean of 3.99 suggests that subjects felt that stimulation was less than an aid to the receiver's concentration. This mean value is near the midpoint on the scale. There were no significant main effects. The sex of observer by sex of subject interaction did reach significance. Duncan's Multiple Range Test showed that similar sex pairs felt that stimulation was significantly less helpful

TABLE VIII

MEANS AND ANALYSIS OF VARIANCE SUMMARY

TABLE FOR QUESTION 2

Model Condition	Sex of Model-Observer	Male Subject	Female Subject
Consistent Model	Male	4.30	4.08
	Female	3.71	3.04
Inconsistent Model	Male	4.11	3.53
	Female	4.59	4.75
No Model	Male	4.20	4.39
	Female	4.86	3.74

Source	SS	df	MS	F
A (Model Condition)	5.14	2	2.57	<1
B (Sex of Observer)	.01	1	.01	<1
C (Sex of Subject)	3.41	1	3.41	1.13
AB	11.05	2	5.53	1.83
AC	.33	2	.17	<1
BC	.68	1	.68	<1
ABC	4.30	2	2.15	<1
Error	253.69	84	3.02	

TABLE IX

MEANS AND ANALYSIS OF VARIANCE SUMMARY

TABLE FOR QUESTION 3

Model Condition	Sex of Model-Observer	Male Subject	Female Subject
Consistent Model	Male	2.18	2.26
	Female	1.33	2.96
Inconsistent Model	Male	3.05	3.15
	Female	2.15	2.91
No Model	Male	2.18	2.21
	Female	1.26	1.26

Source	SS	df	MS	F
A (Model Condition)	19.08	2	9.54	3.14*
B (Sex of Observer)	6.66	1	6.66	2.19
C (Sex of Subject)	4.54	1	4.54	1.49
AB	2.92	2	1.46	<1
AC	2.82	2	1.41	<1
BC	3.20	1	3.20	1.05
ABC	2.56	2	1.28	<1
Error	255.45	84	3.04	

TABLE X

DUNCAN'S MULTIPLE RANGE TEST OF MODEL CONDITIONS ON QUESTION 3

Model Condition		Consistent	Inconsistent	No Model
	Means	2.18	2.82	1.73
Consistent	2.18	--	.64	.45
Inconsistent	2.82		--	1.09*
No Model	1.73			--

Truncated range	r = 2	r = 3
Critical difference	.86	.91

* $p < .05$

TABLE XI

MEANS AND ANALYSIS OF VARIANCE SUMMARY

TABLE FOR QUESTION 4

Model Condition	Sex of Model-Observer	Male Subject	Female Subject
Consistent Model	Male	4.64	2.40
	Female	4.43	4.98
Inconsistent Model	Male	4.03	4.26
	Female	3.33	3.59
No Model	Male	4.54	4.16
	Female	3.00	4.55

Source	SS	df	MS	F
A (Model Condition)	1.74	2	.87	<1
B (Sex of Observer)	.01	1	.01	<1
C (Sex of Subject)	.01	1	.01	<1
AB	17.51	2	8.76	2.97
AC	8.93	2	4.47	1.52
BC	14.89	1	14.89	5.05*
ABC	6.32	2	3.16	1.07
Error	248.13	84	2.95	

*p < .05

than did opposite sex pairs. The means for the two similar sex pairs were strikingly similar, as were the two means for the opposite sex pairs (see Table XII).

Two questions were asked of subjects exposed to the inconsistent or the consistent model. These questions involved the subject's impressions of the model and therefore were not appropriate for subjects in the no model condition. These subjects were first asked to indicate the degree to which they felt the other person's (model's) shocks were too strong or too weak. Table XIII shows the means and analysis of variance summary table for this data. The grand mean of 2.09 indicates that subjects, overall, felt that the model's shocks were too strong. There were no significant differences between groups of subjects on this question.

Model condition subjects were also asked to indicate the degree to which they felt the other person (model) gave shocks which were too much the same or which were administered in too variable a fashion. The means and analysis of variance summary table are presented in Table XIV. The grand mean of 2.47 indicates that these subjects felt the model's shocks were too much the same. The main effect for model type was significant, indicating that subjects exposed to the inconsistent model felt their model was less consistent model than subjects who were exposed to the consistent model. The mean score for the subjects exposed to the inconsistent model and for subjects exposed to the consistent model were 3.20 and 1.74, respectively.

