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Variations in the Gender-Stereotyped Content of Children's Television Cartoons Across Genres

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This study examined the gender-stereotyped content of children's TV network cartoons across 4 genres: traditional adventure (e.g., "Spiderman"), nontraditional adventure (e.g., "Reboot"), educational/family (e.g., "Magic School Bus"), and comedy ("Animaniacs"). Acting negatively, showing physical aggression, and being a victim were significantly less likely in the educational/family genre cartoons than any of the other three genres. Demonstrating romantic behavior was significantly more likely in the traditional adventure and the comedy genres than the other genres. Male characters were represented in cartoons significantly more than were female characters, but only in the traditional adventure and the comedy genres. Male characters were more likely than were female characters to use physical aggression, but only in the traditional adventure genre. Behaviors that were relatively more likely among female characters across genres included showing fear, acting romantic, being polite, and acting supportive. Most of the significant differences were also associated with very large effect sizes.

Television has become a major source for acquiring cultural information during one's development. Between 2 and 11 years of age, children spend an average of 28 hr each week watching television programming (Calvert & Huston, 1987; Huston & Wright, 1996). This is more time than they typically spend in any other activity besides school and sleep. Researchers have been concerned about the impact of television on children's socialization in general (Huston & Wright, 1996) and their gender learning in particular (Calvert & Huston, 1987; Signorella, Bigler, & Liben, 1993).

With regard to gender, children are able to infer dominant cultural stereotypes about women and men. First, children learn that men have more prominence and status in society than do women through the overwhelming overrepresentation of male characters in most television cartoon series (Barcus, 1983; Levinson, 1975; McArthur & Eisen, 1976; Sternglanz & Serbin, 1974; Streicher, 1974; Thompson & Zerbinos, 1995). Second, children regularly observe stereotyped portrayals of male and female roles and behaviors in the cartoons. For example, male characters are more likely to demonstrate physical aggression and leadership roles than

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are female characters; whereas female characters are more apt to demonstrate affection, romance, and supportive roles than are male characters (Barcus, 1983; Levinson, 1975; McArthur & Eisen, 1976; Sternglanz & Serbin, 1974; Streicher, 1974; Thompson & Zerbinos, 1995). Thus, perhaps it is no surprise that children's amount of television viewing is positively correlated with their own degree of gender stereotyping (Calvert & Huston, 1987; Signorella et al., 1993; Signorielli, 1993; Thompson & Zerbinos, 1997).

There is also a possible link between children's television viewing and their likelihood of enacting certain prosocial or aggressive behaviors (Calvert & Huston, 1987; Durkin, 1985a; Felson, 1996; Forge & Phemister, 1987; Liebert, 1986). Thus, consistent with sociocultural, ecological, and social-cognitive perspectives, television is one of the dominant microsystems in children's lives that both informs and maintains their conceptions of gender (Leaper, 2000).

Just as television programming can reinforce stereotyped notions of gender, it is also possible to use the medium to change children's gender stereotypes. Researchers testing the effects of counterstereotyped portrayals have used special programs created specifically for their studies (e.g., Davidson, Yasuna, & Tower, 1979; Durkin, 1985b; Jeffery & Durkin, 1989). However, an additionally useful strategy would be to compare different types of existing cartoons on network television for their relative levels of stereotyped or counterstereotyped content. As Thompson and Zerbinos (1995) recently reported, there has been a modest decrease in the degree of gender stereotyping in cartoons during the last 20 years. Therefore, one of the major goals of the present study is to compare different genres of children's cartoons for gender stereotyping. This information might prove useful to parents, educators, media consultants, and researchers who are concerned about the television content to which children are exposed.

Thompson and Zerbinos (1995) published a report that included a comparison of three cartoon genres based on categories used 20 years earlier by Streicher (1974). They looked at the relative amounts that lead female characters and lead male characters demonstrated different behaviors in continuing adventure (e.g., "G.I. Joe"), chase-and-pratfall (e.g., "Road Runner"), and teachy-preachy (e.g., "The Little Mermaid") types of cartoons. Their analyses of cartoon genre effects were restricted to within-gender comparisons. Thus, for example, they found that female lead characters were least represented in numbers in continuing-adventure cartoons and were most stereotypical in behavior (e.g., affectionate, emotional) in teachy-preachy cartoons. Male lead characters were depicted as more stereotypical (e.g., physical aggression, leadership) in continuing-adventure cartoons, and shown as most counterstereotypical (e.g., prosocial, affectionate) in teachy-preachy cartoons.

