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Gender Differences in Perceiving Aggression Using the Bobo Doll Studies

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The general conclusion of Albert Bandura’s Bobo Doll studies was that the children learned aggression through watching an adult hit an inflatable doll. Other researchers have questioned whether the behavior demonstrated in these studies was actual aggression or just simply imitation. This study examined the perceptions of male and female observers when viewing original footage of the Bobo Doll Studies, specifically if the observers interpreted the child’s behavior as aggression or simply imitation and if the sex of the observer or sex of the child in the video affected these ratings. The participants completed both a Likert scale rating of aggression and imitation as well as a qualitative questionnaire with open-ended questions about what they observed in the films.

Introduction

Aggression or Simple Imitation

It is commonly accepted that children imitate their parents’ behavior, and this is, initially, one way in which they may learn. When children exhibit aggressive-like behavior they have observed, how do we know if the children’s behavior is actually aggressive with an intent to do harm or just simply imitation? In 1961, Albert Bandura, Dorothea Ross and Sheila Ross conducted an experiment to see if children would learn aggressive behavior from being exposed to an aggressive adult model. Their hypothesis was that subjects exposed to aggressive models would reproduce aggressive acts resembling those of their models and would differ in this respect both from subjects who observed non-aggressive models and from those who had no prior exposure to any models.

Bandura et al. (1961) tested 36 boys and 36 girls between 37 to 69 months of age. The subjects were rated on four, five-point rating scales by the experimenter and a nursery school teacher, both of whom were well acquainted with the children. These scales measured the extent to which subjects displayed physical aggression, verbal aggression, aggression toward inanimate objects, and aggressive inhibition. In Stage 1, subjects were divided into eight groups of six subjects and a control group of 24 subjects. Half of the experimental subjects viewed aggressive models in a film being violent toward a Bobo doll, and half viewed subdued and non-aggressive models. These groups were further subdivided into male and female subjects in that half the subjects in the aggressive and non-aggressive conditions viewed same-sex models, while the rest of the...
subjects in each group viewed models of the opposite sex. In Stage 2 of the study, the child was then taken to the next room. In this room, there were many toys and the children immediately began playing with the toys. However, in order to frustrate the children, they were told that these toys were for other children and that they could not play with them. The children were then led into a third room. In this room there was a variety of both non-aggressive and aggressive toys. The child was kept in this room for 20 minutes during which time their behavior was observed by experimenters through a one-way mirror. The observers evaluated the subject based on various measures of aggressive behavior including: the exact type of behavior, the frequency of aggression, and who or what the aggression was directed towards.

Bandura stated that the majority of the children learned aggression through observing the aggressive adult model. In careful scrutiny of the Bobo Doll Studies, it seems like the children were hitting, punching and kicking the doll almost exactly like the adults were, with almost the same exact movements. Young children are more likely to imitate the manner of an action (e.g., to use the same movement trajectory or the same hand as the model had) when the action is executed for no apparent reason than when there is an obvious external goal to the model’s action (Bekkering, Wohlschlager, & Gattis, 2000). The children seemed to be playing with the toy the way the adults just showed them how to play with the toy. Imitation is an effective mechanism for novices to learn object-related skills, particularly when they do not know beforehand what an object is for and cannot understand through insight how a toy or a tool physically works (Brugger, Lariviere & Mumme et al., 2007).

Danish and Russell (2007) have theorized that a child may imitate behavior simply to replicate the outcome. If an action that an adult did looks interesting to a child, the child will imitate it to bring upon the same result, not necessarily regarding the intentions of a model. Russell and Thompson (2004) further found that the observer’s attention is drawn to a particular object or part of an object by the activity of the demonstrator. If applied to the Bobo Doll Studies, the children saw the inflatable doll flying around the room and it looked like fun. The actions and words of the adults needed to be repeated or imitated to bring about this same scenario. It is probable that the children did not consider that they were hurting the toy.

Over the years, researchers have found that children will imitate what they see immediately following exposure to aggressive behavior (Friedrich-Cofer & Huston, 1986; Berkowitz, 1984). Geen and Thomas (1986) found that viewing violence can increase the level of aggression in children, but the increase seemed to be short-lived. They explain this effect as a momentary increase in arousal, the disinhibition of behavior during a temporary state of anger, or the re-creation of aggressive ideas and emotions by associated ideas presented in the media for a brief period of time.