TABLE XII

DUNCAN'S MULTIPLE RANGE TEST FOR THE SEX OF OBSERVER BY SEX OF SUBJECT INTERACTION ON QUESTION 4

Sex of Observer-Sex of Subject		Male-Male	Male-Female	Female-Male	Female-Female
	Means	4.40	3.60	3.59	4.37
Male-Male	4.40	--	.80*	.81*	.07
Male-Female	3.60		--	.01	.77*
Female-Male	3.59			--	.78*
Female-Female	4.37				--
			r = 2	r = 3	r = 4
Critical difference			.35	.36	.38

* $p < .05$

TABLE XIII

MEANS AND ANALYSIS OF VARIANCE SUMMARY

TABLE FOR QUESTION 5A

Model Condition	Sex of Model-Observer	Male Subject	Female Subject
Consistent Model	Male	3.33	3.57
	Female	3.11	3.14
Inconsistent Model	Male	2.71	2.95
	Female	3.73	2.60

Source	SS	df	MS	F
A (Model Condition)	1.35	1	1.35	1.88
B (Sex of Observer)	.01	1	.01	<1
C (Sex of Subject)	.38	1	.38	<1
AB	1.71	1	1.71	2.39
AC	1.35	1	1.35	1.88
BC	2.51	1	2.51	3.50
ABC	1.30	1	1.30	1.81
Error	63.08	88	.72	

TABLE XIV

MEANS AND ANALYSIS OF VARIANCE SUMMARY

TABLE FOR QUESTION 5B

Model Condition	Sex of Model-Observer	Male Subject	Female Subject
Consistent Model	Male	1.78	1.81
	Female	1.78	1.60
Inconsistent Model	Male	4.04	3.19
	Female	3.09	2.48

Source	SS	df	MS	F
A (Model Condition)	33.93	1	33.93	29.79*
B (Sex of Observer)	3.52	1	3.52	3.09
C (Sex of Subject)	2.56	1	2.56	2.24
AB	2.10	1	2.10	1.84
AC	1.76	1	1.76	1.55
BC	.01	1	.01	<1
ABC	.19	1	.19	<1
Error	100.22	88	1.14	

* $p < .001$

CHAPTER VI

DISCUSSION

The major thrust of this study was the investigation of the differential effects of behavioral consistency of an aggressive model on the subsequent behavior of an observer of that model in a similar situation. In considering the data for shock intensity, it was expected that persons observing a consistent model would behave similarly to the model due to the similar situational cues. Persons observing the inconsistent aggressive model were expected to behave less aggressively than subjects exposed to a consistent model because the discrepant cues would require the observers to evaluate their own behaviors and, upon considering the socially unacceptable nature of the task, would behave less aggressively.

The results of this study do not support the proposed hypotheses for shock intensity. The basic finding concerning the overall effects of the models is that exposure to an aggressive model results in subjects who administer higher intensities of shock, regardless of the consistency of the model's behavior, than subjects not exposed to a model. The finding supports the stimulation hypothesis and suggests that stimulus conditions are important determinants of

observer's behaviors in modeled aggression studies. In other words, as suggested in the stimulation hypothesis, subjects were stimulated into engaging in the socially unacceptable behavior of administering shocks to someone because of their exposure to a model. This finding is in agreement with numerous previous experimenters (Baron & Kepner, 1970; Waldman & Baron, 1971; Neiberding, 1973; Foster, 1975).

The effects of behavioral consistency in the model became more apparent when the interaction of model condition and subject sex was examined. Planned comparisons for the intensity data examining this interaction were found to be significant, offering valuable, and unexpected, information concerning the effects of discrepant aggressive modeling cues on the subsequent behavior of observers of that model. Male and female subjects did not differ in the shock intensity they administered following exposure to the consistent model or no model; but, following exposure to the inconsistent model, male subjects gave significantly higher intensity levels than did female subjects. The discrepant cues provided by the inconsistent model resulted in opposite behaviors in males and females.

Examination of any differential effects provided by exposure to each of the modeling conditions for males and females also provided unexpected results. Females gave significantly higher intensity shocks when exposed to the consistent model than when they were exposed to either the in-

consistent model or no model. Males, on the other hand, gave significantly higher intensity shocks when exposed to the inconsistent model than when exposed to no model, with intensity levels after exposure to the consistent model averaging between the two.

Recalling the original hypotheses concerning behaviors following exposure to the models, it appears that females performed exactly as predicted. The males performed opposite to the prediction concerning exposure to the inconsistent model. The fact that there was not a significant difference between males exposed to the consistent model and males exposed to either the inconsistent model or no model clouds the picture some; however, altogether these findings suggest that exposure to a model had quite different effects on males and females.

In speculating about the basis for these findings, the main effect for model consistency was "washed out" due to the opposite behavior of males and females exposed to the consistent and inconsistent models. The demand characteristics in the consistent model condition perhaps produced the similar behavior in males and females. In the inconsistent model condition, however, males apparently attended to, and were stimulated by, the higher intensity shocks of the model, while females apparently attended to the low intensity shocks, or, as suggested by the catharsis hypothesis, also attended to the high intensity shocks which, in turn, reduced their aggressive impulses through vicarious exposure.

