

# Characteristics of Boys' and Girls' Toys

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In Study 1, 292 undergraduates rated 126 toys as to whether they were suitable for boys, girls, or both. From these ratings, we established five categories of toys: strongly masculine, moderately masculine, neutral, moderately feminine, and strongly feminine. Using these categories, we constructed four toysets; each consisted of 15 toys, three from each category. In Study 2, 706 undergraduates individually rated the toys from one of the toysets on 26 scales that measured the toys' characteristics. We found that girls' toys were associated with physical attractiveness, nurturance, and domestic skill, whereas boys' toys were rated as violent, competitive, exciting, and somewhat dangerous. The toys rated as most likely to be educational and to develop children's physical, cognitive, artistic, and other skills were typically rated as neutral or moderately masculine. We conclude that strongly gender-typed toys appear to be less supportive of optimal development than neutral or moderately gender-typed toys.

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Toys play important roles in the lives of young children. They stimulate pretend play, the development of cognitive skills, and social play with other children. Toys are also highly gendered. Boys and girls generally have different toys, and it is important to know how those toys impact their development.

More than 30 years ago, Rheingold and Cook (1975) observed the toys and other objects present in 1- to 6-year-old boys' and girls' bedrooms. They found that boys and girls had the same number of books, musical items, stuffed animals, and the same amount of furniture. However, boys had a greater variety of toys, and they tended to have more toys overall. There were also differences in the kinds of toys that boys and girls possessed.

Boys had more vehicles (e.g., toy cars and trucks, and also larger items such as wagons). There were 375 vehicles in the boys' rooms and 17 in the girls.' Not one girl had a wagon, bus, boat, kiddie car, motorcycle, snowmobile, or trailer in her room.

Boys had more "spatial-temporal" toys (e.g., shape-sorting toys, clocks, magnets, outer-space toys); they also had more sports equipment (e.g., balls, skates, kites), toy animals, garages or depots, machines, military toys, and educational and art materials (despite the fact that these may be seen as gender-neutral).

Girls' rooms contained more dolls, doll houses, and domestic items (e.g., sinks, dishes, stoves). Boys almost never had domestic toys. Although dolls were more common for girls, it depended on the kind of doll. Girls had six times as many female dolls and nine times as many baby dolls as boys did, but boys and girls had about the same number of male dolls. In the boys' rooms, however, "dolls" were usually in such categories as cowboys and soldiers, probably comparable to today's action figures.

Since Rheingold and Cook's study, other researchers have reported on the kinds of toys boys and girls request (e.g., in their letters to Santa Claus), or what toys are purchased for boys and girls. Such studies have consistently shown that girls request and receive more clothing and jewelry, dolls, and domestic and musical items, whereas boys request and receive more sports equipment, vehicles, military toys and guns, and more spatial and temporal items such as clocks (Almqvist, 1989; Bradbard, 1985; Bradbard

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& Parkman, 1984; Downs, 1983; Etaugh & Liss, 1992; Richardson & Simpson, 1982). It is interesting that children apparently ask for more stereotyped toys than the ones parents spontaneously choose, which tend more often to be educational or artistic materials suitable for either gender (Robinson & Morris, 1986; Robinson, Watson, & Morris, 1984). Nevertheless, it is clear that both parents and nonparents purchase gender-stereotyped toys for children (Fisher-Thompson, 1993; Fisher-Thompson, Sausa, & Wright, 1995), especially for boys. Some studies have also shown that salespeople steer customers in the direction of gender-typical toys for children (Kutner & Levinson, 1978; Reynolds, 1994; Ungar, 1982).

There is evidence of some change over the years in children's toy requests. A recent study of children's letters to Santa showed that girls were as likely as boys to ask for real vehicles, sports equipment, and male dolls, and boys were as likely as girls to request clothing and educational or art toys (Marcon & Freeman, 1996). However, girls continued to be more likely to ask for dolls and domestic items, and boys were more likely to ask for toy vehicles, military and outer space toys, action figures, and spatial toys.

There are also many studies in which children were specifically asked about what toys they like, as well as observational studies of the toys with which children play (e.g., Blakemore, LaRue, & Olejnik, 1979; Campbell, Shirley, Heywood, & Crook, 2000; Carter & Levy, 1988; Martin, 1989; Martin, Eisenbud, & Rose, 1995; Serbin, Poulin-Dubois, Colburne, Sen, & Eichstedt, 2001; Servin, Bohlin, & Berlin, 1999). Although there are individual differences, the fact that boys and girls prefer and play with different toys is one of the most well-established features of gender development in children's early years. In fact, some recent research has shown differences in preferences for stereotyped masculine and feminine toys, even among young nonhuman primates (Alexander & Hines, 2002).

As boys and girls play with different kinds of toys, we certainly are interested in the impact of these differences in their play experiences. To understand the implications of boys' and girls' play with toys, we need to know how boys' and girls' toys are different. Some of the differences between boys' and girls' toys are obvious, but others are subtler. Some years ago, Miller (1987) examined several characteristics of boys' and girls' toys. With the assistance of preschool teachers, Miller selected 50 toys for young children to be rated by undergraduates on 12 different dimen-

sions (e.g., Can the toy be manipulated? Is it used for symbolic or fantasy versus reality play? Can it be used to express nurturance? Does it encourage aggression? Can it be used to construct something new?). She also had the toys rated by the undergraduates as more suited to boys or to girls.

Miller found that 41 of the 50 toys were rated as either boys' or girls' toys. Although most of the toys were rated as more appropriate for one gender or the other, there were also a few neutral toys (e.g., a rocking horse, a bank, an Etch-A-Sketch, Play-Doh, and some painting and drawing materials). The girls' toys included dolls, stuffed animals, and domestic items. The boys' toys included vehicles, balls, guns, and construction toys. Beyond these broad categories, Miller also found that the boys' and girls' toys had strikingly different characteristics. Boys' toys encouraged more fantasy play that was symbolic or removed from daily domestic life, whereas girls' toys encouraged fantasy play that was centered on domestic life. In other words, boys could use their toys to build something new or to imagine flying off to outer space, whereas girls could use theirs to pretend to iron clothes and wash dishes. Boys' toys were also rated higher on sociability (permitting play with others as opposed to solitary play), competitiveness, aggressiveness, and constructiveness. Girls' toys were rated higher on creativity, manipulability, nurturance, and attractiveness.

Although Miller did not rate toys on this dimension, Block (1983) once suggested that boys' toys are more likely to provide feedback to children than are girls' toys. Toys such as slot car racers, radio-controlled cars, or electric trains, which respond to a child's manipulations of the controls, are good examples of Block's point. Video games are another example. There is, however, no solid research that demonstrates that boys' toys are on the whole more responsive to children than are girls' toys.

