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Influence of Gender Constancy and Social Power on Sex-Linked Modeling

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Competing predictions derived from cognitive–developmental theory and social learning theory concerning sex-linked modeling were tested. In cognitive–developmental theory, gender constancy is considered a necessary prerequisite for the emulation of same-sex models, whereas according to social learning theory, sex-role development is promoted through a vast system of social influences with modeling serving as a major conveyor of sex role information. In accord with social learning theory, even children at a lower level of gender conception emulated same-sex models in preference to opposite-sex ones. Level of gender constancy was associated with higher emulation of both male and female models rather than operating as a selective determinant of modeling. This finding corroborates modeling as a basic mechanism in the sex-typing process. In a second experiment we explored the limits of same-sex modeling by pitting social power against the force of collective modeling of different patterns of behavior by male and female models. Social power over activities and rewarding resources produced cross-sex modeling in boys, but not in girls. This unexpected pattern of cross-sex modeling is explained by the differential sex-typing pressures that exist for boys and girls and socialization experiences that heighten the attractiveness of social power for boys.

Most theories of sex role development assign a major role to modeling as a basic mechanism of sex role learning (Bandura, 1969; Kagan, 1964; Mischel, 1970; Sears, Rau & Alpert, 1965). Maccoby and Jacklin (1974) have questioned whether social practices or modeling processes are influential in the development of sex-linked roles. They point to findings that in laboratory situations children do not consistently pattern their behavior after same-sex models. However, these studies typically include only one model of each sex. In a recent series of studies, Bussey and Perry (1982; Perry & Bussey, 1979) have used multiple modeling as more closely related to how modeling influences operate in everyday life. When exposed to multiple models the propensity of children to pattern their performances after same-sex models increases as the percentage of same-sex models displaying the same preferences increases.

The preceding research lends support to the view that same-sex modeling can promote same-sex differentiated patterns of behavior. It remains an open question, however, concerning the extent to which modeling plays an important role in the development of sex-typed behavior in younger children. Models may simply serve to activate the already developed sex-typedness of children.

Cognitive–developmental theory holds that sex typing is simply one outgrowth of children's cognitive development. From this viewpoint, the most important consideration of the child's sex role development is the

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child's cognitive capacity. According to Kohlberg (1966), it is not until about age six that a child understands that a person's gender remains constant regardless of appearance changes. Recognition of gender constancy is achieved during the same stage in which Piagetian conservation is attained. After children achieve a clear conception of themselves as a "boy" or "girl," they automatically value and strive to behave in ways appropriate for their sex. Therefore, in this view, it is as a result of having attained the concept of gender constancy that children will seek behavior appropriate for their own sex. Furthermore, consistency between the child's gender, self-categorization, and appropriate behaviors and values is thought to sustain the child's self-esteem. Sex-typed behavior is considered to be motivated by the child's desire to behave in a way consistent with his or her sexual label.

According to cognitive–developmental theory, children imitate same-sex models because they perceive them as similar to themselves. Such selective imitation fosters emotional ties to same-sex models. Children's differentiation of gender roles and their perception of themselves as more similar to same-sex models precedes, rather than follows, identification. That is, sex typing is not viewed as a product of identification, but rather as an antecedent of it.

One of the problems for Kohlberg's (1966) theory has been that children show preferences for sex-typed objects earlier than gender constancy normally develops (Maccoby & Jacklin, 1974). Although stable gender identity is not attained until about 4 to 6 years of age, Thompson (1975) found that 24-month-olds did quite well when asked to sort pictures of feminine and masculine toys, articles of clothing, tools, and appliances in terms of their stereotypical sex relatedness.

Social learning theorists (Bandura, 1969; Mischel, 1966, 1970) view sex role development as promoted through a vast system of social influences. These involve differential gender labeling and the structuring of activities in ways that teach the sex roles traditionally favored by the culture. Modeling serves as a major conveyor of sex role information (Bandura, in press). Children are continuously exposed to models of sex-typed behavior in the home, in schools, and in televised representations of society. On the basis of these multiple sources of sex role information, young children learn the behaviors appropriate for their own sex. Social sanctions make outcomes partly dependent on the sex-appropriateness of actions. Observed consequences to others also convey role knowledge. On the basis of direct and vicarious experiences, children learn to use sex-typing information as a guide for action. Other things being equal, children are, therefore, more inclined to pattern their behavior after a same-sex model than an opposite-sex model.