Social expectations of male and female aggressiveness also may have been involved.

There are a number of studies to suggest to a combination of the factors just discussed may be involved. Several investigators have shown that women do not attend to aggressive material to the degree that men do (Bandura, 1965; Maccoby & Wilson, 1957; Kagan & Moss, 1962). Thus, female subjects may not have attended to the inconsistent model's high intensity shocks, while male subjects did. Other studies have shown that women are less aggressive than men when the receiver of the aggressive behavior is viewed as helpless (Titley & Viney, 1969; Aaronson & Cope, 1968). Perhaps the female subjects would not administer the higher intensity shocks presented by the inconsistent model because they viewed the receiver as helpless. Finally, Mischel (1970) and Bandura (1965) suggest, in their studies with children, that girls learn nearly the same quality and quantity of aggressive behavior as boys but they do not demonstrate these behaviors because they are more inhibited by fear based upon negative socialization experiences.

This study supports the contention of Bandura (1965) and Mischel (1970) concerning differences in overt aggressive behavior between males and females. Males administered shocks of significantly higher intensities than did females, overall; however, this result was carried primarily by the interaction effect between males and females exposed to the inconsistent model. It should be noted that in every group

males administered higher average intensities of shock than did females. Several investigators have found similar findings in non-modeling studies (Buss, 1966; Epstein, 1965; Shuck, Shuck, Hallam, Mancini & Wells, 1971) and in modeling studies (Larsen, Coleman, Forbes & Johnson, 1972).

There is one additional explanation for the differences between the behavior of males and females exposed to the various models which involves a potential methodological confounding of situational effects. Because the experimenter and receiver were male, a female subject with a male model-observer participated with all males. Female subjects never participated with more than one other female, while male subjects never participated with less than three males (including the subject). In fact, fifty percent of the male subjects participated with all males. The failure to provide a same-sex experimenter and receiver to balance the number of same-sex participants for female subjects may have "built in" sex-of-subject behavior differences. Participation with more opposite sex peers may have increased the female subjects' anxiety and reinforced social expectations of their non-aggressiveness.

The results of the variability data supported the hypothesis that subjects exposed to an inconsistent model would administer shock intensities with greater variabilities than subjects not exposed to a model. Subjects exposed to the consistent model administered shock intensities with less variability than subjects not exposed to a model.

Subjects exposed to the consistent model administered shock intensities with less variability than subjects not exposed to a model. These results support the stimulation hypothesis which suggests that persons exposed to a model act similarly to that model. It is not unreasonable to expect variability to be more susceptable to stimulus characteristics' influence than intensity because variability is less directly associated with socially unacceptable behavior. Variability was not as obvious a measure as intensity. Subjects could easily see the intensity of shock, but there was no indication immediately apparent which would tell the subject the variability of the shocks being given.

The principal finding of the questionnaire material was that the experimental manipulations were effective, suggesting increased validity for the previously discussed material. The data suggest that, overall, the subjects were concerned about administering shock; however, subjects exposed to a model were less concerned than subjects not exposed to a model. This finding is in agreement with previous research (Bandura, 1973; Nelson, Gelfand, & Hartmann, 1969). It is interesting to note that although concerned about administering shock, subjects indicated they liked participating in the study. This suggests that subjects were interested in the study and were, perhaps, more attentive to the instructions and experimental manipulations.

Subjects indicated a belief in extra-sensory perception. This suggests that the cover story was a sound one and may,

additionally, account for the subject's liking their participation in the study. Subjects exposed to the inconsistent model felt ESP was less real than subjects not exposed to a model. It is possible that exposure to the administration of a variety of shock intensities with no improvement in the number of items correctly received made more of an impression on subjects than the consistent level of shock intensities. This is purely speculative, of course, as there can be no definite explanation of this finding.

Subjects indicated a nearly neutral reaction to whether stimulation was an aid or not to the receiver's concentration. There was a slight overall indication that stimulation was not an aid. The sex of model sex of subject interaction showed that similar-sex pairs felt stimulation provided less aid than opposite sex pairs. It is very difficult to explain this result. Perhaps being observed performing a socially undesirable behavior by an opposite sex peer creates more dissonance about the behavior than being observed by a same sex peer. Subjects observed by an opposite sex peer, in order to reduce the dissonance, indicated that stimulation was more of an aid to the receiver's concentration.

