

## FACILITATION OF ADULT CREATIVITY THROUGH TELEVISION PROGRAMS

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The influence of television on the daily lives of Americans has been well-documented in the realms of politics, sports, advertising, and others. Of particular interest to parents, psychologists, and educators has been the impact of television on viewer behavior and attitudes. Until recently, more attention has focussed on potential negative aspects (e.g., aggression) of the medium than on the positive aspects (e.g., prosocial behavior). In addition, much of the research into both positive and negative effects of TV have used controlled, experimental productions instead of actual television programs (Sprafkin, Liebert, & Poulos, 1975). Now it appears that, increasingly, researchers are measuring effects of actual commercially broadcast programs such as "Medical Center" (Milgram & Shotland, 1973), "Misterogers' Neighborhood" (Stein & Friedrich, 1972), "Lassie" (Sprafkin et al., 1975), and "Sesame Street" (Sproull, 1973). Typically, changes in the viewers' behavior are assessed following film observation. In general, the results tend to indicate increased behaviors in the direction of the TV programs' content slant. In other words, watching an aggressive program tends to increase the viewer's aggressive behavior and watching a prosocial program tends to increase positive social behaviors (e.g., helping, sharing). The present report is an attempt to assess the effects of a particular TV program on creativity. Although creativity is a much researched area of psychology (Guilford, 1967), this variable has not been adequately investigated previously in regard to modeling effects by television. In recent years, creativity research has been concerned with how to enhance creativity, particularly in children (Glover & Gary, 1976; Goetz & Baer, 1971; La Greca & Santogrossi, 1976; Torrance, 1965). Several studies have found that modeling of creativity, in particular, can foster various types of creativity (Belcher, 1975; Evans & Fredereksen, 1972; Harris & Evans, 1973; Zimmerman & Dialessi, 1973). However, the modeling presentations were specially developed by these experimenters for the laboratory. In the present study, we chose to measure the effects of a creative, commercial TV program ("Make A Wish") to insure more direct generalizability of possible findings. The "Make A Wish" television program is produced by the American Broadcasting Company (ABC News) and has been broadcast on Sunday mornings. The program consists of a narrator singing and making word associations revolving around a central theme (e.g., heart: "heart of gold," "artichoke heart") while pictures, film clips, and cartoons are shown on the screen. The program is generally aimed at children, but is of interest to adults as well.

Additionally, none of these studies noted above have compared the two basic types of creativity modeling--human verbal modeling and didactic written examples. The present study compared the two forms of modeling of creative responses and included two control conditions to determine the relative efficacy of creativity facilitation. For this experiment, creativity was operationalized as the number of word or phrase associations (Fluency) and the statistical uniqueness of the associations (unusualness or Originality) made by the subjects in response to a given stimulus word.

### Method

#### Subjects

The subjects were college students in elementary psychology participating for experimental credit in the course. The experimenters were a college-

age male and female. A 2 X 2 design was generated for modeling vs. no modeling, TV presentation vs. paper presentation. Subjects were randomly assigned to the four basic experimental groups with 5 males and 5 females in each group. All members of a particular group participated at the same time.

#### Procedure

The Make A Wish modeling group viewed a 15 minute segment of a videotaped playback of a program consisting of creative word associations to the stimulus word heart (as noted above). The Flintstones cartoon group served as a control for the effects of television viewing regardless of program content. This group viewed a 15 minute videotaped segment of a Flintstones program. The written model group was given several examples of responses to two stimulus words with instructions regarding associations. The no modeling group served as a control for all modeling conditions and did not view television or receive any written examples. After proceeding through the appropriate condition, all subjects were given the creativity measures.

All subjects were first asked to write word associations to the stimulus word heart (15 minutes were allowed). Secondly, all subjects were asked to make associations to the stimulus word pearl (15 minutes). These associations yielded the two types of dependent measures--Fluency and Originality.

#### Results

First, the total numbers of associations to the two stimulus words were counted separately for each subject and averaged for each group. This yielded a score for Heart Fluency and Pearl Fluency. Secondly, a frequency distribution was compiled, across groups, for each of the responses generated by the subjects in association to heart and pearl. For example, the following associations of "heartbeat," "softhearted," "zing went the strings of my heart" were made 39, 8, and 1 time(s) respectively by the subjects to the word heart. Of the associations for pearl, "pearl necklace," "mother of pearl," and "gates of pearl" were made 36, 19, and 1 time(s) respectively. In all, 450 associations were made to heart, 453 associations to pearl. After determining the frequency of each association, these numbers were transformed to points by the following formula: a frequency of 1-2 = 3 points; 3-5 = 2 points 10 and above = 0 points. Thus, the higher the point score, the more unique the response. These transformed scores were then paired with each subject's particular associations and an average point score for each subject was computed. This procedure was completed for heart and pearl separately, and thus yielded the two measures of Heart Originality and Pearl Originality. The mean averages for the groups on the four basic measures are depicted in Table 1.