There have been a couple other researchers who have questioned whether the children in the Bobo Doll Studies actually learned to be aggressive, or were simply imitating what they saw. It is possible that the children may not have acted aggressively if they had not been frustrated. In an exploratory study examining the effects of watching an aggressive video, Buwalda (2002) stated that the children in Bandura’s study were exposed to a frustrating condition following video exposure, which may have increased their probability of displaying aggressive acts. In Buwalda’s study, children were shown a four-minute video of aggressive behavior. In this video, a teddy bear was hit, poked, and stabbed with a wrapping paper roll. The findings showed that when testing the children both immediately and one week after seeing the video, the children did not display any aggressive behaviors. One major difference between Buwalda’s study and Bandura’s study is that the children were not deliberately frustrated.

Joseph, Kane, Nacci, and Tedeschi (1977) believed the children’s behavior in the Bobo Doll Studies was inappropriately labeled as aggressive. They theorized that the typical
typical definition of aggression includes intent to harm or actual harm done to an object, as is also noted by Brown and Tedeschi (1976). Joseph et al. (1977) further point out that in Bandura’s study it was not mentioned that either the children or the adult models actually caused damage to the plastic clown. They believe it is unlikely that the children wanted to or thought they would damage the Bobo doll, and therefore, their behavior should not be labeled as aggression.

Joseph et al. (1977) conducted two studies to support their argument. In the first experiment, 26 male and 30 female college students each read one of four descriptions of Bandura’s experimental conditions: 1) the model played nicely with toys and the child later played nicely with toys, 2) the model played nicely with toys and the child later hit the Bobo doll, 3) the model hit the Bobo doll and the child later played nicely with toys, 4) the model hit the Bobo doll and the child later hit the Bobo doll. The college students were then asked to rate the behavior of the model and the child. It was found that the child who hit the Bobo doll was not rated to be aggressive in the scenario in which the model’s behavior was hitting the Bobo doll, but the participants did rate the child who hit the Bobo doll as aggressive in the scenario in which the model’s behavior was playing nicely with toys.

In their follow-up study, Joseph et al. (1977) had 52 female college students read similar scenarios and completed similar ratings as in the first study. However, in this second study the participants were asked additional questions including: “1) How much do you think the adult in the television film influenced the child’s subsequent behavior? 2) Do you think that the child would have engaged in the same behavior if he had not first seen the adult in the film? 3) Do you think the child believed that it was appropriate to behave as the adult had? 4) Do you think the child believed his behavior would be rewarded or punished?” The findings of their first study were confirmed. It was also found that the participants believed the adult model had strongly affected the child’s behavior, and they thought the child probably would not have engaged in the behavior in the absence of the model’s example. The child was believed to consider it appropriate to imitate the model and was thought to be expecting a reward for imitating the model. Therefore, in our study, it was predicted that some of the participants would rate the children in the Bobo Doll Studies as simply imitating the model and not as exhibiting actual aggression.

**Gender Differences in Perceiving Aggression**

The literature on social perception has indicated that the same behavior may be perceived and interpreted quite differently by different perceivers. Studies of observational methods have found that trained observers using global behavioral ratings are influenced by their personal expectations and biases (Hudley, Wakefield, Britsch, Cho, Smith, & DeMoray, 2001). Research on perception of aggression, specifically, has found that when the gender of the aggressor is unclear as set up in the experimental procedure, both male and female children assume the aggressor is male (Kirsh, 1999).

In a study of adult observers in which the gender of children in drawings was given, it was found that both male and female observers reported seeing more aggression in the figures that were labeled as boys in cases where there were a group of children in the drawing. In the alternative case where there were only two focal children in the drawing, males rated the boys as significantly more aggressive than the girls, but there was no bias found in the female observers’ ratings of aggression (Lyons & Serbin, 1986).

A meta-analysis by Eagly and Steffen (1986) on adult gender differences in aggression indicated that men engage in more aggressive behavior than women. Similar results have been found in meta-analyses by Maccoby and Jacklin (1980) and Hyde (1986) on gender differences in child aggression. Maccoby and Jacklin (1980) emphasized biological influences as an explanation for the results along with the mention of social cognitions that govern what is considered to be gender appropriate behavior. A more recent
study by Harris (1995) examined male and female college students' beliefs about the appropriateness of using aggression in certain situations. It was found that males were more likely to engage in aggressive behavior themselves and to support the aggressive behavior of another person.