Kohlberg (1966) postulates attainment of gender constancy as a necessary prerequisite for children's identification with same-sex models. Social learning theorists, however, view gender constancy as a product rather than an antecedent of the emulation of same-sex models. To explore these contrasting predictions, we selected children for study on the basis of their level of gender constancy as measured by the procedure devised by Slaby and Frey (1975). This measure distinguishes between gender identity (knowledge of self and other's gender), gender stability (knowledge that gender remains invariant across time), and gender consistency (knowledge that gender remains invariant across situations). Children at three levels of gender constancy were selected: low, medium, and high. Those in the low group had not achieved gender identity. The medium gender constancy group had attained gender identity, but neither gender stability nor consistency. Finally, the high group had attained both gender identity and gender stability and some displayed gender consistency as well. Children from these three levels of gender constancy were exposed to multiple male and female models exhibiting differential patterns of behavior, whereupon the children's acquisition and spontaneous emulation of the modeled patterns was measured.

Experiment 1

Method

Subjects. Subjects were 18 boys and 18 girls enrolled in the Stanford University Nursery School. They ranged in age from 29 to 68 months, with mean age of 44.5 months. Models were three men and three women, all of whom had prior acting experience. Two female experimenters conducted the study.

Design. The subjects were assigned randomly to a modeling group and a control group of 18 subjects each. Within each group, equal numbers of boys and girls were selected as either low, medium, or high on the Slaby and Frey (1975) gender constancy interview.

Assessment of gender constancy. The tester administered the gender constancy interview (Slaby & Frey, 1975) to each child individually. On the basis of the children's responses, equal numbers of boys and girls were selected at the low, medium, and high levels of gender constancy.

Sex-linked modeling. Approximately 3 days after the test of sex constancy, the same experimenter brought each child individually to the experimental room and asked the child if he or she wanted to watch television. The child was seated in front of the television set and the experimenter sat in front of and with her back to the child. This seating arrangement prevented the experimenter from inadvertently communicating to the child any reactions to the modeled displays. Half of the children saw a modeling videotape and the other half a cartoon; both were in color. The modeling display depicted three men and three women playing a game, *Find the Surprise,* in which all the men exhibited the same behavior patterns but differed from the women, who also acted like each other.

Two modeling tapes were produced to counterbalance sex of models and the set of behaviors they modeled. For the second videotape, the men and women displayed the set of behaviors and verbalizations performed by the opposite-sex models in the first tape. Half the subjects in the modeling condition saw one videotape and the remainder saw the other one. The modeling display opened with a woman inviting three men and three women seated on chairs beside her to play a game, *Find the Surprise.* She explained that she would hide a picture sticker in one of two boxes and the object of the game was to guess which box contained the sticker. They would take turns playing this guessing game. The sticker game served as a cover task for modeling a varied array of stylistic behaviors, preferences, and novel utterances.

The models were then invited to select a "thinking cap." All the men chose a green Mickey Mouse cap and placed it with the Mickey Mouse photograph to the front of their head. The women chose a blue Mickey Mouse cap and placed the cap on their head with the Mickey Mouse photograph to the back. The experimenter then hid the picture sticker in one of the two boxes. Each model individually had a chance to find a sticker. When a female model approached one of the boxes she said, "Forward march," and began marching slowly towards Box A repeating, "March, march, march." When she reached Box A she said, "Jump, jump," as she made a koala bear jump from the lid of the box. She opened the box and exclaimed, "Bingo," took the sticker from the box and walked to the paper hanging on the wall behind the boxes and said, "Lickit-stickit," as she pressed the picture sticker with her thumb, in the upper-right quadrant of the paper, with the comment "Up there." She then placed the koala bear on the lid of the box facing sideways and said, "Look at the door," walked back to her chair with her arms folded and said, "There." Each female model displayed the same patterns of behavior.

The men in their turn each stood up and said, "Get set, go," and walked stiffly towards the boxes repeating, "Left, right, left, right." When the male model reached Box B he said, "Fly, fly" as he made the koala bear fly from the lid of the box. He opened the box and exclaimed, "A stickeroo," took the sticker from the box and walked to the paper hanging on the wall behind the boxes and said, "Weto-smacko" as he slapped the picture sticker with his open hand, in the lower left quadrant of the paper, and said, "Down there." He then placed the koala bear on the lid of the box and said, "Lay down," and walked back to his chair with his hands behind his back and sat down with the comment, "That's it."

At the completion of the game, the male models said, "Off with think caps," walked to Box A and placed their hats inside the box and said, "In there." The female models said, "No more think caps," walked to Box B and placed their hats on top of the box and said, "On top." Each model exhibited the appropriate behavior pattern twice. In the other version of the modeling videotape, the behavior patterns of the male and female models were reversed.