There are also some content analyses that have focused on the differences between dolls or other human-like figures that are marketed to boys and girls. Klugman (1999) examined the characteristics of Barbie dolls versus action figures such as G. I. Joe and WWF figures. Action figure play often involves bad guys fighting with good guys. They also frequently come with weapons and instructions about how the action figures can use them. Fashion dolls such as Barbie, and the many variations of this type, usually have appearance-related accessories like combs and hair dryers that are used to act on the doll rather than for the doll to use. Klugman

also pointed out that boys' action figures are much more mobile and jointed in several places, whereas Barbie dolls have joints only at the shoulders and the hip. The boxes that contain the toys also differ. Action figures rarely have pictures of boys on the packages. Instead, the packages show the figures themselves, often more human-like than the actual doll, acting in various complex and highly colored illustrations. Language on the packages includes terms such as "kill" and "destroy." The packages for girls' dolls use pastel colors, and show real girls playing with, holding, grooming, or gazing at the dolls. We can see here a contrast between an emphasis on violence and aggression in toys for boys and an emphasis on appearance, grooming, clothing, and hairstyles in toys for girls. Of course, in addition to fashion dolls, their clothing, and other accessories, there are numerous other appearance-related toys for girls. One can purchase such items as pretend makeup, perfume, jewelry, "dress-up" clothes, and plastic, high-heeled shoes as toys for young girls.

Klugman's analysis is recent, but it focuses on only two categories of toys—action figures and fashion dolls. Much of the research on the types and characteristics of boys' and girls' toys was done many years ago (e.g., Miller, 1987; Rheingold & Cook, 1975). Since Miller's (1987) study, there has been little systematic or quantitative analysis of characteristics of toys that are associated with boys and girls. The purpose of the present research was to undertake such an examination.

In this article, we present the results of two studies. In the first study, we selected more than 100 contemporary children's toys chosen as representative of several different categories of toys. We attempted to include every imaginable type of contemporary toy, except for electronic toys such as video games, because extensive research has been done and continues to be done on the characteristics and impact of video and computer games (e.g., Anderson & Bushman, 2001; Cassell & Jenkins, 1998; De Lisi & Wolford, 2002).

The toys we selected were rated by undergraduates as to whether the toys were suited for boys, girls, or for both. The responses led to an identification of five gender-related categories of toys: strongly masculine, moderately masculine, neutral, moderately feminine, and strongly feminine. In the second study, toys from each of these categories were rated on 26 different scales that measured the toys' characteristics.

## STUDY 1

The purpose of Study 1 was to identify systematically a large and representative group of contemporary boys' and girls' toys. We wanted to know what kinds of toys are considered to be for boys and girls today, as compared to research findings from previous decades. We expected that some toys that have been seen as appropriate for one gender in the past might now be seen as appropriate for both genders, but that many toys would continue to be associated with a specific gender in predictable ways.

### Method

#### *Participants*

The participants were 292 (191 women; 101 men) introductory psychology students who received partial credit in return for their participation. They ranged in age from 18 to 53 years ( $M = 21.17$ ;  $SD = 4.80$ ). The majority of the participants were European American (85.3%); others were African American (5.8%), Hispanic (2.7%), Asian (2.4%), Native American (.7%), Biracial (1%), and others (1%). Sixteen (5.5%) participants were parents.

#### *Materials*

Using the Internet, toy catalogs, and advertisements, the authors and four research assistants established a pool of 275 color pictures of contemporary children's toys. We were guided by one general principle: to locate as many different kinds of toys as possible. The toys were then categorized into 27 general classes or categories of toys (see Table I) based on the toys' obvious qualities (e.g., were they vehicles or dolls?). We generated these categories in order to represent as many possible classes of toys (other than electronic toys such as video games) that exist for today's children.

At least one toy from each category was selected for use in Study 1. Because some categories were larger and/or more complex than others, the number of toys selected per category varied from 1 to 11 ( $M = 4.67$ ;  $SD = 2.42$ ), with a median of 5 toys per category, for a total of 126 toys. All of the toys are listed in Table II.

**Table I.** Categories of Toys Used in Study 1

Category	Examples of toys in the category
Action figures	G. I. Joe; Spiderman; WWF wrestler
Action figure accessories	Miniature guns and weapons; WWF ring
Small human figures	Cowboys and Indians; Polly Pocket figures
Plastic animals	Dinosaur; My Little Pony; zoo animals
Stuffed animals	Beanie Baby bear; Blue's Clue; Elmo
Accessories for figures and animals	Barn; tree house
Fashion dolls	American girl doll; Barbie doll
Baby dolls	Baby doll
Doll and accessories	Baby doll stroller; Barbie clothes; dollhouse
Makeup	Large Barbie head and accessories; vanity set
Dress up clothing	Ballerina costume; cowboy costume
Arts and crafts	Etch-a-Sketch; crayons; Play-Doh
Games and puzzles	Candy Land; memory
Learning skills or school materials	LeapPad; magnetic time teacher
Occupations	Doctor kit; firefighter gear
Science	Bug collection set; gears; microscope
Building or construction	Erector set; Legos; Lincoln Logs
Musical instruments	Drum; guitar; xylophone
Vehicles	Bus; small matchbox cars; helicopter
Vehicle accessories	Airport; police station; slot car racetrack
Ride-on vehicles	Foot-powered car; tricycle; wagon
Large motor play	Swingset; trampoline
Sports	Plastic baseball player; basketball hoop; football
Weapons	Sword
Domestic items	Brooms/mops; Easy bake oven; sewing machine
Playhouses	Castle tent
Other	Mr. Potato Head; Slinky; Viewmaster

### Procedure

Participants were told that they would be shown pictures of children's toys and asked to indicate whether the toys were for boys, girls, or for both. Each participant was given a questionnaire that consisted of demographic questions (age, gender, ethnicity, and how many children the participant had), and 126 color pictures of toys arranged randomly, four per page. At the top of each page of toy pictures a 9-point scale was provided. The 1, 5, and 9 points were labeled as follows: 1 = *toy is only for girls*; 5 = *toy is for both boys and girls*; and 9 = *toy is only for boys*.

Participants took part in small groups (maximum size 15), which were coordinated by one of

**Table II.** Ratings of Toys Used in Study 1

Category	<i>M</i>	<i>SD</i>
<b>Strongly feminine toys</b>		
Ballerina costume	1.40	1.47
Large Barbie head and accessories	1.40	1.14
Barbie jeep	1.44	1.18
Doll accessory pack	1.46	1.29
Barbie bicycle	1.48	1.12
Barbie clothes	1.48	1.19
Barbie doll	1.50	1.32
Lipstick and play makeup	1.50	1.35
American girl doll	1.51	1.29
Bratz doll	1.53	1.40
Jewelry	1.57	1.34
Princess costume	1.62	1.48
Toy shoes	1.72	1.57
My Little Pony	1.84	1.43
Baby doll	1.86	1.53
Polly Pocket figures	1.86	1.40
Vanity set	1.98	1.81
Tea set	2.10	1.54
Beads	2.11	1.45
Dollhouse	2.12	1.68
Easy Bake oven	2.16	1.55
Iron and ironing board	2.27	1.61
Baby doll stroller	2.32	1.77
Sewing machine	2.33	1.49
Pink ice skates	2.97	1.92
<b>Moderately feminine toys</b>		
Ken doll	3.13	2.08
Toy kitchen	3.15	1.71
Ello Creation Systems	3.27	1.87
Toy food basket	3.53	1.66
Brooms/mops	3.66	1.66
Beanie Baby bear	3.94	1.60
Vacuum cleaner	3.97	1.50
Toy store	4.27	1.47
Horses	4.29	1.43
Veterinarian costume	4.29	1.63
Veterinarian kit	4.44	1.43
Hamtaro	4.47	1.47
<b>Neutral toys</b>		
Candy Land	4.57	1.27
Lite Brite	4.61	1.03
Cash register	4.73	1.13
Winnie-the-Pooh	4.75	.97
Karaoke machine	4.81	1.12
Elmo	4.89	.75
Little people	4.91	.86
Gardening tools	4.93	1.77
Crayons	4.94	.85
Doctor kit	5.00	1.01
Xylophone	5.01	.88
Blue's Clue	5.02	.90
Magnetic time teacher	5.03	.57
Tricycle	5.03	.72
Play-Doh	5.03	.82
LeapPad	5.04	.73
Queasy Bake oven	5.04	2.31
Etch-a-Sketch	5.05	.88
Trampoline	5.07	.70

