Achievements of Male and Female Storybook Characters as Determinants of Achievement Behavior by Boys and Girls

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The effects of achievement behavior by male and female storybook models on children's own achievement behavior was assessed. Preschoolers heard either a stereotype story depicting achievement behavior by a male, but not by a female, a reversal story depicting achievement behavior by a female, but not by a male, or a control story depicting no achievement behavior by any character. As predicted, a significant Sex X Storybook interaction effect was obtained: Boys persisted longer on a task after hearing a story depicting achievement behavior by a male character than after a story depicting the same behavior by a female, while a nonsignificant trend in the opposite direction was observed for girls. Some additional findings were: Boys were less likely than girls to recall the female character's behavior; and both sexes manifested chauvinistic tendencies in preferences for a same-sex character. These findings are discussed in the context of research demonstrating that most children's books parallel the stereotype story in their portrayal of the sexes.

Recent years have witnessed a growing concern over the underrepresentation of women in "achieving" roles in our society; for example, only 3.6% of the country's lawyers, 9.3% of the doctors, and 16.3% of managers and administrators are women (U.S. Bureau of Census, 1972). The question remains of what can be done to expand women's role. One crucial line of attack is, of course, at the societal level, and we thus find that efforts are being directed toward changing women's legal rights and employment and educational opportunities. But although institutional changes such as these are certainly a necessary condition for opening up new roles to women, they are undoubtedly not sufficient. Psychological changes are also necessary. For example, it has been well documented that both men's and women's beliefs concerning behaviors appropriate to the two sexes are very stereotyped (e.g., Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968) and are acquired at a very early age (e.g., Schell & Silber, 1968). Moreover, it has been demonstrated that these stereotypes are internalized into the self-concepts of males and females (Rosenkrantz et al., 1968). It thus appears that women's beliefs about what kinds of behaviors and roles are sex appropriate and sex inappropriate must be broadened before we can expect to see many of them moving into the new roles made available through institutional reform.

Any attempt to emancipate people from their sex-role stereotypes must first consider how these are normally acquired. Among the possible sources of influence on sex-role stereotypes are the books to which children are exposed, for, according to social learning theorists (e.g., Mischel, 1966), observational learning from live and symbolic models (i.e., films, television, and books) is an important...
step in the acquisition of sex-typed behavior. Although he did not argue that books exert a causal influence on behavior, McClelland (1961) has reported evidence that is consistent with this notion: The amount of achievement imagery in children's books during one period of time was highly correlated with measures of economic growth (i.e., "achievement") in subsequent years when the children who had been exposed to these books reached maturity. These findings suggest that sex differences in achievement-motivated behavior in our society may derive in part from sex differences in achievement imagery in the books to which boys and girls are exposed. However, two kinds of evidence are necessary to support this argument. First, it must be systematically demonstrated that the achievement-related behavior of male and female models presented in storybooks is sex typed; second, it must be demonstrated that children model their own behavior after that of like-sexed models.

Evidence that the achievement-related behavior of storybook models is sex-stereotyped has been reported by Child, Potter, and Levine (1946), who investigated the characteristics of male and female central characters in children's readers and concluded that the many schoolgirls who will at some future time have to make their own living are failing, if they identify with female characters, to receive the same training in the development of motives for work and achievement that boys are receiving. (p. 48)

More recent investigations of children's readers (Women on Words & Images, 1972) and of award-winning books for preschool children from 1967–1971 (Weitzman, Eifler, Hokada, & Ross, 1972) have revealed that nearly three decades have not substantially altered the sex stereotypes portrayed in children's books. It thus seems fair to conclude that the first condition necessary to the argument that books produce sex differences in achievement behavior is fulfilled: The achievement-related behavior of male and female models in children's books is sex typed.

The question remains whether or not children model their own achievement behavior after that of like-sexed models in storybooks. There is evidence that people are more likely to learn the behavior of a same-sex live or filmed model than an opposite-sex model (Grusec & Brinker, 1972; Hetherington & Frankie, 1967; Maccoby & Wilson, 1957; Maccoby, Wilson, & Burton, 1958). And there is also evidence that children are more likely to imitate the behavior of similar than dissimilar film models (Rosekrans, 1967). Although these findings are all supportive of the notion that children will model their achievement behavior after that of same-sexed storybook models, more direct evidence for this effect is needed, and the present study was designed for this purpose.