Thompson and Zerbinos' (1995) analyses reveal some ways in which female and male characters are presented differently depending on the type of cartoon. However, there are two limitations of their analyses. First, they looked only at

lead characters. Given the generally low occurrence of female lead characters, observing instances of female behavior would have been constrained accordingly. Therefore, the analyses in the present study look at the behaviors of all discernible cartoon characters. A second limitation is that the researchers did not fully exploit their statistical design. Although Thompson and Zerbinos considered character gender and cartoon genre as factors, they only reported two types of statistical analyses with these factors: the effect of character gender across all cartoon types, and the effect of cartoon type for male and female lead characters separately. In effect, using a series of *t* tests, they tested (a) for character gender main effects and (b) for cartoon genre simple main effects by each character gender. In contrast, the present study used an ANOVA design to test for character gender main effects, cartoon genre main effects, interaction effects, as well as any simple main effects.

Four cartoon genres were selected for study. Two of the selected genres overlap with what Streicher (1974) and Thompson and Zerbinos (1995) called teachy-preachy and continuing-adventure cartoons. The teachy-preachy cartoon type is referred to here as the *educational/family* genre. It includes cartoon series that offer educational or family-oriented stories (e.g., "Magic School Bus," "Free Willy"). The continuing-adventure cartoon is referred here as the *traditional adventure* cartoon. This genre features a central male action hero (e.g., "Spiderman," "Batman"), and is perhaps the most popular type of cartoon among boys (Thompson & Zerbinos, 1997). One change in adventure cartoon shows during the last decade is that some adventure series now include action teams with both male and female members (e.g., "Gargoyles," "Reboot") or even a central female lead ("Sailor Moon"). A third genre was therefore identified as the *nontraditional* adventure cartoon. Finally, a fourth popular genre examined was the *comedy* cartoon featuring recurring male and female animal characters in various comic or satirical situations (e.g., "Goof Troop," "Animaniacs"). The one genre not studied in the present study that has been previously identified is the chase-and-pratfall cartoon (e.g., "Road Runner"; Streicher, 1974; Thompson & Zerbinos, 1995). This type of cartoon appears to have declined in popularity during the last 20 years (Thompson & Zerbinos, 1995).

Method

Cartoons Sampled

Three episodes each of 12 different children's network cartoon programs were analyzed during a recent television season. Four genres of animated programs were sampled: traditional adventure, nontraditional adventure, comedy, and educational/family. The *traditional adventure* genre refers to a cartoon series emphasizing a central male hero. The shows we sampled in this genre were

"Aladdin," "Batman," and "Spiderman." The *nontraditional adventure* genre refers to action shows including either a central female character or a balance of main female and male characters. For this genre, we analyzed "Sailor Moon," "Reboot," and "Gargoyles." The *comedy* genre involves animal characters in satirical or situation comedies. We sampled "Animaniacs, "Goof Troop," and "Tiny Toons." The *educational/family* genre refers to shows emphasizing educational learning or family-oriented plots. This last genre included "Carmen Sandiego," "Free Willy," and "The Magic School Bus."

Coding

Three researchers did the coding. After obtaining satisfactory coding reliability, each researcher coded one videotaped episode of each cartoon. Thus, three episodes of each cartoon program were coded. The programs were coded for the following categories using a time-sampling method during the first 8 min of the cartoon:

Total characters. The number of female characters and the number of male characters were counted for every 15-s period during the first 8 min of each cartoon episode. The average number of female and male characters was computed by dividing the scores by the number of segments sampled.

Behavioral characteristics. We used a time-sampling method to note whether or not a female or a male character demonstrated each of the following behaviors within a 5-s period: talking, fear, negative (i.e., showing anger or verbal aggression), physical aggression, victim (i.e., being a victim of physical aggression), directive (i.e., giving a suggestion or making an order), romantic (i.e., flirtatious or sexual appearance; showing love or romantic feelings), politeness, and support (i.e., giving praise, nurturance, or agreement). A 5-s time-sampling unit is considered a sensitive time period for this sort of analysis (Mann, ten Have, Plunkett, & Meisels, 1991). The behavioral scores were subsequently adjusted by dividing them by the average number of characters per cartoon of each gender. The rate scores reflect the average number of times a particular behavior occurred per character for a particular gender. In this way, the adjusted behavior scores compensated for possible differences in the number of male and female characters represented.

Reliability

After spending several weeks practicing the coding scheme together, three research assistants were tested for their intercoder reliability using segments from 10 cartoon episodes. Each assistant independently scored the same taped episodes. Reliability was assessed using Spearman rank-ordered correlation coefficients. Average levels of agreement between coders for each of the scored categories are as follows: number of characters, $r = .95$; talking, $r = .86$;

Table 1

Means and Standard Deviations Associated With Significant Genre Main Effects

	Genre			
Behavior/role	Traditional adventure	Nontraditional adventure	Comedy	Educational/ family
Negative	3.12_a (1.62)	2.65_a (1.68)	4.14_a (1.81)	1.36_b (0.78)
Physical aggression	3.27_a (1.74)	3.02_a (2.10)	2.08_a (2.25)	0.47_b (0.46)
Victim	5.65_a (3.60)	3.18_a (2.05)	3.60_a (2.26)	1.28_b (1.16)
Romantic	1.21_a (0.80)	0.47_b (0.48)	1.57_a (1.16)	0.30_b (0.53)

Note. Standard deviations appear in parentheses. Means in the same row with different subscripts are significantly different, $p \leq .05$.

assertion, $r = .80$; negative, $r = .76$; physical aggression, $r = .61$; victim, $r = .60$; fear, $r = .65$; romantic, $r = .66$; polite, $r = .75$; and supportive, $r = .67$. After the reliability test, coders discussed and reconciled their differences before pursuing additional coding.

