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THE IMPACT OF HEARING A FAIRY TALE ON CHILDREN'S IMMEDIATE BEHAVIOR*[1]

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SUMMARY

Two experiments compared the effects of a fairy tale with those of a cartoon and a trivial story on children's immediate behavior. The 75 boys and girls in Experiment 1 were 9- to 11-year-olds living in an urban ghetto; the 60 boys and girls in Experiment 2 were primarily 6-year-olds from a suburban working class community. Experiment 2 was essentially a replication of Experiment 1, using a different fairy tale and some additional measures of the children's responses. As anticipated from Bettelheim's writing and informal observations, both studies indicated that those who had heard the fairy tale subsequently played in the most subdued and self-absorbed manner. The fairy tales seemed to have touched on these children's inner concerns and left them in a quietly pensive mood.

A. INTRODUCTION

According to Bettelheim (2), it is unfortunate that the telling of fairy tales has declined over the years because these stories are very useful to children. They address children's deepest fears and help them see that their problems have solutions. For example, "Hansel and Gretel" speaks to the child's fear of separation (being sent into the woods) and implies that the child can cope with this problem by developing the capacities for independent and resourceful action. Fairy tales, Bettelheim adds, work through indirect symbols which enable each child to interpret the story in an individual way.

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Thus each child feels that the story is speaking to his or her own private concerns and is offering some form of personal reassurance.

If fairy tales function as Bettelheim suggests, they might produce some immediate behavioral effects. We became aware of this possibility when one of us (the fourth author) began telling fairy tales in a summer camp. After hearing the stories, the children, many of whom were overly active or aggressive, seemed moved and calmed. They seemed thoughtful, self-possessed, and ready to approach tasks with a new concentration. It appeared, as Bettelheim suggests, that the children had found the stories very meaningful and had perhaps gained some reassurance from them. The effects of the stories seemed very different from their customary forms of entertainment—television and movies—which often left them more restless and distractible.

The following two experiments were designed to investigate these impressions further. Children, in groups of three, either heard a fairy tale, watched a cartoon, or heard a less meaningful story. We hypothesized that those who had heard the fairy tale would subsequently play with more composure and concentration than those in the other two conditions. We also hypothesized that since fairy tales may touch something personal within the child, the children in this condition would show the greatest tendency to play alone.

Although our initial interest was in the comparison between the fairy tale and the cartoon, it seemed that the fairy tale might affect the children differently not because it was more meaningful, but because it was presented differently; it was told by someone who was physically present. Thus, we also compared the impact of the fairy tale with that of a less meaningful story told by the same person.

B. Experiment 1

1. *Method*

a. Subjects. The *S*s were 75 children (37 boys, 38 girls) attending a summer remedial education program in their neighborhood in Harlem, New York. Their ages ranged between 9.0 and 11.9 years (mean age = 10.4 years); three quarters of them were black and the rest were of Hispanic background.

As indicated, the *S*s participated in groups of three: 10 groups in the fairy tale condition, 10 groups in the film condition, and five groups in the trivial story condition. They were assigned to the conditions in a random manner

except for balancing the conditions according to the age and sex distributions of the groups.

b. Stories and film. The fairly tale was the Brothers Grimm's "The Juniper Tree" (6), a story about a boy who is abused and killed by an angry stepmother. Through the magic of love, the boy is transformed into a beautiful bird which cleverly gets revenge, repays the loving members of his family, and, finally, reemerges as the boy, happy at last. Among the story's themes is the importance of active participation. At first, the boy merely suffers passively; the bird, in contrast, takes initiative. The story seems to say that hopeless situations change when we take an active role with respect to them.

"The Juniper Tree," like many fairy tales, is full of violence. This, Bettelheim says, is often necessary because the child's imagination does not shrink from aggressive fears and fantasies. We chose "The Juniper Tree" because we have found that 9- to 11-year-old children are intrigued by it and because it is obscure and therefore free of the prefabricated images that other stories have acquired from Walt Disney and other media renditions.

The *S*s in the film condition saw "Popeye Meets Sinbad" (4). This film is equal to the fairy tale in length (15 minutes) and seems about equal in overall amount of violence. We chose Popeye because he is so popular, and this film in particular because it is relatively obscure, being one of the first three color films made. It was shown on a screen with a 16 mm projector.