Table II. Continued

Category	<i>M</i>	<i>SD</i>
Slinky	5.07	.85
Foam board puzzle	5.09	.70
Viewmaster	5.10	.61
Memory	5.12	.73
Crystal growing set	5.14	1.34
Swingset	5.15	.77
Scooby Doo	5.15	.77
Zoo animals	5.15	.82
Mr. Potato Head	5.16	.88
Sponge Bob Square Pants	5.19	.84
Math flash cards	5.20	.85
Wagon	5.25	.93
Bus	5.27	1.00
Tree house	5.40	1.28
Wooden blocks	5.47	1.10
Harry Potter	5.50	1.21
Legos	5.51	1.00
Scooter	5.52	1.10
Drum	5.56	1.05
Moderately masculine toys		
Guitar	5.61	1.14
Castle tent	5.63	1.21
Microscope	5.64	1.14
Foot-powered car	5.65	1.21
Weather forecasting toy	5.71	1.22
Bug collection set	5.71	1.28
Barn	5.72	1.36
Grill	5.73	1.54
Tee ball	5.97	1.34
Dinosaur	6.07	1.31
Big wheel	6.08	1.41
Volcano creator	6.12	1.34
Pokemon cards	6.18	1.75
Power wheels car	6.21	1.54
Basketball hoop	6.23	1.43
Space station	6.25	1.52
Wheelbarrow	6.29	1.45
Gears	6.30	1.86
Airport	6.32	1.60
Lincoln Logs	6.35	1.45
Garage	6.49	1.46
Police station	6.58	1.48
Train set	6.59	1.53
Toy Story figures	6.60	1.60
Police officer gear	6.95	1.51
Strongly masculine toys		
DragonballZ	7.08	1.60
Small matchbox cars	7.13	1.48
Firefighter gear	7.18	1.52
Superhero costume	7.22	1.95
Helicopter	7.29	1.65
Erector set	7.33	1.51
Slot car racetrack	7.41	1.47
Remote-control car	7.46	1.50
Tool bench	7.55	1.49
Hockey goal, stick, and puck	7.58	1.43
Tonka truck	7.65	1.59
Cowboys and Indians	7.69	1.53
Football	7.73	1.37

Table II. Continued

Category	<i>M</i>	<i>SD</i>
Sports cards	7.75	1.52
Tool kit	7.76	1.39
Spiderman	7.76	1.49
Plastic baseball player	7.80	1.68
Sword	7.80	1.50
Cowboy costume	7.85	1.73
WWF accessories	7.95	1.57
Miniature guns and weapons	8.05	1.53
G. I. Joe	8.07	1.40
Transformer	8.10	1.34
Toy soldiers	8.15	1.31
WWF wrestler	8.30	1.26
WWF ring	8.30	1.24

five female undergraduates or by the first author. After they completed an informed consent form, the participants answered the demographic items and rated the toys using computer-scored answer sheets.

## Results and Discussion

The ratings of the 126 toys on the 9-point scale can be seen in Table II. We used these ratings to construct five gender-related categories of toys: strongly masculine ( $>7.0$ ); moderately masculine (5.6–7.0); neutral (4.5–5.5); moderately feminine (3.0–4.4); and strongly feminine ( $<3.0$ ). The toys in each category are identified in Table II.

We then used *t*-tests to examine gender differences in the rating of each of the toys. Because of the large number of comparisons, we examined only those differences in the ratings of men and women in which  $p < .001$  (all *ts*  $> 3.33$ ). Men and women differed in their ratings of only 9 of the 126 toys (7%). In all cases, men's ratings were more gender stereotyped, and women's were more toward the neutral midpoint of the scale. However, none of these differences in men's and women's ratings were very large. The largest difference, for the wheelbarrow (men's rating 7.07; women's rating 5.91), was rated as strongly masculine by men and as moderately masculine by women. In the other eight cases, the difference between men's and women's ratings ranged between .50 and .76 of a rating point. In four cases (Lincoln Logs, tee-ball, tool set, and blocks), the difference in ratings did not change the toy's category; in two cases (Legos and foot-powered car), men rated the toy as moderately masculine, whereas

women rated it as neutral; in two cases (toy hamsters and horses), men rated the toy as moderately feminine, whereas women rated it as neutral. To conclude, in general, men's and women's ratings were highly similar.

Study 1 had two purposes. One was to examine how contemporary adults judge the gendered nature of toys. The results indicate some change over the past several decades. Some toys previously judged (Bradbard, 1985; Miller, 1987; Rheingold & Cook, 1975) as being predominantly for boys (e.g., science toys, Legos, blocks, large vehicles) were often rated near the neutral point of the scale, as were some (although apparently fewer) traditional girls' household items (e.g., vacuum cleaner). However, it is clear that for the most part, toys remain very much associated with one gender or the other. Toys seen as almost exclusively for girls were predominantly associated with appearance, whereas those seen as almost exclusively for boys were associated with aggression or violence. However, other characteristics of boys' and girls' toys need further study. Thus, we used these ratings to select toys for further study, in order to examine the specific characteristics of boys' and girls' toys in more detail.

## STUDY 2

The purpose of Study 2 was to examine in more detail the characteristics of boys' and girls' toys. As discussed earlier, some years ago, Miller (1987) selected 50 toys for young children and had them rated by undergraduates on 12 different dimensions: manipulability, symbolic play, creativity, sociability, competition, handling, nurturance, constructiveness, aggressiveness, attractiveness, appropriateness for boys, and appropriateness for girls. In the present research, we selected the boys' and girls' toys in advance (in Study 1), and in Study 2, undergraduates rated them on a variety of different dimensions, including several used by Miller. In addition to the scales similar to those used by Miller, we added scales to measure qualities that might be associated with toys (e.g., exciting, fun, requires adult supervision, dangerous or risky). We generated some of the additional scales based on previous research, such as Block's (1983) suggestion that some toys provide feedback, and Alexander's (Alexander, 2003; Alexander & Hines, 2002) suggestion that boys' toys are appealing to boys because they move. We also in-

cluded scales to measure several additional qualities (e.g., educational, or focused on occupational development) of the toys or skills (e.g., artistic or musical skill) that a child might reasonably be expected to develop by playing with them, and which had not been used by previous researchers.