Preschool children were read one of three storybooks—a stereotype story depicting achievement-oriented behavior by a male but not by a female character, a reversal story depicting achievement-oriented behavior by a female but not by a male character, or a control story depicting no achievement-oriented behaviors by any character. Following this, the children's own achievement-oriented behavior was assessed. It was expected that children would emulate the achievement behavior of the same-sex character in the story they had heard. More specifically, a Sex X Storybook interaction reflecting more achievement-oriented behavior by boys hearing the stereotype than those hearing the reversal story, and more achievement-oriented behavior by girls hearing the reversal than those hearing the stereotype story was predicted. One of two possible outcomes was anticipated for control subjects. They could fall between the reversal and stereotype subjects within each sex, indicating that hearing a story in which an opposite-sex character shows achievement behavior serves to reduce the incidence of such behavior. Alternatively, control subjects fall below stereotype and reversal subjects within each sex, indicating that hearing a story in which anybody shows achievement behavior increases the incidence of that behavior.

**Method**

**Subjects**

Thirty-two male and 36 female nursery school children from three predominantly upper-middle-class nursery schools in the Boston area were randomly assigned to one of three storybook condi-
TABLE 1

BEHAVIORS MANIFESTED BY THE BOY AND GIRL IN THE STEREOTYPE STORY AND THE RESEARCH FINDINGS ON WHICH THESE PORTRAYALS ARE BASED

<table>
<thead>
<tr>
<th>Boy's behavior</th>
<th>Supporting research finding*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constructs a model ship.</td>
<td>Boys are more likely than girls to construct things (1, 2)</td>
</tr>
<tr>
<td>Saves the girl from a goat.</td>
<td>Boys are more likely than girls to manifest strength, bravery, or heroism. (2, 3)</td>
</tr>
<tr>
<td>Receives money for rescuing the girl, and with it buys a model ship in a bottle.</td>
<td>Boys are more likely than girls to earn money or to buy material products. (1, 2)</td>
</tr>
<tr>
<td>Figures out how to get the ship into the bottle.</td>
<td>Boys are more likely than girls to manifest cleverness and problem solving ability. (2)</td>
</tr>
<tr>
<td>Gets the ship into the bottle and, after much effort, pulls it upright.</td>
<td>Boys are more likely than girls to show achievement attempts and perseverance, and to construct things. (1, 2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Girl's behavior</th>
<th>Supporting research finding*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paints a picture.</td>
<td>This behavior is not based on sex differences in children's books, but is consistent with sex differences in preschoolers' behavior. (Fagot &amp; Patterson, 1969).</td>
</tr>
<tr>
<td>Is frightened by a goat, and calls for help.</td>
<td>Girls are relatively likely to display fear and avoidance of danger, and to make requests for help. (1, 2)</td>
</tr>
<tr>
<td>Receives a hug after being rescued from the goat.</td>
<td>Girls are relatively likely to received nurturance. (1)</td>
</tr>
<tr>
<td>Suggests asking an adult to help get a model ship into a narrow-necked bottle.</td>
<td>Girls are relatively likely to request help. (1)</td>
</tr>
<tr>
<td>Watches the boy get the model ship into the bottle.</td>
<td>Girls are relatively likely to display passivity. (2, 3)</td>
</tr>
<tr>
<td>Leaves while the boy continues trying to get the ship upright in the bottle.</td>
<td>Girls are less likely than boys to display perseverance and achievement attempts. (1, 2)</td>
</tr>
</tbody>
</table>

*Numbers represent sex differences reported by (1) Child, Potter, and Levine (1946); (2) Women on Words and Images (1972); and (3) Weitzman, Eifler, Hokada, and Ross (1972).

Independent Variables

All subjects were run individually by a female experimenter who read to them one of three illustrated storybooks that were created specifically for this research.

Stereotype story. The stereotype story was based upon a story found in a popular anthology of children's literature. It contained two central characters—a 4-year-old boy and girl—who manifested behaviors that were characteristic of those displayed by boys and girls in various content analyses of children's literature (see Table 1). The major theme of the story involved working hard to solve a problem.