For the trivial story condition, we created a new story, "Bullet Bob," an exciting but superficial and cliché-ridden account of a cowboy's adventures. Bullet Bob and his sidekick Pete confront belligerent Indians, a snake, and a wolf before finally tracking down and killing a gang of ruthless murderers. This story also was equal in length to the fairy tale and contained about the same amount of violent content. It was told by the same young woman who told the fairy tale.

c. Procedure. To begin each session, a group of *S*s was escorted to a room by the *E*, who told them they would hear a story (or see a film) and that they would have a chance to play a little afterward. She explained that she was interested in how children liked these kinds of stories (or films). After the *S*s had heard the story or had seen the cartoon, they were told, "Now why don't you play with those dominoes over there"—at a table with three chairs and three piles of 47 dominoes. Nearby there also was a shelf with a few toys—a plastic truck, a model airplane, and two handpuppets. During the play period, which lasted 10 minutes, the *E*—and the storyteller or

another reliability rater—pretended to busy themselves with paperwork while they independently coded the *S*s' play. Following the play period, the *E* asked the *S*s how they liked the story (or cartoon) and then led them back to their classroom.[2]

d. Scoring. The *S*s' composure and concentration during the play period was assessed by Pulaski's (7) five-point concentration scale which assigns the lowest scores for behavior that is aimless and distractible and the highest scores when *S*s become so absorbed in play that they are oblivious to outside stimuli (such as noises, other toys, or the adults in the room).

For purposes of interrater reliability evaluation, the ratings of the *E*, who observed all the children, were compared to the ratings of the other judges. The correlation between the ratings of the *E* and the storyteller, estimated by Spearman's rho (corrected for ties), was .80 (for 42 *S*s). The correlations between the *E*'s ratings and those of two naive judges were .88 and .91 for 12 and 21 *S*s, respectively.

The various raters also noted the extent to which the *S*s played together with the dominoes. That is, they noted whether all three *S*s played together, or two played together, or all played alone. There was perfect agreement among raters on this variable.

2. *Results*

Although the *S*s were rated individually on Pulaski's concentration scale, their scores could not be considered as independent because they could have been influenced by the behavior of the others in their groups. Accordingly, the individual ratings were converted into a single median score for each group. Mann-Whitney *U* tests (one-tailed) indicated that the fairy tale condition had higher group scores than did the film condition ($p < .01$) or the trivial story condition ($p < .01$). The median group scores were 4.20, 2.75, and 2.95 for the fairy tale, film, and trivial story conditions, respectively.

As an index of social play with the dominoes, values of 0, 1, or 2 were given to the groups depending on whether no *S*s, two *S*s, or all three *S*s played together at any time. Mann-Whitney *U* tests indicated that the fairy tale condition had significantly lower group scores (less social play) than either the film condition ($p < .025$) or the trivial story condition ($p < .01$). The median group scores were .13, 1.88, and 1.25 for the fairy tale, film,

[2] Although we did not attempt to quantify the *S*s' opinions of the film or stories, they invariably seemed quite engrossed in them and later said they liked them very much. The same was true of nearly all the *S*s in Experiment 2.

and trivial story conditions, respectively. The median score for the fairy tale condition was so low because domino play was completely solitary in eight of the 10 groups; this was true of only two of the 10 film groups and none of the five trivial story groups.

3. *Discussion*

Despite our earlier informal observations, we were surprised by how differently the *S*s who had heard the fairy tale behaved in comparison to the others. After the films or the trivial stories, the *S*s usually rushed over to the play table (even before the *E* began telling them to do so), and they played quite actively with one another, occasionally looking up at the adults in the room. After the fairy tale, in contrast, there was a marked hush. These *S*s were in no hurry to get to the play table, and when they played it was in a very quiet and self-absorbed manner, showing little interest in the other children or in the adults in the room. They seemed lost in their own thoughts. Only when they headed back to the classroom did they begin to act and play like the other children.