Subjects exposed to a model were given two additional questionnaire scales to determine how well they attended to the model and to evaluate the effectiveness of the consistent and inconsistent model. In response to whether the model's shocks were too weak, subjects gave an overall in-

dication that the shocks were too strong. This can be taken as further support for the socially undesirable nature of administering shocks, as subjects found the shocks to be harsh. It also attests to the effectiveness of a model as subjects indicated the shocks were too strong, yet they administered shocks of similar intensity in several of the groups.

Subjects were also asked to indicate whether the model gave shocks which were too much the same or which jumped around too much. The overall mean suggests subjects leaned in the direction of shocks being too much the same. This overall rating would be expected to equal out, as half the subjects responding had the inconsistent model and the other half had the consistent model. As expected, subjects exposed to the inconsistent model felt their model was less consistent than subjects exposed to the consistent model. It is interesting that the mean for subjects exposed to the inconsistent model does not fall on the "inconsistent" extreme of the scale, but rather is nearer the center of the scale. This suggests that subjects saw the consistent behavior as more salient than the inconsistent. It is possible that subjects view inconsistency as appropriate in this form of learning paradigm, and therefore, did not view it as extremely inconsistent.

The conclusions of this study suggest several avenues upon which future research might be directed. It is imperative that further investigation be conducted to examine the

potential differences between males and females exposed to discrepant aggressive cues suggested in this study. Support for the findings in this study might have far reaching implications for two major theories of modeled aggression, those of Bandura and Berkowitz. Berkowitz' view that exposure to an aggressive model results in reduced inhibitions toward engaging in similar behaviors suggests that the inconsistent model, who gave a number of high intensity shocks, should have most effectively reduced subjects' inhibitions toward administering shocks. Male subjects' performance in this study was consistent with the expectations of Berkowitz' theory. Bandura's view that exposure to a model stimulates the observers to perform similar behaviors suggests that consistent performances cues should produce stronger behavior in observers than inconsistent performance cues. Female subjects' performance was consistent with Bandura's theory.

The study designed to investigate sex differences in response to behavioral consistency in a model must avoid the potential methodological problem of this study concerning the sex of other participants in the study. It can not be ruled out that the findings in this study were entirely due to this methodological problem. Future research could examine the differences in behavior following exposure to discrepant aggressive cues with differing numbers of same and opposite sex participants.

This study, as did Foster (1975), examined the effects of model consistency on the subsequent behavior of observers

of that model. Foster (1975) used a preliminary screening test with male subjects to determine subjects who were considered to be predisposed to act aggressively or non-aggressively. A study combining the screening technique used by Foster (1975) and the model consistency and subject sex variables of this study would provide an interesting examination of the potential sex differences in response to an aggressive model. It will eventually be necessary to examine whether this effect occurs with other types of models, such as videotaped presentations, newspaper accounts of violent acts or various forms of radio broadcasts.

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APPENDIXES

APPENDIX A

RELATED RESEARCH ON AGGRESSION

The amount of research on aggression is phenomenal. Limiting this area by examining only the various types and effects of aggressive models still leaves a large area for discussion. Three areas of research which may aid the reader in better understanding the various components of modeled aggression are familial transmission of aggression, aggressive modeling and children, and mass media as aggressive model. These areas, though only briefly covered in the following material, provide research findings concerning other types of models than the live ones used in this study and allow the comparison of similar aggression studies with children.

Familial Transmission of Aggression

It stands to reason that if the social learning theory of aggression and modeling is correct, the first place to test its assertions is in the home. Parents are the primary models for children for a very large part of their lives and virtually all of their young lives. If models act aggressively, the observers will act aggressively, according to this theory. In fact, research suggests that aggressive parents produce aggressive children.

Silver, Dublin, and Lourie (1969) cite a number of case studies supporting the hypothesis that violence breeds violence. Through a long term study of child abuse cases in the District of Columbia, these authors gathered considerable evidence that parents who were child abusers had been

abused themselves. These persons had identified with the aggressor and modeled the behavior which their parents had directed toward them. These authors cite the work of Duncan, Frazier, Litin, Johnson and Barron (1958) and Easson and Steinhilber (1961) who interviewed prisoners convicted of first degree murder and/or murderous attempts. Of six first-degree murder prisoners, four had histories of relentless, remorseless brutality. The other two were overtly psychotic and no history was obtained. Five of eight adolescents indicated or suggested a history of abuse through beating or neglect. In a similar study, McCord, McCord and Zola (1959), as reported in Bandura (1973), found that sons of criminals tended to become criminals, particularly if the father was cruel and neglecting.

Glueck and Glueck (1962) state

> . . . delinquents are to a greater extent than non-delinquents the sons of delinquent fathers, and this means that rearing by a father who is or has been a criminal does indeed have some bearing on the delinquency of his son (p. 107). A far higher proportion of the mothers of the delinquents than of the non-delinquents had a history of anti-social conduct. (p. 109).