Test for modeled behavior. The modeling videotape and cartoon were of approximately 11 min duration. After the two sets of models had selected their Mickey Mouse caps, the experimenter turned off the television and informed the child that another woman at the nursery school was playing a game with children. The experimenter returned with the second experimenter who was unaware of the experimental condition to which the children were assigned. The first experimenter exited and the second experimenter asked the child to select a Mickey Mouse cap. The children were free to perform any or none of the behaviors they had seen modeled in the videotape.

After the test for modeled behavior, the first experimenter showed the children a further segment of the videotape in which the two sets of models had a chance to find a sticker. The first experimenter exited again and the second experimenter administered seven trials on the sticker task. The children then watched the remainder of the videotape, after which they performed the sticker task for a further eight trials. A picture sticker was hidden 12 out of the total 15 trials for each child. Children in the control condition were exposed to the cartoon for the same length of time as children in the modeling condition. The same procedure of interspersing tests for imitation between segments of television viewing was also used. Televised exposure and test trials were interspersed to sustain children's attention.

The child's spontaneous imitative behavior was recorded by an observer who watched the test sessions through a one-way mirror. The observer was provided with a checklist of responses exhibited by the models in the videotape and the observer simply checked any of the responses performed by each child on each trial. The observer was unaware of the child's experimental assignment. A second observer independently scored the performance of five children. The product–moment correlation ($r = .99$) revealed virtually perfect interrater agreement.

Acquisition test. Children in the modeling condition were administered a test of acquisition at the conclusion of the experiment. They were asked to demonstrate how the men and women behaved. The order in which they reenacted the behavior of each sex was counterbalanced. Standard prompts were used to direct the children's attention to different aspects of the modeled events. For example, the experimenter asked, "How did the boys (girls) walk to the box?" Following the acquisition test, the children responded to questions designed to check the effectiveness of the experimental manipulations.

Results

Modeled behavior. A 2 × 3 × 2 × 2 (Sex of Subject × Level of Gender Constancy: High, Medium, Low × Condition: Modeling, Control × Sex of Models/Within-Subjects Factor) analysis of variance (ANOVA) was performed on the scores for modeled behavior. These scores were obtained by summing the frequency of the stylistic responses (postural, verbal, and motor) and preferences that matched those of either the male or female models. This analysis yielded a significant main effect for gender constancy level, $F(2, 24) = 3.41$, $p < .05$. Children of low gender constancy reproduced fewer of the modeled behaviors than children of either medium gender constancy, $t(24) = 2.48$, $p < .05$, or high gender constancy, $t(24) = 1.97$, $p < .06$, who did not differ from each other. The main effect for modeling is also significant, $F(1, 24) = 49.40$, $p < .0001$. Children exposed to modeling performed substantially more of the behaviors exemplified by the models than children in the control condition.

A significant interaction emerged between sex of model and sex of subject, $F(1, 24) = 11.22$, $p < .005$. This interaction was qualified, however, by a three-way interaction involving sex of model, sex of subject, and condition, $F(1, 24) = 16.20$, $p < .0005$. This interaction is depicted graphically in Figure 1. We examined the nature of this interaction by performing t tests on the subgroup means. In the modeling condition, boys spontaneously performed those behaviors displayed by the male models in preference to those displayed by the female models, $t(24) = 5.06$, $p < .001$, and conversely the girls spontaneously performed behaviors exhibited by the female models over those displayed by the