Reversal story. The reversal story was identical to the stereotype story in all respects except that all of the behaviors manifested by a character of one sex in the stereotype story were manifested by the opposite-sex character in the reversal story.

Control story. The control story was excerpted from an inexpensive illustrated children's book about animals. There were no people in this storybook, which dealt with the various vocalizations made by different animals.

Dependent Variables

Immediately after reading the independent variable story to the subject, the first experimenter called in a second experimenter who was blind to the independent variable manipulations. For half of the subjects in each condition, the second experimenter was a male, and for half, a female. The first experimenter introduced the subject to the second experimenter and then entered an adjoining room where she could observe the dependent variable proceedings through a one-way mirror. The amount of time subjects spent trying to stand up some flowers (plastic daffodil) that were lying on their side in a terrarium served as the measure of subjects' achievement-oriented behavior on a problem-solving task. The terrarium was a narrow-necked bottle, similar in appearance to the bottle in the stereotype and reversal stories, and its shape necessitated the use of long wooden tongs to stand up the flowers. In order to insure that subjects' persistence on the terrarium task reflected internalized motivation, the task was presented as an optional one, and subjects were told that they could stop whenever they wanted to. While the subject worker on the terrarium, the
second experimenter busied himself or herself at a desk 10 feet (3m) away and avoided any eye contact. All verbalizations by the subject were ignored, with one exception: The second task-relevant verbalization (e.g., "This is hard") was met with a standard reply, "Just tell me when you don't want to work on it any more." The task was terminated when the subject said that he or she did not want to work on it any longer (or at all), after 10 minutes had elapsed, or after he or she failed to work at it for 30 consecutive seconds. This was a very difficult task for preschoolers, and no one was able to complete it in the time allotted.

In addition to the persistence measure, subjects' recall of the independent variable story and their preference for the male versus the female central character were determined to provide information relevant to possible mediations of the storybook effects. Following the terrarium task, the second experimenter asked the subject to tell about the story the first experimenter had read. When the subject stopped relating the story or said he or she couldn't remember any more, a series of preprogrammed nonleading questions were asked to try to elicit more information (e.g., Were there any children in the story? What did the boy do? What did the girl do?). Finally, the subject was asked whom he or she had liked best in the story and why. The first experimenter recorded the subject's responses from the adjoining room. Subjects' responses in the story recall task were coded for 16 pieces of information that could be remembered about the male or female character: 10 pieces of information pertinent to the major character (the boy in the stereotype story and the girl in the reversal story) and 6 pertinent to the minor character (the girl in the stereotype story and the boy in the reversal story).

RESULTS

Achievement Behavior

A 2 X 3 X 2 (Sex X Storybook X Tester) analysis of variance was performed on the number of seconds subjects worked on the terrarium task. As predicted, a linear X linear interaction planned comparison (Winer, 1971, p. 384), testing the hypothesis that males would persist longer in the stereotype than in the reversal condition while the opposite would hold true for females, was significant, $F(1,56) = 4.58, p < .05$, and the residual effect was not ($F < 1$). (See Figure 1.) Within-sex comparisons of the persistence of subjects who had heard the various stories revealed that boys in the stereotype condition persisted longer than those in the reversal or control conditions, $t(19) = 2.38$, and $t(20) = 1.99$, $p < .05$ and .10, respectively, while the persistence of girls in the reversal condition was not significantly greater than that of girls in the stereotype ($t < 1$) or control conditions, $t(22) = 1.33, p > .20$. Comparison of the persistence of males and females who had heard each story revealed a significant difference only in the stereotype condition, where boys persisted longer than girls, $t(21) = 2.04, p < .06$.

An unpredicted Tester X Condition interaction, $F(2,56) = 3.57, p = .04$, reflected a tendency for control subjects to persist longer in the presence of a male tester than in the presence of a female tester, $t(21) = 1.88, p < .10$, while stereotype and reversal subjects' persistence did not vary significantly with the tester's sex (both $ps > .10$).