Our study was based on the Joseph et al. (1977) study, but focused on gender differences in the perception of the aggression. Eighty-eight college students, approximately 26 men and 62 women, were shown original footage of a female model and then either a male child or a female child from the Bobo Doll studies. After this, they completed a questionnaire about what they observed in the films. The purpose was to determine if the sex of the observer and sex of the child in the video would affect whether or not the child was rated as being aggressive or simply imitative.

The hypotheses of our study were: 1) Male college students would rate the children as more aggressive than imitative. 2) Male college students would rate the boy as more aggressive than the girl. 3) Female college students would rate the children as more imitative than aggressive. 4) Female college students would rate the girl as more imitative than the boy.

Method

Participants

The 88 college students who participated experienced one of the four conditions in the study: 1) males who saw the girl child (n =13); 2) males who saw the boy child (n =13); 3) females who saw the girl child (n =39); 4) females who saw the boy child (n =23). The participants ranged from 18 to 50 years of age, with most of the participants falling between 19 and 22 years of age. Participants were 75% White, 8.0% Black, 6.8% Latino, 5.7% Asian, and the remaining 4.5% were spread among West Indian, Middle Eastern, and Other.

Measures and Apparatus

Video Clips. The video clips were original footage from the Bobo Doll studies. Bandura replied to the researcher's email request for the full original footage by indicating that it had been destroyed. However, Houghton Mifflin Publishing Company produces a VHS tape with various segments related to social psychology and one of the segments contains original footage from the Bobo Doll studies. Approximately half of the participants viewed a 30-second clip of a female model hitting the Bobo doll and a one-minute clip of a male child later hitting the Bobo doll. The other half of the participants viewed the same 30-second clip of a female model hitting the Bobo doll and a one-minute clip of a female child later hitting the Bobo doll. All of the clips were silent.

Demographic Survey. The participants were asked their sex, age, ethnicity, if they had ever seen a video clip like this before, if they had ever taken a psychology class, and if they had children. We saw these as being either variables of interest, or in some cases, potentially confounding in their effects on the dependent variables.

The Perception of Aggression and Imitation Scale. The participants' observations were assessed using a Likert scale with ratings range from 1 thru 7 (1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=neither, 5=somewhat agree, 6=agree, 7=strongly agree) measuring the two dependent variables: perceived aggression and imitation. This scale was comprised of 10 items (some of which were reverse scored).

The Imitation Subscale consisted of the following questions: “The child was simply imitating the adult.”; “The child just wanted to act like the adult.”; “Because the child had seen the adult act a certain way with the doll, the child thought it was just for fun to hit the doll.”; “The child did not want to hurt the doll.”; “The child was not imitating the adult.”

The Aggression Subscale consisted of the following questions: “The child is an aggressive child in general.”; “It did not matter how the adult acted, the child would have hit the doll no matter how the adult played in front of him/her.”; “The child wanted to hurt the doll.”; “The child wanted to cause damage to the doll.”; “The child is not an aggressive child in general.” This scale was developed for this study by careful review of the literature related to the topic, which provided
evidence of its face validity. The internal reliability of the scale was assessed using a split-half method. For both subscales, a strong positive correlation was found between the items (Imitation: Guttman split-half coefficient = .75; Aggression: Guttman split-half coefficient = .78). Based on these correlation analyses, the Perception of Aggression and Imitation Scale was deemed to be internally reliable. In addition, the imitation and aggression subscales were not correlated ($r = .066, p = .544$), which indicates that the two subscales were measuring different variables.

The Perception of Aggression and Imitation Observation Form. Participants were also asked to answer three open-ended questions “1) How do you feel about the child’s behavior? 2) Why do you think the child behaved the way they did? 3) How did you feel about the adult woman’s behavior?”

Procedure
The college students were recruited by asking psychology professors to announce this study as an opportunity for extra credit in classes. It is important to note that the psychology courses were carefully chosen so that at the time of participation, the professor had not yet gone over the Bobo Doll studies. However, it is assumed that the participants who had previously taken other psychology courses may have already been exposed in some manner to the Bobo Doll Studies. According to the answers given by the participants on the Demographic Survey, 25 participants said they had seen a video like this one previously which was 27% of the participants. Participants completed informed consent, and then viewed the video in a large classroom on a large automatic roll-down screen from an overhead projector to ensure that all participants had no trouble viewing the video. They then completed the demographic questionnaire, likert scale, and open-ended items.