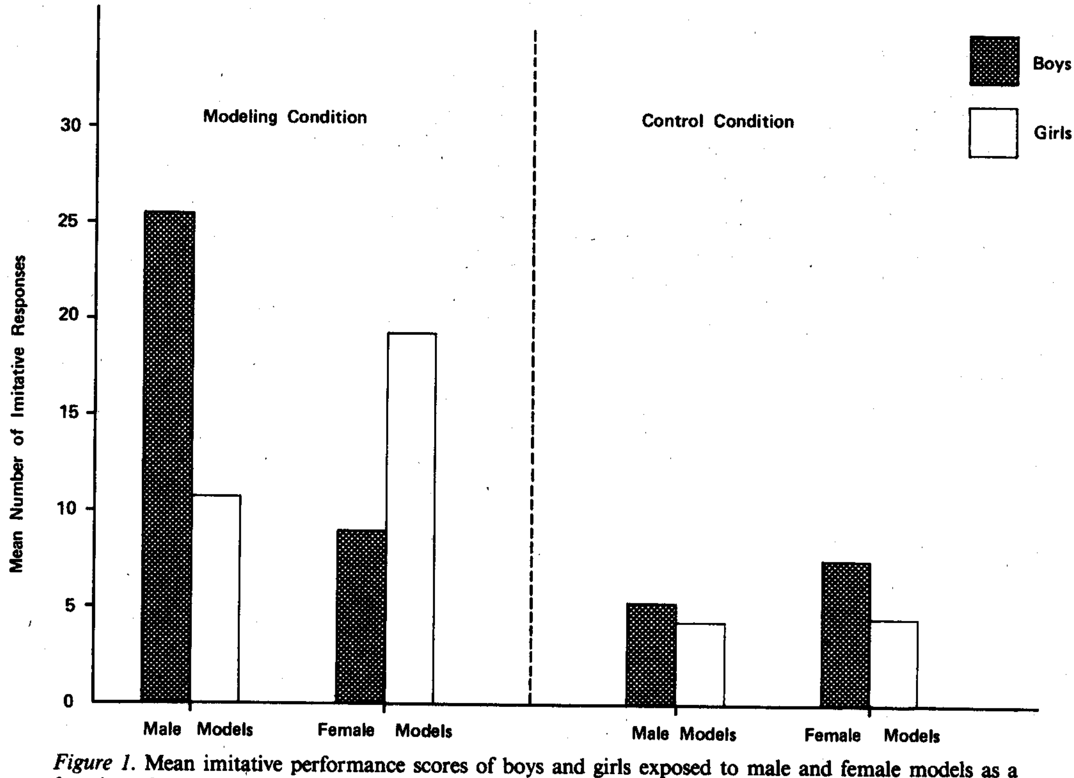

Figure 1. Mean imitative performance scores of boys and girls exposed to male and female models as a function of condition (Experiment 1).

male models, $t(24) = 2.71$, $p < .02$. Children in the control condition, who had no exposure to the modeled behavior, evidenced few matching responses in either of the two modeled sets of performances. The latter finding demonstrates the efficacy of the modeling influence and also reveals the neutrality of the modeled responses. The sex-linked modeling provides strong support for the same-sex modeling hypothesis regardless of gender constancy level.

Acquisition of modeled behavior patterns. Children in the modeling condition were asked to reenact the various behaviors displayed by the male and female models, respectively. In the ANOVA performed on these scores the only effect to attain significance was gender constancy level, $F(2, 12) = 4.40$, $p < .05$. Children of low gender constancy ($M = 3.67$) recalled fewer modeled responses than did children of either medium ($M = 7.67$) or high ($M = 9.50$) gender constancy, whose scores did not differ from each other.

Relation between age and gender constancy level. Children who achieve higher gender constancy scores are also older. Indeed, age is highly correlated with gender constancy scores for boys ($r = .76$, $p < .01$) and for girls ($r = .82$, $p < .01$). Because age and gender constancy are so highly related, we might ask if gender constancy exerts any effect on modeling when age is controlled? To answer this question we performed an analysis of covariance, using age as a covariate and sex of subject, level of gender constancy, condition, and sex of models as factors. The results reveal, as in the previous analyses of modeling scores, a main effect for modeling, $F(1, 23) = 48.70$, $p < .001$; an interaction between sex of model and sex of subject, $F(1, 24) = 11.22$, $p < .005$; and an interaction between sex of model, sex of subject, and modeling, $F(1, 24) = 16.20$, $p < .0005$. When age is controlled as a covariate in the analysis of spontaneous modeling, gender constancy does not account for any variance in children's modeling behavior.

The children's acquisition scores were submitted to a similar covariance analysis to control for the effect of age. The only effect to attain significance was the covariate for age, $F(1, 11) = 5.99$, $p < .05$. Therefore, gender constancy is no longer a significant determinant of modeling when age is controlled.

Discussion

Results of this experiment document the prevalence of same-sex modeling. When children observe that same-sex models collectively exhibit stylistic behaviors that diverge from those displayed by opposite-sex models under the same circumstances, children are far more likely to pattern their behavior after same-sex models. The same-sex modeling occurs irrespective of children's level of gender constancy.

Children with low levels of gender constancy, in this case, those who had not even achieved gender identity on Slaby and Frey's (1975) gender constancy scale, adopted more behaviors displayed by same-sex than opposite-sex models. Although the total amount of modeling behavior increased with the children's level of gender constancy, they adopted more behaviors displayed by same-sex than opposite-sex models irrespective of their gender constancy level. Because age and gender constancy levels were highly correlated and low gender identity did not preclude same-sex modeling, it seems that gender constancy reflects children's overall cognitive competencies rather than operating as a uniquely selective factor in sex role development. This interpretation is further supported by the analysis that shows that when age is controlled, gender constancy exerts no effect on the children's modeling behavior. A stereotypic sex role conception is not a prerequisite for same-sex modeling.

