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Children's Understanding of Sexist Language

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This article explores the role of language in the sex-typing process, focusing specifically on the "gender-neutral" use of "he" and "his." In Experiment 1, first, third, and fifth graders and college students were tested using a modified version of the task developed by Moshman et al. (1978), in which subjects read stories in response to a cue sentence containing "he," "he or she," or "they." Subjects also supplied pronouns in a fill-in task and were explicitly questioned about their knowledge of the gender-neutral use of "he." The results indicated that 12%, 18%, and 42% of the stories were about females when "he," "they," and "he or she" were used, respectively. There was a significant interaction of grade level, sex of subject, and pronoun. Children, even first graders, supplied "he" in gender-neutral fill-in sentences. Only 28% of first graders, but 84% of college students appear to understand the grammatical rule for the gender-neutral use of "he." Experiment 2 replicated some aspects of Experiment 1 and extended the design with third and fifth graders. "She" was included as a fourth pronoun condition in the storytelling and produced 77% female stories. A description of a fictitious, gender-neutral occupation, weldermaker, was read to children, with repeated references either to "he," "they," "he or she," or "she." Subjects' ratings of how well women could do the job were significantly affected by pronoun, ratings being lowest for "he," intermediate for "they" and "he or she," and highest for "she." The weldermaker data demonstrate that the use of gender-neutral "he," compared with other pronouns, affects the formation of gender schemas in children. It is argued that the role of language in gender-role development should receive more attention, both theoretically and empirically.

Beginning a little more than a decade ago, the feminist movement raised a number of issues, including equal pay for equal work and availability of day care. One of those issues was sexism in language—the notion that the English language contains sex bias, particularly in words such as "he" and "man" to refer to everyone (e.g., Martyna, 1980).

Concern over sexism in language raises a number of interesting questions for which the psychologist can provide empirical answers. How do people process gender-neutral uses of "he"? How do they interpret that pronoun when they hear or read it? And how does that processing affect other factors such as memory, stereotyping, or attitudes?

Moshman, Robinson, and Elias (1978) conducted an important first empirical study on sex bias in language use. College students were asked to make up a story about a fictional character who fit the following frame: "In a large coeducational institution the average student will feel isolated in an introductory course." One third of the students received the pronoun "his" in the blank, one third received "his or her," and one third received "their." (Some students instead received a sentence concerning personal appearance, but the coeducational-institution cue is most relevant to the present study because it is explicitly gender neutral.) There was a strong tendency for male subjects to write stories about male characters and for female subjects to write about female characters. But strikingly, over all conditions, when the pronoun "his" was used, 35% of the stories were about females, compared with 46% for "their" and 56% for female stories for "his or her." Thus, this study
demonstrated that, although "his" may be gender-neutral in a grammatical sense, it is not gender neutral in a psychological sense. Even when the rest of the sentence explicitly provides a gender-neutral context, subjects more often think of a male when the pronoun is "his."

Other studies have yielded similar results. For example, Mackay (1980; Mackay & Folk-er, 1979), using somewhat different methods, has also demonstrated that subjects respond to gender-neutral uses of "he" not as being neutral, but as being masculine. College students read paragraphs about a neutral person (e.g., student) in which the pronoun was either "he" consistently or "he," "he," or "she." Subjects receiving "he" had a high rate—50%—of comprehension errors, responding that the paragraph was about a male, compared with a 1% error rate for those receiving a neutralism.

In theoretical accounts and empirical investigations of gender-role development, the roles of imitation and reinforcements (Bandura & Walters, 1963; Michiel, 1966) and levels of cognitive development (Kohlberg, 1966) have received great attention. In contrast, the role of language in gender-role development has been virtually ignored. The foregoing studies of adults raise some important questions for the developmental psychologist. How do children process sexist language, specifically gender-neutral "he"? Does their processing change with age, and does it differ from adults processing? Is language a contributor to gender-role development, and can it be integrated into theories of gender-role development?

Constantinople (1979) broached this topic through the presentation of a model of sex role acquisition as rule learning, following principles of cognitive psychology (e.g., Neisser, 1967, 1976). The process of sex typing in children, then, consists of the learning of a set of sex-role schemata. The first step in acquiring correct conceptions of gender would be a labeling process or language-learning process, in which the child learns labels such as boy, girl, man, woman, masculine, and feminine. Constantinople noted the coincidence between Money's (1965) finding of a critical period for acquisition of gender identity around 18 to 24 months of age and the period of rapid language acquisition, including learning of the above terms. That is, even the very fundamental learning of gender identity is language based. Later, other features such as clothing, hairstyles, and games would be added to the schema of observational learning, direct instruction, language, and differential reinforcements would all be mechanisms contributing to the formation of the schema. Language emerges as an important, though neglected, component in sex-role acquisition. Constantinople provided no data supporting her theoretical model.