The data for each measure were analyzed by a 2 X 2 Analysis of Variance (ANOVA) for modeling vs. no modeling and TV vs. paper presentation. For Heart Fluency, a significant main effect for type of presentation was obtained, with the TV groups outperforming the no-TV groups,  $F(1, 36) = 5.51, p < .05$ . Individual comparison tests revealed that the Make A Wish group outperformed the Written model group  $F(1, 36) = 6.29, p < .05$ , but no other comparisons were significant. There was a significant interaction between modeling and type of presentation for Pearl Fluency,  $F(1, 36) = 6.72, p < .05$ . This interaction was further probed by analyses for simple effects which indicated that both the No model and Make A Wish groups outperformed the Written model group,  $F(1, 36) = 6.05, p < .05$ , and  $F(1, 36) = 7.44, p < .01$ , respectively.

The ANOVA for Heart Originality yielded a significant main effect for type of presentation with the modeling groups outperforming the No model con-

TABLE I  
MEAN SCORES FOR FLUENCY AND  
ORIGINALITY BY EXPERIMENTAL GROUP

Group:	Fluency <sup>a</sup>		Originality <sup>b</sup>	
	Heart	Pearl	Heart	Pearl
Make A Wish	20.4	15.6	1.53	1.52
Flintstones	18.9	12.9	1.20	1.26
Written Model	13.6	9.5	0.77	0.86
No Model	16.7	15.0	1.23	1.49

<sup>a</sup> Average total number of associations per subject.

<sup>b</sup> Average transformed score for statistical uniqueness of each association per subject.

Note: Higher scores denote greater creativity.

trol group,  $F(1, 36) = 5.87, p < .05$ . A significant interaction,  $F(1, 36) = 6.94, p < .05$ , was probed for simple effects, which indicated that No model and Make A Wish groups were superior to the Written model group,  $F(1, 36) = 4.72, p < .05$ , and  $F(1, 36) = 12.89, p < .01$ , respectively.

The ANOVA for Pearl Originality found no main effects, but did obtain a significant interaction for modeling and type of presentation,  $F(1, 36) = 7.33, p < .01$ . Analyses for simple effects revealed that once again the No model and Make A Wish groups did better than the Written model groups,  $F(1, 36) = 7.91, p < .01$ , and  $F(1, 36) = 7.20, p < .05$ , respectively.

On all four measures, the Make A Wish group had the highest level of creative performance and the Written model group had the lowest. With the exception of Heart Fluency, where No model and Flintstones groups were reversed, the order of the four groups in terms of their creative output was Make A Wish > No Model > Flintstones > Written Model.

#### Discussion

The present experiment found a television program can influence the creative responses of college students relative to written example modeling and no modeling. Where statistical differences were not obtained, the basic trend in the results supports this conclusion. The Make A Wish Group consistently achieved the highest creativity scores with the Flintstones group, the no modeling group, and the written example group generally following in that order.

The lack of statistical differences between the Make A Wish group and the two control groups may suggest that the television is not facilitating creativity so much as the written example form of modeling is restricting creative performance. Thus, the didactic instructional format of the written-

example condition may have deleterious effects on creativity. This suggests that caution is needed when selecting modes for enhancing creativity. The written modeling procedures might approximate the typical programs that teachers institute in the classroom to stimulate creativity or originality. The evidence here is that these procedures can inhibit creativity, at least with adults. Further research is necessary to determine the full extent to which this may occur with children.

Although the Make A Wish group consistently achieved the highest creativity scores, it did not differ statistically from the No model group. Perhaps, the single-experience observation of the Make A Wish program was insufficient to substantially influence the subjects' creativity. The benefits of viewing this program may be more apparent over a long-term period.

It should be noted that this report is the first to consider the effects of commercially broadcast television programs on creativity. The pattern of the present findings are similar to those found by researchers investigating other commercial television effects in that they, too, obtained marginal findings for the behavior they were investigating (e.g., Sprafkin et al., 1975; Sproull, 1973). As noted previously, experimentally developed modeling-tapes tend to have more definite effects than do the commercial programs (e.g., Belcher, 1975; Zimmerman & Dialessi, 1973). These differences in types of effects may result from the inability to control several important factors in the commercial programs (e.g., format, educational and entertainment content) which can be more rigorously controlled in the laboratory. While it may be important to isolate the variables that are contributing to the overall impact of TV shows, it is also most essential to assess the influence of actual programs.

This experiment does show the beneficial influence of the Make A Wish program on creativity in adults. Although this particular program is ostensibly designed for children, the present results with adults have implications for television programming in general. An interesting and entertaining TV program can also contain positive, educational aspects which can benefit the viewer.

#### FOOTNOTE

- 1 Thanks are due to Dianna R. Moore, Mel Walters, and David A. Santogrossi for assistance on this study at various stages. Portions of this paper were presented at the Spring meeting of the Indiana Psychological Association, Indianapolis, 1976. Send reprint requests to the first author, University of Oklahoma Health Sciences Center, Dept. of Psychiatry and Behavioral Sciences, Oklahoma City, Okla. 73125.
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