This does not mean that cognitive factors are thought to be of minimal significance in the child's sex role development. The ability to selectively adopt these behaviors displayed by same-sex models requires cognitive skills in categorization and judgment of similarity of self to others. Rather, the specific role of gender constancy in the sex-typing process is being questioned. There is little in the findings to indicate that mastery of gender constancy is necessary for sex-typing. Results of other studies are also consistent with this view. Large sex differences in preference for sex-typed objects and play patterns exist in the toddler and nursery school child long before a fully matured gender constancy is established (Blakemore, La Rue, & Olejnik, 1979; Masters & Wilkinson, 1976; Thompson, 1975). Children as young as 2 and 3 years possess remarkable awareness of sex role stereotypes and sex differences (Kuhn, Nash, & Brucken, 1978; Marcus & Overton, 1978).

Same-sex modeling seems to involve relying on classifying males and females into distinct groups, recognizing personal similarity to one group of models, and tagging that group's behavior patterns in memory as the ones to be used as a guide to behavior. Even very young children give evidence of classificatory capabilities involving social stimuli. By the time infants are 6 months old, they are capable of treating infant faces as a category different from adult faces, and female faces as different from male faces (Fagan & Singer, 1979). Sex labeling and differential structuring of social experiences teach children to use the sex of the model as a guide for action (Huston, 1983).

It is thus possible to explain same-sex modeling even in young children on the basis of their having cognitively abstracted activities stereotypical for each sex and judging that behaviors displayed by same-sex models are the appropriate ones for them to adopt, without requiring a conception of gender constancy. Both the gender classificatory basis of same-sex modeling and the impact of social factors on this process accord with Spence's (1984) formulation. She posits that sexual identity facilitates adoption of prototypic gender-congruent attributes, but interacting social and personal factors determine what particular constellations of gender-related characteristics are developed. Thus people within each sex can develop heterogeneous patterns of gender-related attributes while retaining a confirmed personal sense of masculinity and femininity.

Results of the acquisition test cast further doubt on mastery of gender constancy as the selective mechanism of sex role learning. Children's level of gender conception was related to acquisition of modeled patterns, but not selectively according to the model's sex. The higher the gender conception was, the more children learned the behavior of both types of models. The measure of gender conception may serve more as a proxy measure of skill in cognitive processing than a unique determinant of sex role learning. The older the children are, the more they learn the behavior of both male and female models. Thus when age is controlled, children of all gender constancy levels learn equally from the models.

Gender-schema theory also suggests that children's readiness to classify objects and people in gender-related terms may well develop before a conception of gender constancy is achieved (Bem, 1981; Markus, Crane, Bernstein, & Siladi, 1982). Children learn to encode, organize, and retrieve information about themselves and others in terms of a developing gender schema. Results of the acquisition test, however, reveal that same-sex modeling is not due to differential gender-schematic processing and retention of the behavior patterns exhibited by the male and female models. Rather, gender self-knowledge seems to be operating more on selective retrieval and enactment of what has been learned observationally from both sexes. These findings underscore the importance of including measures of observational learning as well as of spontaneous performance in testing theories about gender-role development. Children observe and learn extensively from models of both sexes, but they are selective in what they express behaviorally.

Experiment 2

The purpose of the second experiment was to test the power of model sex on same-sex modeling when countervailing social influences come into play. Do children always choose a same-sex model over an opposite-sex one, or is this proclivity readily altered by social factors? Sex roles reflect, in part, power relations in a society. Social power can exert a strong impact on modeling (Bandura, Ross, & Ross, 1963). It is, therefore, of considerable interest to clarify what happens in the course of modeling when social power is pitted against the force of collective modeling. In most societies, men typically wield more social power than do women. Of special interest is the impact of cross-sex social power on cross-sex modeling.

To clarify these issues, we varied the power of one group of models over the other group. In one condition, three male models were depicted as the powerful controllers of rewarding resources and three female models occupied a subordinate role. In a second condition, the male and female power positions were reversed so that the female models were the powerful members of the group and the male models the subordinate ones. Social power was manifested in several ways: ownership of play materials, command over play activities, and the dispensation of food and soft drinks.

After children observed on videotape either the men or the women exercising power, they were then exposed to the same collective modeling used in the previous experiment. Children assigned to a condition in which power of the models was not varied watched a cartoon in place of the power induction videotape and then the videotape of collective modeling of behavior patterns. Children in the control condition, who were exposed neither to power nor modeling displays, saw two cartoons. If social power is an influential determinant of model selection, cross-sex modeling would be expected in those conditions in which models of the opposite sex are portrayed as the wielders of social power.