Although Experiment 1 produced dramatic results, it had shortcomings and raised new questions. One problem was that most of the ratings were done by investigators who knew the purpose of the study, creating a possible bias. In Experiment 2, the statistical analyses were based solely on the scorings of naive raters.

We also wondered about the appropriateness of the concentration scale. It is rather global and subjective and seemed, for our purposes, slightly misleading. The *S*s in the fairy tale condition scored high on this scale primarily because they exhibited so little restlessness or distractibility; they were oblivious to everything except the dominoes placed in front of them. However, it did not seem that they were necessarily concentrating so intently on the dominoes, as the scale assumes, but that they were still lost in thought. We decided to focus more closely in Experiment 2 on what was most obvious—the *S*s' subdued and self-absorbed state—and to add three more specific behavioral measures of this state. We examined the frequency with which the *S*s looked up at the adults in the room, stood up from their seats, and talked to the other children. The prediction was that those who had heard the fairy tale would engage in these activities less frequently.

Another question was, ironically, raised by the dramatic results of Experiment 1. The impact of the fairy tale was so strong that we wondered whether the tale was not simply more meaningful but more shocking. Perhaps it contained a particularly personal kind of violence (e.g., a child killed by a

stepmother) and had stunned the *S*s. We therefore wanted to replicate the experiment with the use of a different fairy tale.

A final concern was that the *S*s in Experiment 1 were slightly older than those who most frequently hear fairy tales, and they were minority children living in an urban ghetto. We therefore wanted to see if similar results would emerge with younger children from a background closer to the American mainstream.

C. Experiment 2

1. *Method*

a. Subjects. The *S*s were 30 boys and 30 girls enrolled in the first grade of a public school in a working class community on Long Island, New York. The mean age was 6.8 years. Two *S*s were of Hispanic background, one was Asian, and the rest were white.

The *S*s again participated in groups of three. The fairy tale condition had eight groups and the film and trivial story conditions each had six groups. The *S*s were assigned to the groups in a random manner, except for balancing the conditions with respect to the sex distributions of the groups.

b. Stories and film. The fairy tale was the Grimms' "The Goose Girl" (6). This story, which was once popular in Europe but is now less well known, concerns a princess who is robbed of and then regains her position as the future bride of a king in a distant land. According to Bettelheim (2), the story addresses oedipal concerns and suggests how one can deal with them by taking steps toward maturity and self-realization. Like "The Juniper Tree," "The Goose Girl" contains violence, but the violence seems less personal in that nothing gruesome happens to the heroine herself.

The film was another in the original Popeye series, "Popeye Meets Ali Baba's Forty Thieves" (5). "Bullet Bob" was again used as the trivial story. Each fairy tale, film, and trivial story presentation again lasted about 15 minutes.

c. Procedure. The procedure was the same as in Experiment 1, except that in Experiment 2 the *E* doubled as the storyteller and, as mentioned above, we added three new measures of behavior during the 10-minute play sessions. Also, in Experiment 2 a naive observer attended three randomly selected presentations of both the fairy tale and the trivial story and was then asked if she had noticed any differences in the storyteller's behavior or enthusiasm. The observer said she had not seen any.

d. Scoring. A principal rater, who was blind to the purpose of the

study, observed all the play sessions. To assess interrater reliability, her judgments were compared to those of two other raters: another naive rater who observed six randomly selected sessions (18 *S*s), and the *E*, who observed a separate 12 sessions (36 *S*s). Interrater agreement on the individual frequencies for looking at the adults in the room and the concentration scores ranged between .76 and .87 (Spearman's rho, corrected for ties). Agreement on whether individual *S*s left their seats and on the extent of social play with the dominoes ranged between 90% and 94%. The amount of silence in the groups was estimated from tape recordings of all the play sessions. Agreement between two judges, blind to the identity of the groups, was .97 (Spearman's rho). The data analyses reported below were based solely on the scorings of the blind raters.

2. *Results*

Scores for concentration and social play with the dominoes were calculated in the same manner as in Experiment 1, and all statistical inferences were again based on Mann-Whitney *U* tests (one-tailed).

On concentration, the fairy tale condition again had higher group scores (median = 3.87) than the other two conditions (medians = 2.75). However, the differences between the fairy tale condition and the other two were not statistically significant.