Results
A MANOVA was conducted to reveal any significant differences among the four groups 1) males who saw the girl child, 2) males who saw the boy child, 3) females who saw the girl child 4) females who saw the boy child on the two dependent variables- aggression and imitation ratings, Wilks = .903, $F(2,83) = 4.437$, $p<.05$, multivariate = .097. The results did not reveal significant differences between any of the four groups on the aggression subscale. However, it did reveal significant differences between how the male and female participants rated the boy vs. girl in the video on the imitation subscale, $F = (1,84) 7.69$, $p = .007$, partial = .084. Male participants rated the girl in the video as more imitative than the boy in the video, and female participants rated the boy in the video as more imitative.

See Table 1 for the Means and Standard Deviations among the four groups on both subscales.

A second MANOVA was conducted to determine whether or not there may be significant differences in how the participants with children (n = 7) versus the participants without children (n = 81) rated the children on the aggression and imitation subscales, Wilks $\bar{E} = .890$, $F(2, 85) = 5.277$, $p<.05$, multivariate $K^{2} = .110$. The results did not reveal significant differences on the aggression subscale. However, it did reveal significant differences on the imitation subscale, $F(1,86) = 7.324$, $p = .008$, partial $K^{2} = .078$. Participants who did not have children rated the children in the videos behavior as more imitative ($M = 25.54$, $SD=4.05$) than the participants who had children ($M = 21.14$, $SD=5.05$).

A third MANOVA was conducted to determine whether or not there may be significant differences in the ratings of the participants who reported to have seen the video (n = 24) before versus those who said they had not (n = 64), Wilks’ $\bar{E} = .927$, $F(2,85) = 3.350$, $p<.05$, multivariate $K^{2} = .073$. The results did not reveal significant differences on the aggression subscale. However, it did reveal significant differences on the imitation subscale, $F(1,86) = 6.057$, $p = .016$, partial $K^{2} = .066$. Participants who had seen the video before rated the children as less imitative ($M = 19.04$, $SD=4.05$).
than those participants who reported to not have the video previously (M = 23.03, SD=7.01).

As for the qualitative analyses of the open-ended questions, 23 to 38 percent of all the participants described the adult model’s behavior as “playful”. Only eight to 36% of all of the participants described the model as “aggressive.” Twenty-three percent of the male participants felt that the boy child’s behavior was “only playing,” but only 6% of the female participants agreed. In addition, 21% of the male participants also felt that the girl child’s behavior was also “only playing” but only 13% of the female participants felt the same.

When asked why they thought the child behaved the way they did, over half of the male and female participants stated that both the boy child and the girl child were imitating the adult’s behavior with percentages ranging from 53% to 66% with quotes such as, “She saw the adult doing it, and she was simply playing with the doll.” and “Since the woman was doing the same thing, she felt it was OK to act like an adult.” Only 10% of the females thought the boy in the video learned aggressive behavior, and only 11% of the males thought the boy learned aggressive behavior, and 0% of both the male and female participants stated that the girl had learned aggressive behavior from watching the model in the video. Only 0% to 4% of the male and female observers indicated that the child was deliberately trying to hurt the doll.

Discussion
In this study, we purposefully separated male and female observations of male and female children from the Bobo Doll Studies. This study did not measure whether the children acted aggressively, or imitatively. This study examined the perceptions of male and female observers when viewing the children in a video, and if the observers viewed the behavior as aggressive or imitative. Most researchers agree that children will often imitate what they see if given the opportunity to imitate the behavior immediately after they observed the behavior 

(Friedrich-Cofer & Huston, 1986). In the Bobo Doll Studies, the children who observed a model acting aggressive-like, were purposely frustrated, then immediately given the same tools to imitate the behavior. In a subsequent study, it was shown that children who were not frustrated did not demonstrate the modeled aggressive-like behavior (Buwalda, 2003).

Only 3% of the female participants who watched the boy video and only 4% of the females who watched the girl video thought the children were angry or frustrated. Similarly, none of the male participants described either the boy or the girl as being angry or frustrated. These participants were not told that the children they saw in the videos had been frustrated by being told they could not play with toys at first. Since the participants did not know the children had been frustrated, they did not think the children’s behavior had been influenced by anything other than just the adult model in the video, which may be why the majority of them felt the children’s behavior was mostly imitation, and not learned aggression. It is possible that since the observers in Bandura’s original studies did know that the children had been frustrated, this may have made them more likely to attribute the children’s behavior as “aggression.”