## Hypotheses

We hypothesized that girls' toys would be associated with appearance and attractiveness, nurturance, and domestic skills. Based on Miller's (1987) additional findings, we predicted that girls' toys would be rated higher on manipulability and creativity. Several previous researchers have noted the association between boys' toys and gun play or violence (Goldstein, 1995; Hellendoorn & Harinck, 1997; Klugman, 1999; Watson & Peng, 1992). Therefore, we hypothesized that boys' toys would be associated with aggression and violence. Miller (1987) reported that boys' toys were more likely to be associated with competition, construction, and sociability, therefore we hypothesized the same. Based on Block's (1983) conjecture that boys' toys are more likely to respond to the child's input or provide feedback, we predicted that boys' toys would provide more feedback in response to the child's input. Finally, based on the work with nonhuman primates (Alexander, 2003; Alexander & Hines, 2002), we hypothesized that boys' toys would be more likely to involve motion (e.g., cars or balls that roll along on their own after being pushed), a characteristic that may also be related to the development of visuospatial skills. Other characteristics of toys were examined, but specific hypotheses about the toys were not generated.

## Method

### *Participants*

There were 706 (475 women; 231 men) participants who took part in the study as an Introductory Psychology course requirement. They were drawn from the "subject pool" of the semester after that of Study 1's participants, and therefore it is very unlikely that they could also have participated in Study 1. Participants ranged in age from 18 to 54 years ( $M = 22.48$ ;  $SD = 6.74$ ), and 176 (24.9%) were parents. Participants' ethnicities were European American (85.7%), African American

(5.1%), Asian (2.4%), Hispanic (1.6%), Biracial (.8%), and Native American (.6%). Participants were asked on a 5-point scale (1 = *not at all*; 5 = *very frequently*) how frequently they interacted with children. The majority (88.5%) interacted with children moderately or more (3 or higher on the scale), and 34% did so very frequently ( $M = 3.89$ ;  $SD = 1.05$ ).

### Materials

Based on the ratings of the toys in Study 1, we constructed four sets of 15 toys, three from each gender category (i.e., strongly masculine, moderately masculine, neutral, moderately feminine, and strongly feminine). The four toysets, and the means and standard deviations of the ratings for each category of toy, are listed in Table III.

We developed four different toysets in order to study the gender categories of toys as generally as

possible, rather than have the ratings of the categories affected by one or two particular toys. The four different toysets made it possible to have each participant rate toys from each gendered category on several scales, yet also to have each category represented by 12 different toys.

Participants were asked to complete the five demographic items (age, gender, ethnicity, parental status, and frequency of interaction with children) and ratings of each of the 15 toys from one of the four toysets. Toys were rated on 26 5-point scales that measured various qualities that the toys might possess. The 5-point scales were anchored by 1 = "*not at all*" to 5 = "*very much*." A color photograph of each toy and the toy's name were on a single page accompanied by the 5-point scale depicted at the top of the page, and each of the qualities to be used to rate the toy, numbered in order. The toys were presented in a semi-random order, such that two toys of the same gender type were never presented immediately after

**Table III.** The Four Toysets Constructed in Study 1 for Use in Study 2

Toyset				
1	2	3	4	
Strongly masculine toys <sup>a</sup>				
Sword	WWF wrestler	G. I. Joe	Toy soldiers	
Spiderman	Miniature weapons	Cowboy costume	Remote control trucks	
Toolbench	Football	Slot car racetrack	Matchbox cars	
$M (SD) = 7.70 (.13)$	8.03 (.29)	7.78 (.34)	7.58 (.52)	
Moderately masculine toys <sup>b</sup>				
Police station	Garage	Lincoln Logs	Space station	
Volcano creator	Gears	Wheelbarrow	Basketball hoop	
Big wheel	Power wheels car	Microscope	Bug collection set	
$M (SD) = 6.26 (.28)$	6.33 (.14)	6.09 (.39)	6.06 (.31)	
Neutral toys <sup>c</sup>				
Wagon	Play-Doh	Etch-a-Sketch	Wooden blocks	
Crayons	Xylophone	Magnetic time teacher	Trampoline	
Garden tools	Doctor kit	Tricycle	Cash register	
$M (SD) = 5.04 (.18)$	5.01 (.02)	5.04 (.01)	5.09 (.37)	
Moderately feminine toys <sup>d</sup>				
Toy store	Hamtaro set <sup>e</sup>	Veterinarian costume	Veterinarian kit	
Brooms and mops	Vacuum cleaner	Beanie baby bear	Horses	
Toy kitchen	Ken doll	Ello creation systems	Toy food basket	
$M (SD) = 3.69 (.56)$	3.86 (.68)	3.83 (.52)	4.09 (.49)	
Strongly feminine toys <sup>f</sup>				
Tea set	Iron and ironing board	Baby doll stroller	Sewing machine	
American Girl doll	Baby doll	Easy Bake oven	Vanity set	
Ballerina costume	Large Barbie head	Barbie doll	My Little Pony	
$M (SD) = 1.67 (.38)$	1.84 (.44)	1.99 (.43)	2.05 (.25)	

<sup>a</sup>>7.0 on 9-point scale.

<sup>b</sup>5.6–7.0 on 9-point scale.

<sup>c</sup>4.5–5.5 on 9-point scale.

<sup>d</sup>3.0–4.4 on 9-point scale.

<sup>e</sup>Small plastic hamsters and accessories.

<sup>f</sup><3.0 on 9-point scale.

each other, and all gender types were presented in each third (i.e., five toys) of the toyset. The order of presentation was constant across all participants and was matched for the four toysets. The order of the scales was the same for all 15 toys, and for all four toysets, and was as presented below. Participants completed their ratings on a computer-scoring sheet. The 26 scales were: (1) able to be manipulated; (2) encourages creativity; (3) encourages social play with other children; (4) encourages nurturance; (5) involves construction; (6) aggressive or violent; (7) attractive; (8) fun for a child aged between 4 and 8 years; (9) requires adult supervision; (10) artistic; (11) scientific; (12) focuses on appearance or attractiveness; (13) expensive; (14) musical; (15) educational; (16) exciting; (17) moves on its own; (18) encourages cooperation with others; (19) encourages competition; (20) sustains attention; (21) develops physical skills; (22) encourages domestic or household skills; (23) provides an actual response to child's input (e.g., moves when pushed or has a controller); (24) develops occupational skills; (25) dangerous or risky; (26) develops cognitive or intellectual ability.

### *Procedure*

Participants took part in small groups (maximum size 15), which were coordinated by one of five undergraduate research assistants (3 men; 2 women) or one of the authors. Participants were randomly assigned to complete a questionnaire associated with one of the four toysets. Toyset 1 was rated by 182 participants (125 women; 57 men); toyset 2 by 177 participants (117 women; 60 men); toyset 3 by 172 participants (117 women; 55 men); and toyset 4 by 174 participants (116 women; 58 men).