Other Findings

To provide information regarding recall of the story as a possible mediator of its effects on achievement behavior, a 2 X 2 (Sex X Storybook) analysis of variance was performed on the proportion of story items that subjects correctly recalled. Although the pat-

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1 Six subjects, distributed equally across the experimental conditions, declined to work on the terrarium task. Although the task was difficult, it would have been possible for most of the subjects to complete, given sufficient time, and most were able to make some meaningful, albeit short-lived, progress. For example, the majority of subjects managed at least to grasp a flower with the tongs and lift it up, even if they could not manipulate it to a vertical position.

2 Recall data was not obtained for five subjects because of a change in procedure from forced-choice to open-ended questions. Additional measures of the storybooks' effects were subjects' attributions of achievement behavior to another boy and another girl storybook character. These were assessed by having subjects complete a storybook by deciding what behaviors would be manifested by a boy and by a girl central character. It was expected that the stereotype story would yield more attribution of achievement behaviors to a boy character than the reversal story, while the opposite would be true for attributions of achievement behavior to a girl. However, the storybook manipulation did not significantly affect subjects' attributions to a boy and it had only a marginal effect on attributions to a girl. The weak effects of the storybook manipulation on these measures were due in large part to strong same-sex chauvinism, which was manifested in subjects' attributing a great deal of achievement behavior to a same-sex character regardless of the story to which they had been exposed.
DETERMINANTS OF ACHIEVEMENT BEHAVIORS BY BOYS AND GIRLS

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BOYS
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STORYBOOK

FIGURE 1. Persistence on the terrarium task as a function of sex and storybook.

tern of means revealed a tendency for subjects to recall more about a story that featured a same-sex achieving character than one featuring an opposite-sex achieving character, the Sex × Storybook interaction was not significant (p < .20). However, a significant correlation was obtained between subjects' persistence on the terrarium task and the proportion of story items correctly recalled, r(33) = +.33, p = .05. Moreover, an inspection of the within-cell correlations suggested that a positive correlation between recall and persistence occurred only among subjects who were exposed to a story featuring a same-sex character. The more males recalled about the stereotype story, the longer they tended to persist on the terrarium task, r(6) = +.52, but their persistence was unrelated to recall about the reversal story, r(6) = +.02. Conversely, the more females recalled about the reversal story, the longer they tended to persist, r(7) = +.24, while their persistence was unrelated to recall about the stereotype story, r(8) = -.03. Because of the reduced sample size, none of these within-cell correlations was significant. However, pooling the male and female subjects who were exposed to a same-sex achieving model did reveal a marginally significant correlation between persistence and recall, r(15) = +.39, p = .12, while the correlation for all subjects exposed to an opposite-sex model did not approach significance, r(16) = +.04, p > .50.

In addition to the analyses based on overall recall of the story, separate analyses of subjects' recall about the male and female characters yielded some interesting effects. A 2 × 2 (Sex × Storybook) analysis of variance on the arc sine transformed proportion (Winer, 1971, p. 400) of subjects recalling nothing about the male character revealed a significant main effect for storybook, F(1, ∞) = 11.63, p < .001, which reflected greater recall about the male in the stereotype than the reversal condition. The sex and Sex × Storybook effects were both nonsignificant (both Fs < 1). A parallel 2 × 2 analysis of variance on the proportion of subjects who recalled nothing about the female character revealed no significant storybook effect (F < 1). However, there was a significant sex effect: More boys than girls recalled nothing about the female character, F(1, ∞) = 6.94, p < .01.

DISCUSSION

The results of the present investigation clearly reveal that the portrayal of male and female characters in children's storybooks can have a profound effect on the readers' achievement-oriented behavior. Preschool boys manifested more task persistence following one brief story depicting achievement behavior by a male character than following a story depicting the identical behavior by a female, while a nonsignificant trend in the opposite direction was observed for girls. Additional evidence that children's achievement behavior covaries with the internalization of a story portraying achievement by a same-sex model is suggested by the correlations between recall and persistence: The more children recalled about a story portraying achievement by a same-sex character, the longer they tended to persist on the terrarium task, while there was no relationship between persistence and recall about a story

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8 The same trends were obtained when analyses of variance were performed on the proportion of items of information pertaining to each character that subjects correctly recalled. However, the corresponding effects were significant only for recall about the boy.
portraying achievement by an opposite-sex character.