Results

A mixed-design two-way ANOVA was carried out using cartoon genre as a between-group factor and character gender as a within-group factor.

Genre Differences

Significant genre main effects occurred with acting negative, $F(3, 32) = 5.15$, $p < .01$; showing physical aggression, $F(3, 32) = 4.54$, $p < .01$; being a victim, $F(3, 32) = 4.91$, $p < .01$; and demonstrating romantic behavior, $F(3, 32) = 5.22$, $p < .01$. The corresponding means and standard deviations for these four behaviors broken down by the four genres are presented in Table 1. Within-group comparison tests reveal that being negative, showing physical aggression, and being a victim were significantly less likely in the educational/family genre cartoons than in any of the other three genres. Demonstrating romantic behavior was significantly more likely in the traditional adventure and the comedy genres than in the nontraditional adventure or the educational/family genres.

Character Gender Differences

As summarized in Table 2, several significant character gender main effects occurred. As expected, male characters were represented in cartoons significantly more than were female characters. When adjusted by the number of characters for

Table 2

Mean Portrayals of Male and Female Characters

Variable	Male characters		Female characters		$F(1, 32)$	Effect size d
	M	(SD)	M	(SD)		
Average number	5.38	(1.95)	2.88	(2.02)	27.59***	1.86
Talk	29.28	(10.28)	31.49	(14.59)	0.72	0.30
Assert	4.04	(2.01)	4.69	(3.00)	1.97	0.50
Negative	2.47	(1.73)	3.17	(3.03)	1.60	0.45
Physical aggression	2.73	(2.61)	1.69	(2.07)	9.95**	1.12
Victim	4.27	(3.24)	2.58	(3.01)	13.59***	1.30
Fear	2.59	(1.67)	4.24	(5.07)	4.08*	0.71
Romantic	0.49	(0.63)	1.29	(1.57)	11.33**	1.19
Polite	0.60	(0.54)	1.07	(1.21)	4.58*	0.76
Supportive	1.11	(0.68)	1.98	(2.92)	3.45†	0.66

Note. According to Cohen (1977), effect sizes can be interpreted as *negligible* if d is below .20, *small* if $d = .20$, *medium* if $d = .50$, and *large* if $d = .80$ or above.
†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

each gender, the following behaviors tended to occur more among male characters: using physical aggression and being a victim of aggression. Other behaviors were relatively more likely among female characters: showing fear, acting romantic, being polite, and acting supportive. Most of the significant differences were also associated with very large effect sizes (Table 2). There were no overall character gender differences in rates of talking, being directive, or acting negative.

Genre × Gender interaction effects indicate that two previously described gender differences were specific to particular cartoon genres. There were significant interaction effects with average number of characters, $F(3, 32) = 4.50$, $p < .01$; and physical aggression, $F(3, 32) = 5.94$, $p < .01$. Paired t tests were run to test for character gender simple main effects (Table 3). The higher incidence of male than female characters was significant only in the traditional adventure and the comedy genres. The significantly greater rate of physical aggression among males than females occurred only with the traditional adventure genre.

Discussion

As expected, rates of gender-typed behavior varied depending on the cartoon genre as well as the cartoon characters' gender. Consistent with several prior

Table 3

Simple Main Effects for Character Gender by Cartoon Genre

Behavior/genre	Male		Female		$t(9)$	d
	M	(SD)	M	(SD)		
Average number of characters						
Traditional adventure	6.29	(1.53)	1.45	(0.67)	9.59***	6.39
Nontraditional adventure	4.18	(2.08)	4.03	(2.61)	0.11	0.07
Comedy	5.97	(2.06)	2.66	(1.31)	5.10***	3.40
Education/family	5.09	(1.64)	3.38	(2.18)	1.70	1.13
Physical aggression						
Traditional adventure	5.00	(2.13)	1.54	(1.66)	5.46***	3.64
Nontraditional adventure	3.23	(2.96)	2.81	(2.49)	0.36	0.24
Comedy	2.15	(2.09)	2.02	(2.49)	0.45	0.30
Education/family	0.56	(0.57)	0.39	(0.44)	1.19	0.79