## **Results and Discussion**

### *Ratings of Masculine, Feminine, and Neutral Toys on the 26 Scales*

We used four different toysets so as to represent the five gendered categories of toys by as many toys as possible. However, we were not especially interested in any differences among the four toysets, but rather in the consistent findings about each category (e.g., strongly feminine toys) across all toysets. Therefore, we present our findings collapsed across the four toysets.

The mean ratings of each type of toy, averaged across the four toysets, on each rating scale can be found in Table IV. Each of the 26 rating scales was analyzed with a 5 (gender type of toy—repeated measure) by 2 (gender of participant) mixed-design ANOVA. Because of the large number of possible significant results, we present here only findings in which  $p < .001$ . Post-hoc tests were done using repeated measures ANOVAs to compare pairs of means, with  $p$  set to  $< .001$ , and all  $F$ s (1, 699)  $> 10.00$ .

### *Hypotheses About Girls' Toys*

Our first hypothesis was that girls' toys would be associated with appearance and attractiveness (Scale 12). As can be seen from the means in Table IV, and confirmed by post-hoc comparisons, strongly feminine toys were rated higher on this scale than were all other categories of toys, including moderately feminine toys. Moderately feminine toys were also rated higher than the other three categories. Therefore, this hypothesis was confirmed.

Related to this characteristic were the ratings of the toy's attractiveness (Scale 7). To us, this meant that the toy itself was attractive to look at, not that it encouraged a focus on the child's own appearance, as did Scale 12. Although we did not hypothesize that feminine toys would be more attractive than other toys, strongly feminine toys were rated as more attractive than all other categories of toys, including moderately feminine toys. Moderately feminine toys, however, were rated as more attractive than strongly masculine toys only. Therefore, this finding indicates that strongly feminine toys were seen as more attractive than other toys, but moderately feminine toys were seen as only somewhat so.

We predicted that girls' toys would be rated higher on nurturance (Scale 4). Strongly feminine toys were rated higher on this scale than were toys in every other category, and moderately feminine toys were rated higher than all remaining categories. It is interesting to note that neutral toys were also rated as more nurturant than both masculine categories, and moderately masculine toys were rated as more nurturant than strongly masculine toys. In other words, as the means in Table IV demonstrate, toys were rated from high to low on nurturance following exactly their degree of association with girls' toys. The less the toy category was associated with girls, the less nurturant the toys were rated. Therefore, this hypothesis was strongly and consistently supported.

**Table IV.** Ratings of Gender Categories of Toys on Rating Scales in Study 2

Scale <sup>a</sup>	Gender category of toy				
	SF	MF	N	MM	SM <sup>b</sup>
Scale 1: Able to be manipulated <sup>c</sup>	3.13 (.104)	3.18 (.104)	3.26 (.95)	3.35 (.98)	3.36 (.94)
Scale 2: Encourages creativity	3.42 (.85)	3.31 (.90)	3.59 (.79)	3.33 (.75)	3.10 (.95)
Scale 3: Encourages social play with other children	3.27 (.92)	3.39 (.87)	3.20 (.91)	3.27 (.86)	3.64 (.80)
Scale 4: Encourages nurturance	3.06 (.92)	2.93 (.93)	2.14 (.81)	1.98 (.82)	1.74 (.78)
Scale 5: Involves construction	1.90 (.77)	1.93 (.77)	2.61 (.74)	2.95 (.83)	2.23 (.80)
Scale 6: Aggressive or violent	1.26 (.51)	1.32 (.52)	1.49 (.59)	1.98 (.75)	3.42 (.84)
Scale 7: Attractive	3.56 (.79)	3.06 (.85)	3.09 (.81)	3.01 (.87)	2.93 (.94)
Scale 8: Fun (for a child between 4 and 8 years)	3.59 (.79)	3.37 (.79)	3.77 (.69)	3.63 (.77)	3.72 (.78)
Scale 9: Requires adult supervision	1.96 (.75)	1.72 (.73)	2.46 (.78)	2.75 (.83)	2.42 (.87)
Scale 10: Artistic	2.44 (.87)	1.94 (.84)	2.79 (.72)	2.21 (.81)	1.76 (.80)
Scale 11: Scientific	1.48 (.63)	1.73 (.67)	2.11 (.80)	2.64 (.71)	1.57 (.63)
Scale 12: Focuses on appearance or attractiveness	3.51 (.79)	2.68 (.97)	2.44 (.87)	2.34 (.97)	2.39 (.99)
Scale 13: Expensive	2.87 (.76)	2.34 (.74)	2.32 (.65)	2.82 (.68)	2.34 (.75)
Scale 14: Musical	1.29 (.53)	1.24 (.48)	1.57 (.73)	1.23 (.49)	1.17 (.44)
Scale 15: Educational	2.18 (.77)	2.52 (.91)	2.93 (.76)	2.81 (.69)	1.73 (.68)
Scale 16: Exciting	2.83 (.89)	2.67 (.84)	3.23 (.77)	3.41 (.80)	3.44 (.79)
Scale 17: Moves on its own	1.33 (.53)	1.23 (.47)	1.35 (.54)	1.64 (.77)	1.52 (.69)
Scale 18: Encourages cooperation with others	2.42 (.90)	2.66 (.91)	2.60 (.89)	2.70 (.88)	2.69 (.89)
Scale 19: Encourages competition	1.68 (.68)	1.66 (.71)	2.12 (.82)	2.38 (.82)	3.30 (.97)
Scale 20: Sustains attention	2.94 (.78)	2.71 (.80)	3.10 (.73)	3.21 (.76)	3.24 (.80)
Scale 21: Develops physical skills	2.15 (.90)	2.06 (.92)	2.97 (.87)	2.68 (.79)	2.39 (.92)
Scale 22: Encourages domestic or household skills	3.43 (.87)	3.17 (.99)	2.21 (.75)	1.93 (.77)	1.66 (.71)
Scale 23: Provides an actual response to child's input	2.60 (1.11)	2.40 (1.14)	3.17 (1.07)	3.21 (1.10)	2.93 (1.07)
Scale 24: Develops occupational skills	2.49 (.83)	2.64 (.97)	2.59 (.80)	2.63 (.89)	2.05 (.80)
Scale 25: Dangerous or risky	1.60 (.64)	1.44 (.60)	2.01 (.67)	2.32 (.76)	2.47 (.93)
Scale 26: Develops cognitive or intellectual ability	2.38 (.83)	2.51 (.86)	3.00 (.78)	2.89 (.76)	2.17 (.80)

Note: SF = strongly feminine; MF = moderately feminine; N = neutral; MM = moderately masculine; SM = strongly masculine.

<sup>a</sup>A 5-point scale ranging from 1 = *not at all* to 5 = *very much*.

<sup>b</sup>All *F*s (4, 165) > 40, *p* < .001.

<sup>c</sup>Mean rating averaged across all four toysets; standard deviation in parentheses.