Method

Subjects. Subjects were 16 boys and 16 girls enrolled in the Stanford Nursery School. They ranged in age from 3 years to 5 years and 10 months, with a mean age of 4 years and 8 months, and all were catagorized as high scorers on the Slaby and Frey (1975) gender constancy measure (i.e., 72% had attained at least gender identity and gender stability, and 28% has also attained gender consistency).

Design. Children were assigned randomly to conditions in a 2 × 4 design involving sex of child (boys, girls) and treatment condition (men in power, women in power, no power, control).

Procedure. The procedure used in this experiment was virtually identical to that described in Experiment 1. The main difference was the portrayal of social power before the collective modeling.

The two videotapes for the power induction were identical, except that in one videotape the male models were in power and in the other the female models exercised power. The females-in-power movie opened with a narrative about three girls who owned a playroom. The girls are seen in their playroom unpacking their large collection of toys and having much fun playing with them. As they were playing with their toys, three boys walk by and hear the fun and laughter emanating from the room. One of the boys peeks through the ajar door to see what is happening inside. He quickly exclaims to the other boys that there are some girls in there who are playing with some "really neat" toys. The boys ask the girls if they too could play with some of their toys. After some deliberation, the girls allow the boys into the playroom, but initially only to watch them play. The girls play with even more interesting games, a Mickey Mouse dip game, a wind-up dog, musical instruments, and other exciting playthings. Finally, the girls who are the controllers of these resources, allow the boys to play with one of their toys. The boys express much joy at being able to play with the girls' toys. The boys are given other playthings.

The girls further exemplify their controller status by telling the boys that they recently had $50 to spend, so they went to San Francisco and bought a pinball machine. After taking turns playing the pinball machine, the girls announce, "It's time for treats," whereupon they set out cans of soda, cookies, candy, chocolates, and make popcorn in their popcorn machine. The girls shared their goodies with the boys. The end of the session is heralded by the boys, at the girls' request, packing away the toys for the day. Before leaving the playroom, one of the girls announces that she had located a "really neat" department store in San Francisco that sells lots of things suitable for their playroom. The girls count their money and then peruse the department store's catalogue. They consider buying roller skates and computer games, but finally settle on a color television set: "Let's buy a color T.V. set for our room. We can keep it in our room. Then we can come to our room and watch any program we like."

When the boys were in power, the sequence of events and activities were the same except that the boys rather than the girls exercised the control over resources and activities. The participants in the power-induction videotape appear as the models in the collective modeling videotape.

At the completion of the power induction or exposure to the cartoon, children in the experimental condition observed the collective modeling on the television monitor, the children in the control condition saw another cartoon. The tests for acquisition and spontaneous adoption of modeled behavior were identical to those followed in Experiment 1. Similarly, the test procedures were identical, with the tester having no knowledge of the conditions to which the children were assigned.

Results

Modeled behavior. A 2 × 4 × 2 (Sex of Subject × Treatment Condition × Sex of Models/Within-Subject Factor) ANOVA was performed on the scores of modeled behavior. There was a strong main effect of modeling, $F(3, 24) = 12.14$, $p < .001$, with children in the modeling conditions displaying more modeled behavior than children not exposed to the models. A significant interaction between sex of subject and sex of model, $F(1, 24) = 10.58$, $p < .005$, also emerged. We ex-

Table 1
Modeled Behavior Means for Interaction of Sex of Subject and Sex of Model (Experiment 2)

	Sex of models	
Sex of subject	Males	Females
Boys	18.88	9.81
Girls	12.19	15.19

amined the nature of this interaction by performing t tests on the means in Table 1. Both boys and girls patterned their behavior more after same-sex models than opposite-sex models. This effect was highly statistically significant for boys, $t(24) = 3.49$, $p < .01$, but the difference fell short of significance for girls, $t(24) = 1.15$, $p > .10$.

The three-way interaction involving all three factors (sex of subject, power treatment, and sex of model) was also significant, $F(3, 24) = 3.30$, $p < .05$. This interaction is depicted graphically in Figure 2. In contrast to boys and girls in the control condition, children in the treatment conditions were influenced by the power displays. First, it is of interest to note that in the no-power condition, same-sex modeling predominates, an effect that is stronger for boys, $t(24) = 4.38$, $p < .001$, than for girls, $t(24) = 1.59$, $p = .12$.