The scores on social play were again lower in the fairy tale condition (median = .17) than in the other two conditions (medians = 1.50). The fairy tale groups differed from the film groups at the .05 level of significance, but only differed from the trivial story groups at the .11 level.

The three new dependent variables in Experiment 2 were "amount of silence," "looking at adults," and "leaving the seat." During the 10-minute play period, the fairy tale groups spent a median of 7.16 minutes in silence, compared to 1.25 minutes in the film condition and 4.77 minutes in the trivial story condition. The fairy tale condition differed from each of the other two conditions at the .01 level on this variable.

No children ever got up from their seats in any of the fairy tale groups. The median number who did so in the film groups was 1.50 and in the trivial story groups was 2.30. The differences between the fairy tale condition and the other two conditions were significant at the .01 level.

The final new dependent variable was the frequency with which the *S*s looked up at the adults in the room. Because these frequencies approximate interval data, we simply summed the three individual scores to form each group score. The fairy tale condition had the lowest group scores (median =

.83 compared to 9.0 in the film condition and 5.50 in the trivial story condition). Scores in the fairy tale condition differed from those in the film condition at the .001 level and differed from those in the trivial story condition at the .05 level.

D. General Discussion

Overall, the two experiments indicated that the *S*s who had heard the fairy tales, in comparison to those who had seen the films or had heard the less meaningful stories, subsequently played in a very subdued and self-absorbed manner. To be sure, the results in Experiment 2 were not as clear-cut on the measures of concentration and social play. However, those who had heard the fairy tale subsequently spent longer periods in silence, less frequently left their seats, and less frequently looked up at the adults in the room. These *S*s once again seemed to be absorbed in their own thoughts.

The two studies, then, support Bettelheim's claim that fairy tales can be quite meaningful and thought-provoking for children. Caution is in order, of course, because we examined only a limited number of stories and films, and because the experiments did not thoroughly guard against all sources of possible bias. Experiment 2 removed potential rater bias, but the *E*/storyteller did know the purpose of the study and her expectations could have influenced the results in some subtle ways. Still, in both studies the *E*s themselves were quite surprised by the deeply introverted state of those who had heard the fairy tales. Also, the contrasting behavior patterns were evident the instant the stories or films had ended—seemingly before the *E*s would have had an opportunity to provide any subtle cues.

We also would like to mention the impressions of three completely naive *E*s in a study just completed by Brandt (3). Each *E* told one group of 10-year-olds fairy tales and another group biographies. Although the study was not concerned with the immediate effects of the stories, Brandt asked the *E*s if they noticed any differences. All three said that those who had heard the fairy tales were much quieter and more pensive.

In a different vein, one might object that the results of the present study do not necessarily show that the fairy tales were especially thought-provoking; instead, the results might merely reflect certain stimulus properties of the treatment conditions. Perhaps the showing of a cartoon signalled "fun time," and the children behaved accordingly—in a loud, animated, and sociable fashion. The telling of stories, in contrast, might have elicited quiet and subdued behavior because these responses had become conditioned to stories as bedtime rituals. These speculations contain a degree of plausibil-

ity, but they would not seem to account for the differences between the fairy tale and the trivial story conditions, which seem to reflect differences in the meaningfulness of the stories for the children.

One might also wonder whether the results were influenced by differential modeling effects. We know that children will readily imitate filmed aggression (1); perhaps such imitation explains some of the loud and animated play in the film conditions. However, no *S*s mimicked Popeye, and hardly any *S*s in any condition behaved in clearly aggressive ways. Instead, the *S*s in Experiment 1 typically lined up the dominoes to produce falling domino effects, while those in Experiment 2 usually used the dominoes to construct roads or buildings. Perhaps more imitation would have occurred had the play materials more closely resembled the instruments of aggression in the films or stories. In any case, it does not appear that the differential modeling of aggression played much role in our findings.

In general, then, it seems most likely that the fairy tales left the *S*s in a uniquely subdued and self-absorbed state because these stories touched on their inner concerns. Fairy tales may, as Bettelheim says, provide children with important inner experiences—experiences which seem to have become increasingly rare in this age of technologically advanced entertainment.

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