We predicted that girls' toys would be rated higher on "encourages domestic or household skills" (Scale 22). Again, strongly feminine toys were rated higher on this scale than were toys in every other category, and moderately feminine toys were rated higher than all remaining categories. Neutral toys were also rated as more domestic than were both masculine categories of toys, and moderately masculine toys were rated as more domestic than strongly masculine toys. As was the case with nurturance, and as can be seen in Table IV, toys were rated from high to low on the encouragement of domestic skills to the extent that they were seen as girls' toys. Therefore, there is also a strong and consistent support for this hypothesis.

The next two hypotheses about girls' toys were based on Miller's (1987) findings. She reported that girls' toys were rated higher on manipulability and creativity, and therefore we predicted these findings. With respect to manipulability (Scale 1), there was no support for the hypothesis. As can be seen from

the means in Table IV, all of the categories of toys tended to be rated near the midpoint on this scale (between 3.13 and 3.36 on the 5-point scale), but girls' toys were at the low end of these ratings.

For creativity (Scale 2), again the means ranged between 3.10 (*strongly masculine*) and 3.59 (*neutral*), which indicates that all categories were rated as moderately creative. The ranking was neutral toys as most creative, strongly feminine next, followed by moderately gender-typed toys of both types, and strongly masculine toys being lowest, but there was little absolute difference among any of the categories. This provides little compelling evidence that girls' toys are more creative than boys' toys.

#### *Hypotheses Associated With Boys' Toys*

We hypothesized that boys' toys would be associated with violence (Scale 6). Strongly masculine toys were rated much higher than all other categories

of toys. Although the difference was not nearly as striking as was the case with strongly masculine toys, moderately masculine toys were rated as more violent than all other categories, and neutral toys were rated as more violent than either category of feminine toys, which did not differ from each other. Therefore, there is strong and consistent support for this hypothesis: strongly masculine toys are clearly more violent than all other categories, and feminine toys are seen as less violent than neutral and moderately masculine toys.

We also hypothesized that boys' toys would be rated higher on competitiveness (Scale 19). Strongly masculine toys were rated as more likely to encourage competition than were all other categories of toys, and moderately masculine toys were rated as more so than the other three categories. Neutral toys were rated higher than either category of girls' toys, which did not differ from each other in competitiveness (both quite low). Therefore, this hypothesis was very clearly supported: boys' toys are seen as more competitive than girls' toys.

The next hypothesis was that boys' toys would provide more feedback in response to the child's input (Scale 23). The toys rated highest on this scale were neutral and moderately masculine toys, which were rated equal to each other and higher than all of the other categories. Strongly masculine toys were rated next highest, higher than both categories of feminine toys. This pattern of findings provides some support for the hypothesis that boys' toys provide more feedback; however, the most reasonable conclusion is that neutral and moderately masculine toys are somewhat more responsive to the child's input than are other categories of toys.

The next hypothesis was that boys' toys are more likely to encourage the development of spatial skills. The scale most relevant to this question is Scale 5—"involves construction." Moderately masculine toys were rated highest on this scale, higher than all other categories. Neutral toys were next in line, as they were rated higher than the remaining three categories. Strongly masculine toys were thought to involve construction more than either category of girls' toys, which did not differ from each other on this scale. Therefore, feminine toys were rated lower on the scale, and the pattern of moderately masculine and neutral toys being rated higher than other toys can again be seen.

Another feature of the toys that may be related to visuospatial skills is movement, especially movement that requires visual tracking (Alexander,

2003), such as the toys roll or move along a trajectory. Therefore, we examined responses to Scale 17. None of the categories of toys were rated very high on this scale; all means were less than 2.0 on the 5-point scale. Nonetheless, masculine toys (both categories) were rated more likely to move on their own than were neutral and feminine toys (both categories). Perhaps the best conclusion is that, although most boys' toys do not move on their own, more toys that do move on their own or roll across the floor (cars, trucks, balls, etc.) are found among boys' toys than among neutral or feminine toys.

Miller reported that boys' toys were more likely to encourage social play (Scale 3), therefore we tested that hypothesis. The ratings for all five categories of toys were between 3 and 4 on the 5-point scale, which suggests that our raters thought that many of the toys could stimulate play with other children. Post-hoc tests showed that strongly masculine toys were rated higher than all other categories, followed by moderately feminine toys. Strongly feminine and moderately masculine toys were equal to each other, and both were thought to be more stimulating of social play than were neutral toys. However, none of these differences were large, and even neutral toys were rated above the midpoint of the scale. This provides little compelling evidence that, in general, boys' toys are more likely to encourage social play than are girls' toys.

#### *Scales for Which No Predictions Were Made*

We included several other scales for which we did not make specific predictions about the outcomes. The means for each of these rating scales can be found in Table IV. Here we will simply summarize the general trends.

With respect to excitement, danger, and the need for supervision, boys' toys were rated higher. On the excitement scale, boys' toys were at the top and girls' at the bottom of the ratings. Similarly, boys' toys were rated as more dangerous than girls', and more in need of adult supervision (although, so were neutral toys on that scale). Somewhat related, boys' toys were also thought to be more likely to sustain a child's attention.

Several of the scales measured characteristics of toys that were related to the development of various skills and cognitive capacities. These included: artistic (Scale 10), musical (Scale 14), scientific (Scale 11), educational (Scale 15), encouraged cooperation

(Scale 18), developed physical skill (Scale 21), developed occupational skills (Scale 24), and developed cognitive or intellectual ability (Scale 26). Toys were also rated as to whether they were expensive (Scale 13), and were fun (Scale 8).

For measures of whether the toy stimulated cognitive ability, was scientific, and/or educational, the consistent pattern was for neutral and moderately masculine toys to be rated higher than strongly masculine or any feminine toys (especially strongly feminine). Sometimes, neutral and moderately masculine toys were rated equal, and sometimes one category (MM or N) was rated higher than the other, but they were always clustered together at the top of the ratings. The message is clear: neutral and moderately masculine toys (but not strongly masculine) were rated as the most likely to stimulate intellectual and scientific skills. Regarding the development of occupational skills, the strongly stereotyped (especially masculine) toys were rated lower than the moderately gender-typed and neutral toys.

On some of the other ratings, neutral toys were rated highest. This pattern held for artistic skill as well as physical skill (although here, moderately masculine toys were a close second). Almost no toys were seen as musical, but neutral toys were rated highest on that scale as well. All categories were rated above the midpoint on the "fun" scale, with small differences among them, but again, neutral toys were at the top of the ratings (although equal to strongly masculine toys).

Strongly feminine toys were rated as less likely to encourage cooperation than any other type of toy. No category was rated as especially expensive; all were below 3 on the 5-point scale, although the most expensive toys were strongly feminine and moderately masculine toys.

An overall recap of the toys' ratings can be found in Table V. In this table, the type of toy is presented, followed by the rating scales with which that toy category was associated. When the category of toy (e.g., strongly masculine) was clearly associated with that scale (e.g., aggressive or violent), the scale is listed as one associated with that toy category. When other categories were similarly rated, that is also indicated in Table V. This table therefore provides a useful summary of the association between the various scales and the gender-related toy categories. It is interesting to note that no characteristic defines moderately feminine toys—they are similar to strongly feminine toys in their characteristics, but typically with somewhat lower ratings on the same scales.