Glueck and Glueck (1950) report interview data showing that physical punishment was the favored disciplinary form of nearly two-thirds of the fathers and over one-half of the mothers of delinquent boys as compared to one-third of the parents of nondelinquent boys they had interviewed.

Baron and Walters (1959) report an extensive study in which they found that parents of aggressive boys used signi-

ficantly more physical punishment than parents of nonaggressive boys. This study also indicated that the parents of aggressive boys acted more aggressively toward each other than did parents of nonaggressive boys. Parents of nonaggressive boys made extensive use of reasoning when the boys were capable of understanding than did parents of aggressive children. In short, parents who acted aggressively produced children who acted aggressively.

Aggressive Modeling and Children

Albert Bandura was one of the first active investigators of aggressive modeling and children. Bandura and Huston (1961) showed that children will readily imitate aggressive behavior exhibited by a model in the presence of that model. Bandura, Ross and Ross (1961) demonstrated that children exposed to aggressive models will generalize the aggressive behavior to a new setting in which the model was absent.

Bandura, Ross and Ross (1963a) examined the differential effects of various models, differing in nearness to reality, on the subsequent aggressive behavior of nursery school children. The results indicated that, overall, subjects exposed to a real life model, a human model on film or a cartoon model all produced significantly more aggressive behavior than children who were not exposed to a model. In addition, in measuring only imitative aggressive behavior, subjects exposed to the real life model and the film mediated

models demonstrated more of these aggressive behaviors than control subjects. These data indicate the models not only stimulated known aggressive behaviors in these children, they contributed new aggressive techniques to the children's behavioral repertoire. Because sex of subject and sex of model was varied, it was possible to examine sex differences in aggressive modeling. Boys demonstrated more total aggressive behavior and more imitative aggression than girls. Subjects exposed to the male model expressed significantly more aggressive gun play. The experimenters suggest these results support the view that the influence of models in promoting social learning is determined, in part, by the sex appropriateness of the model's behavior. The implication is that a same sex model, performing behaviors considered sex-typed (doll play for girls, gun play for boys) will result in the observer's imitating more behaviors.

Also examining model characteristics, Hicks (1965) showed that the observation of a model may affect children for a very long time. He exposed children, matched for age and amount of demonstrated physical aggression, to either a male or female adult model, or a male or female peer model who behaved in an aggressive manner. One group of subjects saw no model. After observing the model the children were mildly frustrated and placed in a room full of toys where their behavior was observed and their imitative behavior measured. Six months later the children were asked to recall what they had seen the model do. The results showed that

boys displayed more aggressive imitative behaviors during the experiment and recalled more six months later than did the girls. All of the modeling conditions subjects produced significantly more imitative aggressive behavior than the control condition subjects. Hicks found that during the experiment the peer-male model had the strongest effects on subjects, but from the data obtained six months later, it was found that subjects exposed to the adult-male model remembered significantly more aggressive behaviors than any of the other groups. This effect, however, was a weak one.

In examining the factors involved in the learning and performance of modeled aggression responses, Bandura (1965) asserts that the

> ... acquisition of imitative responses under the [conditions whereby an observer does not perform the model's responses during the process of acquisition, and for which reinforcers are not delivered either to the model or to the observer] appears to be accounted for more adequately by a contiquity theory of observational learning. . . When an observer witnesses a model exhibit a sequence of responses the observer acquires, through contiguous association of sensory events, perceptual and symbolic responses possessing cue properties that are capable of eliciting, at some time after a demonstration, overt responses corresponding to those that have been modeled (p. 590).

To support this hypothesis, that acquisition occurs through contiquity and only performance is affected by reinforcement, Bandura exposed children to a film mediated aggressive model who was either punished, rewarded, or received no consequences for his aggression. After measurement of the children's post exposure behavior, they were all offered incentives for reproducing the model's responses. The behavioral

results, prior to the offering of incentives, showed that children who observed a rewarded model or the model receiving no consequences performed significantly more aggressive behavior than children who observed the punished model. Boys generally showed more aggressive responses than girls. When the children were offered incentives to produce imitative responses the differences in model types was eliminated, but boys still produced more aggressive behaviors than girls. The results support the assertion that reinforcement affects the performance of learned modeled behavior, but not the acquisition of those behaviors. Bandura points out that the sex differences in this study were practically eliminated when incentives were introduced, suggesting these sex differences may reflect differences in willingness to exhibit aggressiveness rather than deficits in learning or masculine-role identification.

In a similar study, Bandura, Ross and Ross (1963b) found that imitation is partly dependent on responses consequences to the model. Additionally they found that the most successful inhibitor of aggressive behavior was a non-aggressive model demonstrating incompatible pro-social behavior with normally aggressive play toys. The experimenters suggest this may be an effective means for producing self-control in children while aversive consequences appear necessary to control more persistent aggressive behavior.