A more complete statement of the cognitive approach is Bem's Gender Schema Theory (1981; see also Martin & Halverson, 1981). Bem argued that children learn a gender schema, a set of associations linked with maleness and femaleness in our society. This schema in turn organizes perception and affects the processing of information. Sex typing occurs because the self-concept becomes assimilated to the gender schema. Her studies with college students provided evidence consistent with the processing of information according to a gender schema, based on measures of clustering in free-recall and reaction times. Although she provided no data for children, she cited two studies, the results of which were consistent with the existence of gender-schematic processing in children as early as 6 years of age (Kail & Levine, 1976; Liben & Sig- norella, 1980). Martin and Halverson (1983) have also demonstrated, with 5- and 6-year-olds, that children distin-
schema? If so, what specific aspects of the gender schema might be affected—stereotyping of occupations, or perhaps more diffuse aspects, such as the relative status attached to the male and female roles, or the relative status of the self as a male or female? The purpose of Experiment 1 was to replicate the Mouton et al. study with college students, and to extend it to first, third, and fifth graders, to assess age differences in responses to gender-neutral "he." Several other tasks were included in order to gain a more complete understanding of the nature of the responses. A fill-in task was used, and subjects were questioned for their understanding of the grammatical rule underlying the use of gender-neutral "he."

Experiment 1
Method

Subjects
A total of 310 subjects participated: 60 first graders (25 boys, 35 girls), 5-8: 27-7: 8, M = 6.7, 57 third graders (34 boys, 33 girls, 5-8 to 10-2, M = 8.11), 59 fifth graders (25 boys, 33 girls, 9-8 to 12-0, M = 10.10), and 124 college students (57 men, 67 women, 17 to 21-9, M = 19). College students participated in order to fulfill a requirement for introductory psychology. The parents of all elementary school subjects had returned signed consent forms for their children to participate. The elementary school children were drawn from three elementary schools: two middle-class, the other working-class to lower class.

Procedure
All elementary school children were interviewed individually, half by a male interviewer, half by a female. Stories. After a brief warm up, the interviewer said, "I'm going to tell you a little bit about a kid, and then want you to make up a story about that child and tell it to me, and I'll write it down. When a kid goes to school, ... often feels excited on the first day." One third of the subjects received "he" for the blank, one third "she" and one third their. The covariable was designed as an age-appropriate parallel to the neutral sentence used by Mouton et al. The interviewers recorded the basic content of the story, including the character's name. Later in the interview, at the end of the correct-sentence task, subjects were explicitly asked, "Is [name] of their characters? I boy or a girl? Why did you make up your story about a...? fill-in sentences. Next, children were questioned in several ways to determine their understanding of gender-neutral and masculine pronoun use. First they were asked to complete a fill-in-the-blank task. In each case, the interviewer read the following sentences (or allowed the child to read it if he or she wanted to and was able).

1. If a kid likes candy, .... might not eat much.
2. Most parents want ... kids to get good grades.
3. When a kid plays football, .... likes to play with friends.
4. When a kid learns to read, .... can do more at school.
5. Current sentences. Children were then asked to correct sentences with pronouns. They were told, "Now I'm going to read you some sentences and I want you to tell me if they're right or wrong, if they're right or wrong, why's wrong with them. For example, if I say 'he good to see their,' would that be right or wrong? Why?"
6. When a baby starts to walk, .... often falls down. Right or wrong? Why?
7. Usually a kid wants to be just like .... own parents. Right or wrong? Why?
8. The average kid learns to read before .... can write. Right or wrong? Why?
9. The average kid likes to play football with .... friends. Right or wrong? Why?
10. Each child randomly received one of the following four pronouns replacing the blank: his (or her), they (or their), he or she (or his or her), or he (or she).

Rule knowledge. Subjects were asked, "When you use 'he' in a sentence, does it always mean 'it's a boy?' For example, when I say, 'When a kid goes to school, he often feels excited on the first day,' does that mean the kid is a boy?" If the child answered no, then he or she was asked what it did mean.

College students. College students were tested in groups using a printed form. The form said:

Your task is to make up a story creating a fictional character who fits the following theme. Please do not write about yourself.

In a large coeducational institution the average student will feel included in - introductory courses.