**Table V.** Summary of Findings for Highest Rated Toys

Strongly masculine
Aggressive or violent
Encourages competition
Dangerous or risky
Strongly and moderately masculine
Moves on its own (SM > MM)
Exciting (SM = MM)
Sustains attention (MM = SM)
Moderately masculine and neutral
Provides an actual response to child's input (MM = N)
Involves construction (MM > N)
Needs adult supervision (MM > [N = SM])
Scientific (MM > N)
Develops cognitive or intellectual ability (N > MM)
Educational (N > MM)
Develops physical skill (N > MM)
Neutral
Creative (N > others)
Artistic (N > others)
Musical (N > others)
Develops occupational skill (N = MM = MF)
Fun (N = SM)
Strongly feminine
Focuses on appearance and attractiveness
Toy is attractive
Nurturant
Encourages domestic or household skills
No compelling or consistent differences
Expensive
Able to be manipulated
Encourages cooperation with others (although SF < others)
Encourages social play (although SM > others)

### *Gender Differences and Interactions*

As discussed above, each analysis of the scales was a 5 (gender category of toy—repeated measure) by 2 (gender of participant) mixed-design ANOVA. Again, because of the large number of potentially significant findings, we report only findings that are significant at  $p < .001$  ( $F > 10.00$ ).

There were six main effects of participant gender that met these criteria. The scales were: encouraging creativity, sustaining attention, needing adult supervision, and being attractive, exciting, and fun. In all cases, women rated the toys higher on these various scales. However, in all cases, there were also significant interactions between gender and the type of toy. In the case of a seventh scale (nurturance), there was no main effect of participant gender, but there was a significant interaction between toy category and participant gender.

The interactions between participant gender and toy category demonstrate that women rated some

categories of toys higher on these scales, and that there was no difference between men's and women's ratings of other categories. ANOVA was used to compare men's and women's ratings of each toy category, with  $p$  set at  $<.001$ , as previously. The ratings and results of the ANOVAs can be seen in Table VI.

For four of these interactions (nurturance, creativity, attention, and fun), the pattern was the same: women rated both categories of girls' toys higher

than men did, but there were no differences between men and women in ratings of the neutral or boys' toys. On the attractive scale, women rated the girls' toys higher, but men rated the strongly masculine (but not the moderately masculine) toys as more attractive than women did. On the exciting scale, women rated all of the categories as more exciting than men did, except for strongly masculine toys (no difference between men's and women's ratings).

It is reasonable to sum up the pattern of these six interactions (with some exceptions) as demonstrating that women were more positive in their ratings (e.g., the toy is more attractive, more exciting, more fun) of girls' toys than men were, whereas men and women were more alike in their ratings of neutral and boys' toys on these scales.

The final interaction produced a different pattern. Women rated neutral and moderately masculine toys as being in greater need of adult supervision than men did, and there were no differences between men's and women's ratings on the need for supervision of toys in the other categories.

**Table VI.** Interactions Between Participant Gender and Toy Ratings

Scale <sup>a</sup>	Women's ratings	Men's ratings	$F(1, 692)^b$
Toy encourages nurturance			
Strongly feminine	3.16 (.92)	2.87 (.87)	14.82
Moderately feminine	3.00 (.93)	2.76 (.93)	10.61
Neutral	2.14 (.82)	2.17 (.79)	ns
Moderately masculine	1.95 (.82)	2.05 (.83)	ns
Strongly masculine	1.72 (.78)	1.82 (.81)	ns
Toy encourages creativity			
Strongly feminine	3.55 (.87)	3.17 (.74)	33.08
Moderately feminine	3.42 (.90)	3.09 (.88)	20.78
Neutral	3.63 (.79)	3.50 (.77)	ns
Moderately masculine	3.38 (.74)	3.24 (.77)	ns
Strongly masculine	3.10 (.95)	3.13 (.97)	ns
Toy sustains attention			
Strongly feminine	3.06 (.80)	2.71 (.69)	33.54
Moderately feminine	2.83 (.81)	2.46 (.71)	34.92
Neutral	3.15 (.73)	3.03 (.74)	ns
Moderately masculine	3.28 (.79)	3.10 (.71)	ns
Strongly masculine	3.24 (.82)	3.28 (.77)	ns
Toy is fun			
Strongly feminine	3.78 (.76)	3.17 (.70)	96.28
Moderately feminine	3.51 (.78)	3.04 (.71)	53.55
Neutral	3.80 (.70)	3.70 (.70)	ns
Moderately masculine	3.66 (.79)	3.56 (.74)	ns
Strongly masculine	3.67 (.79)	3.81 (.79)	ns
Toy is attractive			
Strongly feminine	3.75 (.73)	3.16 (.74)	96.24
Moderately feminine	3.19 (.84)	2.79 (.81)	34.30
Neutral	3.14 (.82)	2.99 (.78)	ns
Moderately masculine	3.03 (.89)	2.97 (.81)	ns
Strongly masculine	2.85 (.96)	3.10 (.88)	11.39
Toy is exciting			
Strongly feminine	3.07 (.85)	2.33 (.75)	127.05
Moderately feminine	2.86 (.80)	2.27 (.77)	81.69
Neutral	3.29 (.79)	3.09 (.69)	13.80
Moderately masculine	3.47 (.81)	3.27 (.80)	11.21
Strongly masculine	3.40 (.80)	3.54 (.77)	ns
Toy needs adult supervision			
Strongly feminine	2.01 (.73)	1.88 (.77)	ns
Moderately feminine	1.74 (.73)	1.72 (.72)	ns
Neutral	2.57 (.79)	2.25 (.73)	22.81
Moderately masculine	2.85 (.83)	2.57 (.80)	19.35
Strongly masculine	2.49 (.88)	2.31 (.85)	ns

<sup>a</sup>A 5-point scale ranging from 1 = *not at all* to 5 = *very much*.

<sup>b</sup>Degrees of freedom varied slightly from analysis to analysis due to missing data; all  $p$  values  $<.001$ .

## GENERAL DISCUSSION

This article describes two studies in which boys' and girls' toys were rated on their gender-typicality (Study 1) and on their qualities and characteristics (Study 2). Little research on this topic has been done during the past two decades. There are two major strengths to these findings. First, a large number of toys were systematically selected and rated as to their gender-typicality. These ratings should be useful to other researchers in order to select toys that are roughly equivalent in their degree of gender typicality for stimuli in their research. Such a set of ratings did not exist previously in the published literature, and researchers have sometimes chosen a few toys as representative of boys' and girls' toys that are not really equal in their degree of stereotyping. For example, in this set of ratings, most dolls were rated as more strongly feminine than most toy cars were rated as masculine.

Second, four different toysets (15 toys each) were constructed based on these ratings of gender-typicality, and the toys were subsequently rated on 26 different scales that measured various qualities and attributes of children's toys. Because so many toys were used as representative of each category, these ratings should not be affected by the specific ratings of one or two toys from any of the toysets.

Study 1 demonstrated that toys are still seen as strongly gender stereotyped in very predictable ways. Dolls and toys focused on domestic activities were consistently seen as being for girls; weapons, vehicles, and action figures that represent aggression or violence were consistently seen as being for boys. However, there were many toys that were seen as generally appropriate for children of both genders.