Note. A positive t score reflects a higher mean for male characters than for female characters. According to Cohen (1977), effect sizes can be interpreted as *negligible* if d is below .20, *small* if $d = .20$, *medium* if $d = .50$, and *large* if $d = .80$ or above.
***$p < .001$.

reports (see Calvert & Huston, 1987; Thompson & Zerbinos, 1995, for reviews), male characters outnumbered female characters. In the present study, there were almost twice as many female characters as male characters across all cartoon types. However, when broken down by different cartoon genres, a significant gender difference in average number of characters was found with traditional adventure and comedy series, but not with nontraditional adventure or educational/family series. In the traditional adventure genre, male characters outnumbered female characters more than 4 to 1. In comedy series, the ratio was over 2 to 1. In contrast, there was virtually an equal representation of male and female characters in nontraditional adventure series. Also, there were approximately 1.5 male characters for every female character in educational/cartoon series, and the difference was not statistically significant. Thus, although the overall message remains that it is "a man's world," there are some notable exceptions. Girls are more likely to find representations of same-gender characters in nontraditional adventure and educational/family cartoons.

Average differences were observed in the ways that female and male characters were portrayed. Across cartoon genres, males were depicted in a highly masculine stereotyped manner. Men or boys demonstrated higher rates of physical aggression with one another than did women or girls. Female characters were

also presented in a stereotyped fashion. Female characters showed relatively more fear. They also were more supportive and more polite than were male characters. Finally, female characters demonstrated signs of romance more than did male characters. In sum, the sampled cartoons generally offered children very traditional images of gender. Men are tough and susceptible to fights, whereas women are nurturing and susceptible to romance. The content of children's programming can both inform and maintain children's emerging schemas about gender (e.g., Calvert & Huston, 1987; Thompson & Zerbinos, 1997).

When genre effects were taken into account, however, the gender difference in physical aggression was limited only to traditional adventure cartoons. Male and female characters did not differ significantly in physical aggression in the nontraditional adventure, the comedy, or the educational/family genres. Once again, it appears that traditional adventure cartoons present the most gender-biased portrayals of masculine and feminine gender roles.

Overall differences between the different cartoon genres were also observed. Generally, educational/family cartoons had significantly lower rates of physical aggression, victimization, or negative behavior than did any other genre. Also, traditional adventure and comedy cartoons had more romantic behavior than did either nontraditional adventure or educational/family cartoons. Interestingly, the types of cartoons with the least romantic behavior were also the ones in which female characters tended to be both more common and less stereotyped. Thus, nontraditional adventure and educational/family cartoons might also offer examples of girls and boys interacting in platonic relationships. In the nontraditional adventure cartoons, female and male characters collaborated together in superhero teams. In the educational/family cartoons, girls and boys were shown learning about different topics together. In contrast, when female characters did appear in traditional adventure cartoons, they were often someone who was attracted to the hero (e.g., Jasmine in "Aladdin").

In conclusion, the findings indicate that children's television cartoons continue to portray gender in highly stereotyped ways. Some of the messages that children might learn are that men are more important than women (overrepresentation of male characters), men are aggressive and get into fights (higher rates of aggressive behavior and being a victim), and women are fearful or nurturing. Although the extent to which television influences young children's development continues to be debated, it is difficult to ignore the stereotyped lessons that children derive about gender from many of the popular cartoons. Correlational studies indicate an association between television viewing and gender stereotyping (Calvert & Huston, 1987; Signorella et al., 1993; Signorielli, 1993; Thompson & Zerbinos, 1997). Moreover, children's television habits might be related to their likelihood of enacting certain positive and negative social behaviors (Calvert & Huston, 1987; Durkin, 1985a; Felson, 1996; Forge & Phemister, 1987; Liebert, 1986). Thus, there is evidence to validate the concerns of many

parents regarding the gender-typed content of children's television programs, especially as they pertain to boys' gender typing (e.g., Ridley-Johnson, Surdy, & O'Laughlin, 1991).

As seen in the present study, however, children's television cartoons are not all the same. Traditional adventure cartoons generally presented the most gender-stereotyped portrayals, particularly with regard to gender differences in number of characters and physical aggression. In contrast, educational/family cartoons generally present the least amount of physical aggression, victimization, and negative behavior. Also, nontraditional adventure cartoons presented images of strong female characters. The recent changes reflect the greater tolerance usually found for masculine-stereotyped behaviors in girls than for feminine-stereotyped behaviors in boys (Leaper, 1994). We have yet to see many popular cartoons emphasizing images of warm, nurturing male characters. Nonetheless, the variation across television shows in gender stereotyping might reflect a positive trend toward more egalitarian depictions of female and male characters. If so, we wonder if there will be a corresponding change in viewers' attitudes toward gender (e.g., Durkin, 1985b; Jeffery & Durkin, 1989; List, Collins, & Westby, 1983).

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