There has been a great deal of discussion concerning the effectiveness of different types of models. Because

many of our children are television oriented, there is a large concern about the amount of behavior a child will attempt to imitate from a television show model. Psychological research has investigated the effects of models varying in degree of reality to examine whether a cartoon model, for example, is as effective in producing imitative aggressive behavior as a live model.

Bandura, Ross and Ross (1963b), discussed earlier, were some of the first experimenters to examine the effects of various types of models. Their subjects, nursery school children observed a live aggressive model, a film of a live aggressive model, an aggressive cartoon cat, no model or a filmed version of a nonaggressive model. All of the models strongly affected the children's subsequent behavior. Specifically it was found that the highest number of imitative aggressive responses came from the children who observed the live model and filmed human model. The nonaggressive model produced the least amount of imitative aggressive behavior - even less than the no model condition subjects. There was no difference among the aggressive models in the amount of total aggressive responses produced by the children. It appears that actual imitation functions on a reality-fantasy model dimension while any type of aggressive model will stimulate aggressive behavior in observing children.

In examining the hypothesis that exposure to realistic violence facilitates aggression through modeling and disinhibition, while fictional violence reduces aggressiveness by

delaying and substituting for action, Feshbach (1972) had children observe a filmed sequence of a campus riot which was presented as either a realistic or fictional event. Another group of children were not presented with a model. The results showed that the realistic set stimulated aggression while the fictional set reduced aggressive behavior, as compared to the film group. The aggressive behavior was the administration of loud sounds to an adult for incorrect answers on a game. These findings are directly contradictory to Bandura, Ross and Ross (1963b) as well as other similar studies (Ellis & Sekyra, 1972; Hapkiewicz & Stond, 1972).

In investigating the application of the frustration-aggression hypothesis to aggressive modeling, Kuhn, Madsen and Becker (1967) have shown that frustration has little effect on the modeling behavior of children, and may even interfere with the learning of modeled behaviors. These experimenters placed nursery school children in one of four conditions: frustration, aggression modeling, aggression modeling followed by frustration, and neutral. One additional group did not receive a pretest measure which was designed to allow the obtainment of an aggressive behavior baseline. The results indicated the aggressive modeling variable alone produced more aggressive behavior. Subjects exposed to frustration did not differ from those who were not frustrated. There were no differences resulting from the interaction of modeling and frustration. The experimenters' observations suggest that children who were frustrated did

not pay as much attention to the modeling as children who were not frustrated. It is possible that frustration interferes with modeling, at least when frustration is defined as delay of expected reinforcement, as it was in this study.

Nelson, Gelfand, and Hartmann (1969) investigated the effects of modeled aggression observation and frustration, produced through participation in competitive games, on the behavior of children. One group of children was exposed to an aggressive model while a second group observed a nonaggressive model. Following this, one third of each group experienced success and one-third failure in a competitive game. The remaining children participated in free play. All subjects were then observed for their aggressive and nonaggressive behavior. Because it was hypothesized that failure in a competitive game was the most frustrating, while success was mildly frustrating due to the thwarted responses prior to the success, the experimenter hypothesized that the failure group subjects would display the most aggression, success group subjects a middle level of aggression and no competition group subjects a low level of aggression. The results generally supported the predictions. Additionally it was found that boys were more aggressive than girls after exposure to the nonaggressive model, but they were equally aggressive after exposure to the aggressive model. Subjects who played competitively were more aggressive than subjects who played noncompetitively. It appears that the effect of frustration on modeling behavior

is dependent on the type of manipulation used to create the frustration.

Mass Media as Aggressive Model

All of this research leads to one conclusion - in the laboratory and certain contrived situations in familiar environments, children are affected by the models they observe, particularly when the model behaves in an aggressive manner. The degree to which they are affected depends upon the modeling situation and the different variables surrounding the model and the observer. The significance of this research lies in that conclusion. Society must be aware of the models it presents because they are apparently the behaviors which children will learn and emit. The need for research which evaluates the components of aggressive models becomes more understandable considering the heavy consequences which unrestricted aggressive modeling through the media might bring. Research in this area could help us better understand what it is in a model's behavior which causes a child to model it and what factors can be introduced which would reduce a child's desire to model that behavior. Some valuable information has already been gathered through this type of research, such as the finding that observing a model being punished for his behavior reduces the probability that a child who observes will emit similar behaviors.