In Study 2, we confirmed that girls' toys were more likely to be rated as focused on appearance and attractiveness, and were more likely to be seen as attractive themselves. Girls' toys were also rated as more nurturant and more likely to focus on the development of domestic skills. We did not confirm the hypotheses based on previous research that girls' toys would be higher on manipulability or creativity.

We confirmed that boys' toys were more likely to be rated as violent than were girls' toys. Also confirmed was the finding that boys' toys were more competitive. Although the previous research did not lead directly to these predictions, boys' toys were also rated as more sustaining of attention, more exciting, more fun, more dangerous or risky, and more in need of adult supervision than were girls' toys.

We predicted that boys' toys would be more likely to develop spatial skills through their use for construction, and through their ability to move on their own and hence stimulate visual tracking. Although boys' toys were found to be more likely to move on their own, the overall ratings on this scale were generally low. It is reasonable to conclude that toys that move on their own (e.g., vehicles and balls) are more likely to be among boys' toys, but that many boys' toys do not move on their own, and some neutral and girls' toys also do.

Boys' and neutral toys were rated higher on the "construction" scale, but it was the moderately masculine toys that topped the ratings, followed by neutral toys. We also predicted, based on a suggestion made some years ago by Block (1983) that boys' toys would provide more feedback in response to the child's input. Again, the highest rated toys were the moderately masculine and neutral toys.

We did not confirm a prediction that, in general, boys' toys would be more likely to encourage social play. All categories were generally thought to do so to a moderate degree, and some of both boys' and girls' categories (i.e., strongly masculine, moderately feminine) were rated relatively higher than other toys.

Young children spend many hours playing with toys, and these activities certainly contribute to their

developmental progression. Toy play is also an integral part of the process of children's gender development. This is so much the case that children's preferences for and their knowledge about the gendered nature of toys have often been used as a measure of their gender development.

We can see that toys do provide gendered experiences. Girls are likely to have experiences with their toys that emphasize the development of nurturance and domestic skills. It is reasonable to assume that such experiences would also benefit boys, because in the modern world the care of children and the home is increasingly being done by people of both genders (Barnett & Hyde, 2001; Wood & Eagly, 2002).

Girls are also likely to have experiences that emphasize the importance of attractiveness and appearance. This was found to be especially the case for strongly feminine toys, and in many ways it was the defining feature of this category. There has been particular concern about the impact of fashion dolls such as Barbie on girls' views of themselves. Clearly, these toys come with accessories and clothing that emphasize appearance and grooming, and girls do focus on the dolls' physical attractiveness as what they like about them (Markee, Pedersen, Murray, & Stacey, 1994). It is certainly arguable that this is a problematic aspect of strongly feminine toys.

Boys are more likely to have experiences with toys that are violent and aggressive and that involve competition, danger, risk, and excitement. Indeed, violence in particular was one of the defining features of strongly masculine toys. We suggest that this is possibly the most problematic aspect of boys' toys. Certainly there has been grave concern about violence in television and video games (Anderson & Bushman, 2001; Bushman & Huesmann, 2001), both of which are more likely to be part of boys' experiences than girls'. Most of the concern about violence in boys' toys has dealt with guns (Watson & Peng, 1992), although there has been some analysis of the extent to which the promotion of action figures centers on aggression and violence (Klugman, 1999). To our knowledge, there has been no previous mention of the extent to which boys' toys are associated with danger, risk, and excitement.

Boys may be more likely to have experiences with their toys that stimulate the development of spatial skills, although such features were more likely to be associated with moderately masculine and neutral toys than with strongly masculine toys. Indeed, among the most compelling findings of the present research is the extent to which neutral and

moderately masculine toys were rated higher on several scales related to developing various skills, especially as compared to strongly stereotyped toys for either gender. Neutral and moderately masculine toys were rated higher on their educational value, their scientific qualities, and their stimulation of physical and cognitive skills. In some cases, moderately feminine toys were rated higher than strongly feminine and/or strongly masculine toys, and in other cases, moderately feminine toys were rated equal to them in these generally desirable skills. Nonetheless, the strongly stereotyped toys—boys' and girls'—were always at the bottom of the ratings.

In a couple of other instances, this general trend was held in a more limited way. Neutral toys were also thought to be more artistic and musical. In terms of the development of occupational skills, only strongly masculine toys were consistently rated lower than other categories.

There are obvious limitations in these studies. The ratings were done by undergraduates, although approximately 25% of them were parents, and the majority of them interacted with children on a regular basis. The major limitation, of course, is that we did not examine the actual impact of the toys on children's behavior, but only the ratings of adults as to their beliefs about the toys' potential impact.

There is research that does show that children's toys and games do impact their development. For example, the presence of toys such as guns and action figures has been shown to increase the level of aggressive play (Goldstein, 1995; Hellendoorn & Harinck, 1997; Watson & Peng, 1992). In addition to increasing aggression (Anderson & Bushman, 2001), video games have been shown to improve certain cognitive and spatial skills (De Lisi & Wolford, 2002; Green & Bavelier, 2003; Greenfield, deWinstanley, Kilpatrick, & Kaye, 1996). One recent study (Cherney, Kelly-Vance, Glover, Ruane, & Ryalls, 2003) showed that preschool children played at a more complex level with traditionally girls' toys than with any other type of toys. In that study, the toys that elicited complex play were kitchen materials, baby dolls, and associated materials. In our studies, these toys (except for the baby doll itself) were rated as moderately feminine rather than strongly feminine.

However, considering the extent to which toys are a part of children's lives, it is surprising that so little research has been devoted to the study of their impact on children's behavior and on the development of their cognitive and social skills. Despite the fact that girls have been given dolls as toys for cen-

turies, there is little direct evidence that the doll play does increase the nurturance they show to younger children. Also, the evidence that play with blocks or other construction toys, or play with toy vehicles whose movement can be tracked, increases spatial skills, is hard to come by in the published literature. Our understanding of children's development would be served by an increase in such research.

For the moment, let us assume that the ratings of the toys in these studies are in fact related to the skills that children develop. If so, then by playing with strongly stereotyped toys, girls can be expected to learn that appearance and attractiveness are central to their worth, and that nurturance and domestic skills are important to be developed. Boys can be expected to learn that aggression, violence, and competition are fun, and that their toys are exciting and risky.

However, another message is clear: strongly stereotyped toys appear to be less than desirable on many fronts. We found that to be the case for both strongly masculine and strongly feminine toys. In the contemporary world, children's development is probably best served by exposure to moderately stereotyped toys (especially moderately masculine toys, but to some extent moderately feminine toys also) and gender-neutral toys, rather than to strongly gender-stereotyped toys. Both boys' and girls' development could be enhanced by learning domestic skills, as well as by learning to build with construction toys. Children of both genders would benefit from play with toys that develop educational, scientific, physical, artistic, and musical skills. In terms of providing toys to enhance children's development of a variety of skills, it seems probable that parents would be more willing to provide moderately stereotyped and neutral toys for both boys and girls, than they would be to provide strongly cross-gender-stereotyped toys for either.

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