One received "his" for the blank, one third "his" or "he" and one third their. When subjects had completed the task, they were told to turn the pages over and answer the following questions briefly:

When a person uses "he" or "his" in a sentence, does it always mean it's a male? For example, if I say 'In a large coeducational institution the average student will feel included in introductory courses,' does that mean? If the student is a male? If your answer is no, then what does the "he" or "his" mean?

Results
Sex of Character in Story

The results, tabulated as percentage of stories written about female characters, are shown in Figure 1. The data were analyzed using a four-way chi-square (Sex of Subject X Sex of Character in Story X Pronoun X Grade). Following the recommend ation of Eyvett (1977) the first test carried out was for the mutual independence of all four variables (or equivalently, whether sex of subject, pronoun, and
grade showed a three-way interaction in affecting the dependent variable, sex of character). The results were highly significant, \( \chi^2(40, N = 310) = 95.36, p < .001 \). Once this test was significant, other specific hypotheses of interest could be tested (Everitt, 1977). In particular, the main effect for sex of subject was significant, \( \chi^2(1, N = 310) = 35.54, p < .001 \), with males overall telling 8% of their stories about females and females telling 38% female stories. The main effect for pronoun was also significant, \( \chi^2(2, N = 310) = 28.81, p < .001 \). When the pronoun was "he" or "his," overall 12% of the stories were about females; when it was "they" or "their," 18% were female, and when the pronoun was "his" or "her" ("he" or "she"), 42% of the stories were about female. The main effect of grade level was not significant, \( \chi^2(3, N = 310) = 5.34 \), although it must be remembered that grade level interacted significantly with sex of subject and pronoun as noted above. The nature of this interaction can be seen in Figure 1. Note that not a single first-grade boy told a story about a female. Third-grade boys produced no female stories when the pronoun was "he" or "they," but nearly 30% of their stories were about females in response to "his" or "her."

Correct Sentences

Overall, children (the correct-sentences task was not given to college-students) judged most sentences to be correct (76%). Sentences with "it" inserted were judged wrong 19% of the time, whereas sentences with "she" were judged wrong 28% of the time. The children's judgments interacted with the sex typing of the sentence. For example, is the sentence about football, "he" was judged wrong 6% of the time, but "she" was judged wrong 39% of the time. This effect in turn showed age trends. "She" in the football sentence was judged wrong by 18% of the first graders and by 67% of the fifth graders. When asked why they judged the sentences wrong, nearly all children gave no reason or irrelevant reasons. However, the use of "her" or "his or her" in the football sentence was objected to on the grounds that girls can't play football by 3 first graders, 4 third graders, and 7 fifth graders. On the other hand, one third-grade girl objected to the use of "his" in the football sentence on the grounds that girls can play football too. One third-grade girl corrected the "they" in the sentence on reading to a "he" but otherwise such corrections were not found.

Figure 1. Percentage of stories about female characters written under the "his," "their," and "his or her" pronoun conditions, for male and female subjects at the three grade levels.
Table 1
Pronouns Supplied in the Fill-In Sentences

<table>
<thead>
<tr>
<th>Sentence</th>
<th>He/His</th>
<th>They/Their</th>
<th>She/Her</th>
<th>Nothing or irrelevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>First grades</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Candy</td>
<td>72%</td>
<td>0</td>
<td>7</td>
<td>22</td>
</tr>
<tr>
<td>Grade 6</td>
<td>2</td>
<td>37</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>Football</td>
<td>26</td>
<td>2</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td>Read</td>
<td>55</td>
<td>2</td>
<td>7</td>
<td>37</td>
</tr>
<tr>
<td>Third grades</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Candy</td>
<td>88</td>
<td>2</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Grade 6</td>
<td>0</td>
<td>62</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td>Football</td>
<td>55</td>
<td>8</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Read</td>
<td>71</td>
<td>3</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>Fifth grades</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Candy</td>
<td>76</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Grade 6</td>
<td>0</td>
<td>76</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Football</td>
<td>75</td>
<td>12</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Read</td>
<td>60</td>
<td>7</td>
<td>19*</td>
<td>14</td>
</tr>
</tbody>
</table>

*This sentence is plural, so that "their" is correct.