Some data relevant to the mediation of the storybook effects in the present study are provided by the preferences children expressed for the central characters in the independent variable story. Consistent with data reported by Kohlberg (1966), these preferences revealed strong same-sex chauvinism: Regardless of the nature of the character's role, boys preferred the male and girls preferred the female (90% of the boys and 96% of the girls who were queried manifested a preference for the same-sex character). When asked why, the most common explanation revealed identification with a person of the same sex—the children either replied "because I like girls [boys]" or "because I'm a girl [boy]." The most clearly chauvinistic statement of identification was given by a little girl who said "because girls are just like me, and I think I'm the best!" Offering some attribute of the character other than sex as a reason for their preference was much less common. Given that children view characters of the same sex as more similar to themselves and more likable, it is not suprising that they are most likely to emulate these models when other determinants of imitation are held constant (cf. Bandura & Huston, 1961; Rosekrans, 1967).

An interesting sex difference observed in the present study was that the tendency to model achievement behavior after a same-sex character was strongest among the boys even though they were significantly younger, on the average, than the girls were—a difference which would lead some to predict weaker effects for boys (e.g., Grusac & Brinker, 1972). Not only did exposure to a story depicting achievement behavior by a male increase boys' persistence over that manifested by control subjects, but in addition, exposure to achievement behavior by a female produced a nonsignificant decrease in their persistence compared with controls. For girls, on the other hand, exposure to achievement behavior by a member of the opposite sex produced a nonsignificant increase in persistence compared with controls. (See Figure 1.) This tendency for girls to show more cross-sex imitation than boys parallels results reported by Bandura, Ross, and Ross (1963) and may be explained by the fact that cross-sex imitation is more often discouraged for boys than for girls in our society (e.g., Fling & Manosevitz, 1972).

The tendency for girls to incorporate the behavior of an opposite-sex model more than the boys did was manifested in subjects' recall of the story as well as in their achievement behavior. Girls were just as likely as boys to recall information about the male character, while boys were less likely than girls to recall information about the female. It should be noted that this effect, as well as the differential amount of cross-sex imitation displayed by boys and girls, may be attributed not only to stronger prohibitions against cross-sex imitation by boys than girls in our society, but also to a greater necessity for cross-sex imitation by girls than boys. Indeed, if girls are ever to learn anything from their exposure to the models presented in books, they must identify with male characters to some extent, since males appear with so much greater frequency than females. For example, Child et al. (1946) found that 73% of the central characters in the books they analyzed were male, and the percentages of central male characters reported by Women on Words and Images (1972) and by Weitzman et al. (1972) were 72% and 78%, respectively.

Although the present study revealed some cross-sex imitation by girls—a phenomenon that probably derives both from society's permissiveness of such behavior and from the relative paucity of female models for girls to emulate—the results still indicated that exposure to a storybook portraying an achieving male yielded significantly less achievement behavior by girls than by boys. This sex difference did not occur following exposure to a storybook portraying an achieving female—indeed, the direction of the difference was reversed.

These storybook effects on children's achievement behavior are particularly striking because the behavior that they were given an opportunity to manifest was different from that portrayed in the storybook, and there
was neither any pressure to engage in the achievement behavior nor any extrinsic reward for electing to do so. It thus appears that storybooks can produce in children what seems to be an internalized motive to perform behaviors that will make them more like a same-sex character. In terms of Bandura and Walters' (1963) classification of various effects of observing models (p. 60), this should be viewed as an "eliciting" effect: Observation of achievement behavior by a same-sex model serves as a "releaser" for responses of the same class.

One implication of the present findings is that if one wishes to promote more equal representation of men and women in "achieving" roles in our society, a change in the representation of females in children's books may be a useful step forward. Admittedly, the effects of storybooks on achievement behavior measured in the present investigation were only short-term, but so was the exposure to these stories. Thus, generalizing from McClelland's (1961) findings, it does not seem unreasonable to expect that young girls' prolonged exposure to stereotypic children's books may contribute to their lower levels of adult "achievement" as compared with men.4

4 Although this study focused on a means of increasing the representation of women in "achieving" roles in our society, the findings may be equally relevant to expanding the roles filled by men. For example, storybooks portraying males in "nurturant" roles should serve to increase the incidence of such behavior by male readers.

REFERENCES


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