The portrayal of the models as powerful produced different results depending on the sex of the models and the sex of the observer. Boys emulated many of the behaviors of the male models irrespective of whether they were powerful or not, enacting an average of 20, 22, and 29 imitative responses in the males-in-power, females-in-power, and no-power conditions, respectively. However, the boys did not show an equal propensity to imitate the female models irrespective of power. The boys' mean imitative scores of the female models for the males-in-power and no-power conditions, were 8 and 6, respectively. When the female models were in power, however, a different result emerged. The boys emulated the female models ($M = 18$) almost

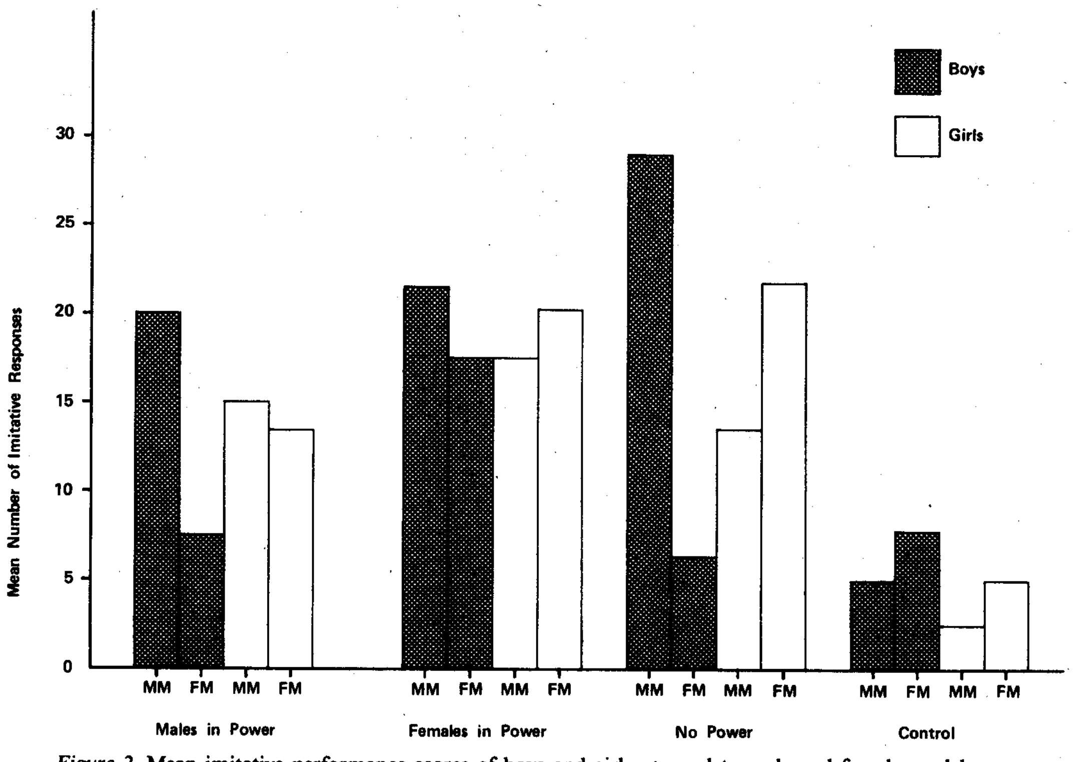

Figure 2. Mean imitative performance scores of boys and girls exposed to male and female models as a function of condition (Experiment 2; MM = male models, FM = female models).

to the same extent as the male models ($M = 21$), $t(24) = 0.72$, $p > .10$, and this was significantly greater than their imitation of female models who lacked power $t(24) = 1.98$, $p < .06$, or for whom power relations were left undefined, $t(24) = 2.20$, $p < .05$. Their emulation of female models in power was equal to that of the male models in power, $t(24) = 0.43$, $p > .10$, but less than their imitation of the male models for whom power relations were left undefined, $t(24) = 2.11$, $p < .05$. Same-sex modeling is thus a robust phenomenon in boys. Emulation of female models is relatively infrequent in boys, unless the female models command power; under such conditions the boys' same-sex imitation preference is attenuated so that male and female models are emulated equally.

In all conditions the girls were influenced by both male and female models. When power differentials were not exhibited girls tended to favor same-sex models. When female models exercised power, girls adopted significant amounts of both the female and male models' behavior, although they revealed a slight preference for the female models over the male models, $t(24) = 0.48$, $p > .10$. For girls, seeing women command rewarding power equalized sex-linked modeling; seeing males exercise power attenuated but did not completely override the influence of the same-sex models, $t(24) = 0.24$, $p > .10$.

Acquisition of modeled pattern. Analysis of variance of the acquisition scores yielded no significant differences as a function of sex status and power differentials. The latter factors clearly exert their effects on spontaneous performance of modeled patterns of behavior rather than on their acquisition.

Discussion

Results of the second experiment further corroborate the prevalence of same-sex modeling, although the effect was much stronger for boys than for girls. Interestingly, powerful female models were effective in producing cross-sex imitation in boys. This readiness to emulate a powerful opposite-sex model was not so apparent for the girls.