1 One additional subject supplied "he or she" or "his or hers".

Fill-In Sentences
The results of the pronouns supplied for the Fill-In sentences are shown in Table 1. At all grade levels, the great majority of children supplied "he" or "his" in the sentences, with the exception of Sentence 2, in which "theirs" was correct, and was correctly supplied. In the remaining three singular sentences, the sex typing of the sentence was varied, "candy" being gender-neutral, "football" masculine, and "read" feminine. In fact, "he" was supplied so uniformly and frequently that the sex typing of the sentence had little impact. The most important sentence is the first, in which the cue is explicitly gender neutral (referring to candy), yet 72% of first graders, 88% of third graders, and 76% of fifth graders provided the pronoun "he" for the blank.

Rule Knowledge
Knowledge of the rule that, in gender-neutral contexts, "he" refers to both males and females was tested by asking "When you use "he" in a sentence, does it always mean it's a boy?" For example, when I say "when a kid goes to school, he often feels excited on the first day," does that mean the kid is a boy?" If the subject responded "no" and indicated that it could be a boy or girl, the subject was scored as knowing the rule. Knowledge of the rule increased with age: 28% of first graders, 32% of third graders, 42% of fifth graders, and 84% of college students gave responses indicating they knew the rule. An additional 6% of college students gave "feminist" responses indicating that they knew the rule but disagreed with it— for example, "Yes, he refers to males, so one should use 'he' or 'she' to be clear that everyone is included."

Experiment 2
This study replicated and extended Experiment 1. The pronoun "she" was included for a fourth comparison group in the story-telling task. The protocol for questioning children about rule knowledge was expanded in order to correct for possible response bias. Finally, an attempt was made to test directly for possible effects of gender-related pronoun use on stereotyping and cognition with the Wedge-maker task, described below. Only third and fifth graders were used as subjects, because too few first graders had demonstrated rule knowledge in Experiment 1.

Method
Subjects
A total of 152 children participated: 59 third graders (28 boys, 31 girls, 8-7 to 10-6, mean 9-4) and 73 fifth graders (36 boys, 37 girls, 10-6 to 12-7, mean 11-3).
Procedure

The story-telling task was identical to that in Experiment 1, except that a fourth condition, with the pronoun "she," was added. The film-talking task was identical to Experiment 1. Children were next asked to rate on a 3-point scale (very well, just OK, not very well) how well women and men could do each of several jobs. The first was teacher and the second was doctor. The next was fireman or firefighter, half of the subjects receiving each alternative. The final occupation was wademaker. It was a fictitious, gender-neutral occupation; the description used to subjects was as follows:

Few people have heard of a job in factories, being a wademaker. Wadges are made of plastic, oddly shaped, and are an important part of video games. The wademaker works from a plan or pattern posted at eye level as he or she puts the pieces at a table while he or she is sitting down. Eleven plastic pieces must be snapped together. Some of the pieces are tiny, so that he or she must have good coordination in his or her fingers. Once all eleven pieces are put together, he or she must test out the wadges to make sure that all of the moving pieces move properly. The wademaker is well paid, and must be a high school graduate, but he or she does not have to have gone to college to get the job.

One quarter of the subjects received "he" for the pronoun, one quarter received "they," one quarter received "he or she," and one quarter received "she." They were asked to rate how well women could do the job on the 3-point scale, and how well men could do the job.

Finally, a series of questions was asked to ascertain the subject's knowledge of the grammatical rule for gender-neutral "he" as follows:

When you use "he" in a sentence, what does it mean? For example, if I say "When a kid goes to school, he often gets lost on the first day," does that mean the kid is a boy, or does it mean it's a girl, or could it be a boy or a girl?

Following the response, the subject was asked "Why?" The question was then repeated, substituting "she" and then "they." Subjects were asked as knowing the rule if they responded boy or girl to the first question, gave a reason indicating understanding (e.g., it's like when they use same-kind to mean everyone) and answered the questions on the other pronouns correctly.

Results

Stories

There was a significant effect of pronoun on sex of story character, \( \chi^2(6, N = 132) = 36.86, p < .0001 \), with 17% female stories when the pronoun was "he," 31% for "they," 18% for "he or she," and 77% for "she." The four-way chi-square (Sex of Subject \times Pronoun \times Grade \times Sex of Story Character) yielded a significant three-way interaction effect on sex of story character, \( \chi^2(26, N = 132) = 70.53, p < .001 \). The results of these significance tests are thus the same as the similar tests in Experiment 1.

Fill-Ins

The data were so similar to those of Experiment 1 (see Table 1) that they will not be reported in detail here; for example, 73% of subjects supplied "he" in the gender-neutral fill-in (candy).