The problem with much of the research on aggressive

modeling and children is that there is no direct proof that these research findings are true of what happens in the real world. In recent years there has been a strong concern about the effects of aggressiveness and violence in television on children. This concern gained momentum when the government began investigating the effects of television violence and has culminated in the recent insertion of the family hour into the major networks scheduling system. Only shows with very limited amounts of violence or aggression were permitted to be viewed during this family hour. A number of studies and books have been written concerning the the effects of violence in television and other media sources on children and adults (for a lengthy review, see Comstock & Rubinstein, 1972).

Stein, Friedrich and Vondracek (1972) found that exposure to televised violence increased interpersonal aggressiveness among children, although the experimenters do not indicate the degree to which the aggressiveness was imitative. Dominic and Greenburg (1972) have shown that higher exposure to TV violence results in children who are more willing to use aggressive behavior, who suggest it more often as a solution to interpersonal conflict, and who view violence as effective. Similar field studies have produced supporting results (Steur, Applefield & Smith, 1971). Other studies have reported various aggressive incidents which were directly imitative. Schramm, Lyle and Parker (1961) report incidents of children who have been apprehended for

writing bad checks, playing sniper with BB guns, sending threatening letters and who have even held injurious switch-blade fights after witnessing similar events on television. This problem is not a new one, however, as Cousins (1949) cites a child who wished to send poison candy to his teacher for giving him a bad report card - an event the child had recently viewed on television. It would seem that the modeling phenomenon of the laboratory is real.

The implementation of a family hour suggests that once the children are in bed, violence in the media is fine, presumably under the assumption that adults are not as susceptible to reproducing a model's behavior or, at least, that adults know better than to be influenced by television programs. The facts suggest a quite different conclusion. Many adolescent gangs have indicated they styled themselves after models seen on various television shows (Cleveland Press, 1961) or carried out crimes that originally were seen on some crime show (Washington Post, 1971). In the book Helter Skelter there is a reference that some of the Manson murders were carried out in hopes of having the police release another member of the "family" because they had seen a show where copycat murders were performed and the police released their suspect because they assumed he was the wrong man (also cited in the San Francisco Chronicle). Following the nationwide presentation of a movie entitled "Doomsday Flight", in which an extortionist used a barometric bomb sensitive to pressure changes to get money from an airline

company, there was a large increase in telephoned bomb threats (New York Times, 1966). When the movie was rerun locally in Anchorage and Sydney, Australia, two airlines received barometric bomb threats. Several other cities have reported similar occurrences (San Francisco Chronicle, 1971b). Berkowitz and McCauley (1972) have shown that news of a sensational crime is usually followed by a sharp rise in criminal violence of a similar nature which grows at an accelerating rate for some time and then tapers off. This finding is similar to the model effect findings of Hicks (1965).

APPENDIX B

WORD LISTS

WORD LISTS

List for Subject	List for Model-Observer
1. Dog	*1. Cat
2. Cat	2. Otter
*3. Bear	3. Pig
4. Elephant	4. Giraffe
5. Lamb	5. Bear
6. Otter	6. Bird
7. Pig	7. Zebra
8. Zebra	*8. Fish
9. Giraffe	9. Raccoon
*10. Fish	10. Dog
11. Bird	11. Lamb
12. Raccoon	12. Elephant

* Words to which receiver responded correctly.

APPENDIX C

INSTRUCTIONS

Subjects will report to a waiting room where a sign requesting quiet will be posted. The two confederates will enter the room, individually, after the subject. The experimenter will arrive and take all three to the experimental room.

In the lab the experimenter will read the following instructions: This study is designed to examine the effects of stimulation on the concentration ability of an individual receiving ESP messages. To accomplish this, I will have two of you serve as message senders and one of you will be the message receiver. I am using two senders for only one receiver because previous research has shown that the senders have to concentrate harder and tire quicker than the receiver. The role you serve will be randomly determined. (Experimenter takes out envelope) In this envelope there are three slips of paper. One slip reads "receiver", one slip reads "sender 1" and the third reads "sender 2". (Actually in the modeling groups all slips will read "sender 2" and in the no modeling groups all slips will read "sender 1". This assures the subject of the appropriate role. The confederates will report they received the other two roles.) You will maintain this role throughout the entire experiment. At this time I must remind you that the form of stimulation to be used in this experiment is electric shock. I want to assure you that, at even its highest intensity, the shock will not cause physical harm. You have the option at this point of leaving the study with full class credit if you so

choose. (Experimenter gets subjects and others decisions, and has them sign a form stating their agreement to participate if they remain. The instructions continue.)