The results of this study, along with those of others (Bussey, 1979; Bussey & Perry, 1980; Bussey & Perry, 1982; Perry & Bussey, 1979), underscore the efficacy of models in the sex-typing process. They further support the two-process model of sex-typing proposed by Bussey and Perry (1982), for boys. The stronger same-sex modeling shown by boys in many of the modeling studies presumably stems from boys' desire to adopt masculine behavior, and, simultaneously, to reject feminine behavior. Girls also adopt same-sex behavior, but not at the expense of rejecting behavior patterns modeled by the opposite sex.

A surprising finding of this research is that cross-sex modeling was more pronounced in boys than for girls. This finding would seem to contradict the common view that boys show a more rigid adherence to the masculine role than girls show for the feminine role (Brown, 1956; Hartup & Moore, 1963; Hetherington, 1967; Kleinke & Nicholson, 1979; Marcus & Overton, 1978; Nadelman, 1974). For example, boys are less likely to imitate cross-sex behavior or to develop egalitarian conceptions of sex roles when pressured to do so (Abramovitch & Grusec, 1978; Flerx, Fidler, & Rogers, 1976; Grusec & Brinker, 1972; Wolf, 1973, 1975). Why then was cross-sex modeling so effective, in this study, for boys but not girls?

For boys, cross-sex modeling resulted when female models commanded power, which in this instance involved controlling rewarding resources and the activities of others. This form of interpersonal power may conform more closely to the sex role that boys have been socialized to play. If the type of power exercised in this study is more in keeping with the male sex role, the results become understandable. Boys may be prone to emulate models whose style of behavior is consistent with the male sex role stereotype, regardless of the models' sex. Similar cross-sex modeling may well occur for girls if, for example, a factor such as nurturance, which is more consistent with the female sex role stereotype, was varied instead of power.

An alternative explanation is that girls are less constrained in their modeling by the sex of the model. Girls, typically, do not reject opposite-sex models to the same extent as boys do (Bussey & Perry, 1982). In the condition that did not include power differentials girls tended to imitate male models more than the boys imitated female ones. Because boys tend to adopt the behavior patterns of same-sex models and reject the behavior patterns of opposite-sex models, they generally engaged in minimal cross-sex imitation. If, however, the opposite-sex models command power, which may appeal to boys, then the boys not only cease rejecting the behavior patterns of the opposite-sex models, but actively adopt them.

In contrast to the boys, the girls exhibited greater consistency, across all three modeling conditions, in their degree of cross-sex modeling, whereas the boys engaged in highly specific cross-sex modeling confined predominantly to the condition in which the female models had social power. For girls, cross-sex modeling was thus not as dramatic as for boys, because it occurred to a lesser extent under ordinary conditions. The same inhibition for cross-sex models does not exist for girls in the way it does for boys, so that unless the behavior is particularly unattractive to girls, they are likely to demonstrate some cross-sex imitation, at least more than is characteristic of boys. Boys, in contrast, are unlikely to show much cross-sex modeling at all in the absence of strong vicarious instigators.

General Discussion

The results of our studies support and extend previous research (Bussey & Perry, 1982; Perry & Bussey, 1979) in demonstrating the viabililty of same-sex modeling as a mechanism of sex role development. The results demonstrate this impact on diverse behavior patterns in children as young as 3 years of age, who have not even achieved gender identity. This finding is at variance with the assumption in cognitive–developmental theory (Kohlberg, 1966) that the attainment of gender constancy is a necessary antecedent of same-sex modeling. Instead, this research shows that children pattern their behavior after members of their sex long before they grasp gender constancy.

Another noteworthy feature of this research is the dramatic cross-sex modeling effect for boys. There are few reports of successful cross-sex modeling effects for boys, but many for girls. The finding of this study departs from these typical findings in that the reverse was true: Cross-sex modeling was more successful and dramatic in boys than girls. One reason for this lies in the nature of the factor pitted against sex of the model, namely, the powerfulness of the models. Boys emulated powerful female models almost to the same extent as male models. Because power is a valued male behavior, the boys were prepared to emulate models assuming power, regardless of their sex. The girls, in contrast, were less affected by the power manipulation. There are two possible explanations for this finding. First, girls displayed more generalized adoption of cross-sex behavior across the various modeling conditions and hence it was more difficult to demonstrate a cross-sex modeling effect for girls than boys. Second, power is much more consistent with the male role and hence the girls were less likely to construe the male models as appropriate models for themselves. Had the male models behaved in a way more consistent with the female sex role, the reverse result might have been obtained.

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