The main MANOVA results of this study were that the male participants rated the girl in the video as more imitative than the boy in the video, and female participants rated the boy in the video more imitative, while there were not significant differences found on the rating of aggression. This is not the result we expected on the imitation subscale. We expected that the female observers would see the children’s behavior as more imitative than the male observers. It appears that the observers perceived more imitation in the child who was of the opposite sex. There are no previous studies to our knowledge investigating gender differences in perceived imitation.

Even though the results of the aggression subscale did not support our original hypothesis, it is possible that our results may be confounded by individual variations in how strictly a male or
female observer has internalized gender stereotypes. For example, in a study by Susser and Keating (1990), it was found that adults who were identified as being "sex-typed" through a separate measure evaluating androgynous versus sex-typed characteristics, perceived more intent on the part of boys than girls when viewing video-tapes scenes of children engaging in aggressive interactions. They also endorsed stronger reprimands for the boys than the girls. Participants who scored in the androgynous range perceived similar levels of intent and endorsed similar levels of punishment for the boys and girls in the video-taped scenes.

In support of the findings in our study, we later found a study by Schiff et al. (1980) that found no gender differences in the perception of simple aggressive acts in both cartoons and films of actual people. Stewart-Williams (2002) also found that participants of both sexes viewing an aggressive vignette saw the act as equally aggressive regardless of the sex of the aggressor. Another study by Ostrov, Crick, and Keating (1995) similarly found no gender differences in the male and female observers who were asked to code both the physical and verbal aggression of preschoolers.

As for the findings of the second MANOVA, the difference in the perception of aggression between participants who have children or do not have children is attributed to the fact that participants who have children are more familiar with how children play and realize that what may look aggressive and rough may actually be just playing or imitating another child or adult who they believed is also playing, but not doing harm. However, since there were only seven participants with children, further studies should be conducted with more equal numbers of participants with and without children in order to obtain more valid results.

Condry and Ross (1985), in their study of the influence of a gender label on the perception of aggression in children, found that the participants' experience with children made a significant difference in what they perceived. All participants watched the same video of preschool children playing roughly in the snow in snowsuits that disguised any gender identifying details. Only the label given to the children's gender changed within the conditions. Whether or not the observers had experience with children had the greatest effect on how aggressive the participants labeled the children's behavior such that those participants with the least experience with children seemed to be the most objective observers, not varying in their evaluation of level of aggression based on the label given to the children's gender.

In reflecting on the results of the third MANOVA, it would seem that participants who had previously seen the video clips of the Bobo Doll Studies or pictures of it in a textbook would be familiar with the premise and conclusions of the original studies and would have indicated that the children had learned aggression from watching the adult model. However, no significant differences on the aggression subscale were found, and the participants who had seen the video previously actually rated the children as less imitative. This is completely contradictory to what we would have expected, and it seems to reflect the participants' apparent lack of accurate knowledge regarding the Bobo Doll studies.

The qualitative findings seem to contradict the perceptions of the observers in the Bobo Doll Studies. Only about 10-11% of the participants described the boy as aggressive, and none of the participants described the girl as aggressive. The majority of the participants did not even describe the adult model as being aggressive. Over half of the participants described the children as demonstrating simple imitation.

Our study has several limitations. First, the only original video clip available of the model was that of a female model engaging in the "aggressive modeling" and not the "non-aggressive play". It would have been a more comprehensive research design to also include the "non-aggressive play" scenario, as Joseph et al. did (1977), as well as the male model engaging in both scenarios. Second, the sample of participants obtained was one of convenience. It
was not randomly chosen from the larger population of psychology courses. There also was an unequal number of female participants to male participants. However, given the population of females to males in many psychology departments, the numbers were a true representation of the sex of students. Another limitation of the study is that some of the students were already familiar with the Bobo Doll Studies and this may have influenced their ratings and responses.

Third, it is also important to keep in mind that the original Bobo Doll Studies took place nearly 50 years ago. It is more than likely that perceptions of aggression have changed since then and that what is considered to be “aggression” today may be more extreme forms of aggression than the actions demonstrated by the children in the Bobo Doll studies.

Suggestions for future research include obtaining a larger sample of males, and participants from more than one age group in order to determine if there may be differences based on the age of the participant. Most of the participants in this sample were between 19-22 years old. It would also be interesting to have the participants view children of different ages to determine if this may affect the ratings of aggression and imitation. If we were to conduct this particular study again, we would compare a group of participants who would be told that the children were frustrated and a second group who would not be told that the children were frustrated in order to determine if this knowledge affects the ratings of aggression and imitation. None of the participants in this study were told that the children had been purposely frustrated in the Bobo Doll Studies.

References