The receiver will be taken to the room next door and attached to the shocking devise. The senders will remain here. During the actual experiment I will remain in the other room so as to avoid disturbing your concentration. You will be able to communicate to the other room by way of this intercom system. Sender 1, your task will be for you to ask the receiver if he is ready. Upon his acknowledgement you will begin concentration on the first word on the list. At the same time Sender 2 will begin timing on the clock, here. If the receiver responds correctly, simply indicate that the response was correct and repeat this procedure for the remaining words on the list. After 10 seconds, if the receiver has not responded or responded incorrectly you, Sender 2, will ring the bell. Sinder 1, if the receiver responds with the incorrect word or does not respond prior to the bell, you are to administer some intensity of shock. As long as you depress the button, the shock will be administered. Following this, tell the receiver the correct word. In a moment I'll show you exactly how to operate the device. After you have administered the stimulant and given the receiver the correct word, continue this procedure for the remaining words on the list. Receiver, you are to acknowledge to the sender that you are ready before each word and attempt to perceive the word which the sender is

concentrating on. At the end of the first list, please call me back into the room. You senders will exchange places at that time and begin a second list with your duties reversed. The timing sender will also have the responsibility of keeping a record of the stimulation intensity. This will provide additional data for our study on the effect of stimulation on the concentration of an ESP receiver.

(Experimenter takes receiver to adjacent room, and shows the senders how to use the shock apparatus. Experiment begins and continues until the model and subject have both given their lists, or, in the no model condition, until the subject has completed his/her list.)

(Continued instructions for model condition subjects, presented after the subject has given his/her list.) At this time I would like you each to fill out a questionnaire. Please indicate your response to each question by placing a mark on the scale which indicates the degree to which you agree with each statement. Please look at the example at the top of the questionnaire. (Experimenter shows correct way to mark questionnaire.)

(Special instructions for no model group subjects, presented after the subject completes his/her list.) Before you exchange places I would like you each to fill out a questionnaire. Please indicate your response to each question by placing a mark on the scale which indicates the degree to which you agree with each statement. Please look at

the example at the top of the questionnaire. (Experimenter shows correct way to mark questionnaire.)

APPENDIX D

POST-EXPERIMENTAL QUESTIONNAIRE

EXAMPLE: Indicate the degree to which you like ice cream

love it ___/_____ hate it

1. Indicate the degree of concern you had about shocking the other subject

   not concerned at all _____ very concerned

2. Indicate the degree to which you liked participating in this study

   did not like it _____ liked it very much

3. Indicate the degree to which you believe ESP is a real phenomena

   definitely real _____ not real at all

4. Indicate the amount of aid you feel punishment gave the receiver's concentration

   very much aid _____ no aid at all

The following statements appeared on the model condition subjects' forms only:

5. Indicate your opinion of the other senders shocks

   a. too strong _____ too weak

   b. too many the same _____ jumped around too much

(The actual form had all answer continuums in the same location and each were exactly 6.5 centimeters long.)

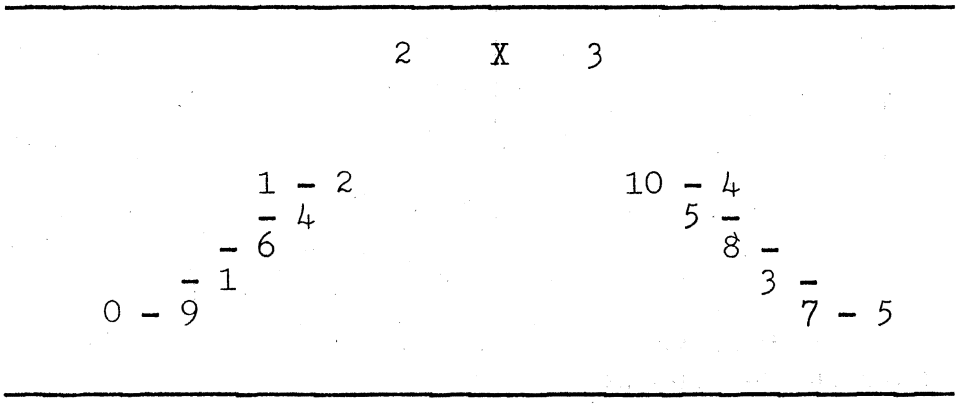
APPENDIX E

SHOCK INTENSITY DATA

Shock Intensities Presented by the Models

To appear completely inconsistent, the inconsistent model presented shocks to the receiver which randomly varied in intensity; however, in order that the means of the inconsistent model's shock intensities are equal to those of the consistent model, the intensities were counterbalanced, as shown below.

The diagram below represents the intensity gauge on the front of the shocking apparatus. The five low intensity shocks were limited to the lower 20% of the dial and the high intensity shocks were limited to the upper 20% of the dial. The numbers represent the actual order (determined randomly prior to the experiment) in which the inconsistent model presented the shocks. The X represents the intensity level at which the consistent model presented all 10 shocks.



VITA[2]

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