Occupations and Wademaker

The fireman/firefighter manipulation did not produce significant results, either for ratings of men, \( F(1, 130) = 1.56, n.s. \), or for ratings of women, \( F(1, 130) = 2.33, n.s. \). The gender neutrality of the description of the wademaker was verified in two ways. First, 63 college students read the description with "they" as the pronoun. They then rated how well women could do the job, on a 5-point scale, how well men could do the job, and the percentage of people in the job who were men and the percentage who were women. The average ratings of males and females in the job were indeed quite close (females \( M = 4.24 \), males \( M = 4.02 \)), and the average percentages were close to even (58.5% males, 41.5% females). Matched-group \( t \) tests actually indicated that both differences were statistically significant, for ratings, \( t(62) = 2.5, p < .05 \), for percentages, \( t(62) = 3.28, p < .005 \). But the fact that the means were close and the differences were in opposite directions (females were given higher ratings but lower percentages) permitted the conclusion that the occupation was reasonably gender neutral. Second, an analysis of data from those third and fifth graders who had received the most neutral pronouns, "they" and "he and she," was done for the ratings of women compared with their ratings of men. If the occupation is truly gender neutral, then when it is described with those pronouns there should be no significant differences between ratings of men and women on the job. A matched-group \( t \) test for ratings of women versus men was done, and did prove to be nonsignificant, both for "they," \( t(32) = -0.40, n.s. \), and for "he or she," \( t(31) = 1.09, n.s. \). A three-way ANOVA (Pronoun \times Grade \times Subject Sex) of ratings of women as wadge-
mangers produced a significant effect for pro-
ouns, $F(1, 116) = 7.77, p < .0001$. All other
main effects, two-way interactions, and three-
way interactions were nonsignificant. The
mean ratings are shown in Figure 2. Ratings
of women were lowest when the pronoun was
she, $M = 2.00$, on a scale from 1 to 3, inter-
mediate for they and he or she, and highest
for she ($M = 2.72$).

A three-way ANOVA of ratings of men as
wagemakers produced no significant effects
for pronoun, nor for two-way or three-way
interactions. However, the effect of grade was
significant, $F(1, 116) = 12.92, p < .0001$, with
third graders giving higher ratings ($M = 2.68$)
than fifth graders ($M = 2.32$).

Rule Knowledge

Using the criteria noted above, 15% of third
graders and 24% of fifth graders understood
the rule that “he” can mean both males and
females.

Discussion

In general, the results from the college stu-
dents in Experiment 1 replicate those of
Moulton et al. (1978), although with even lower
percentages of female stories (39% in Moulton
et al.'s study vs. 30% in the present study). As
Moulton et al. found, females are more likely
to write stories about female characters than
males are. The pronoun “his” yielded the low-
est percentage of female stories, and “his or
her” yielded the highest percentage. If “his”
were gender neutral in a psychological sense,
then approximately 50% of stories would be
about females, yet college students created only
21% of their stories about females in response
to “his.” Thus the conclusion from the present
data is the same as the conclusion of Moulton
et al. (1978): “His” is not gender neutral in a
psychological sense.

The data for the children are equally strik-
ing. The tendency for first, third, and fifth
graders to create male characters when the
pronoun is “he” is even stronger that it is for
college students. Only 7% of elementary school
children’s stories were about females when the
pronoun was “he.” The data from Experiment
2 indicate that children are capable of creating
a substantial number (77%) of female stories,
but only when the pronoun is “she.”

The strong tendency for children to tell sto-
ries about male characters in response to the
“he” cue becomes more understandable when
one looks at the data on the children’s knowl-
edge of the grammatical rule. Few know the rule and the majority apparently believe that "he" always means the person is a male.

The data from the fill-in task indicate that elementary school children, and particularly third and fifth graders, have already learned to supply "he" in a singular, gender-neutral context, although the correct-sentences task indicates that they cannot articulate why they do so. The results of the fill-in task are quite similar to those of Martin (1978) with college students completing sentences.

The following phenomena were replicated from Experiment 1 to Experiment 2: The low percentage of female stories in response to "he," the low percentage of children knowing the grammatical rule, and the supplying of "he" in gender-neutral fill-ins. Thus these three phenomena appear to be reliable.

Therefore, it seems reasonable to conclude that (a) the majority of elementary school children have learned to supply "he" in gender-neutral contexts, and (b) the majority of elementary school children do not know the rule that "he" in gender-neutral context refers to both males and females, and have a strong tendency to think of males in creating stories from "he" cues. The chain of concepts for them, then, is (a) the typical person is a "he"; and (b) "he" refers only to males. Logically then, when they do not conclude (c) the typical person is a male?

We know that by first grade, girls have less self-confidence and lower expectations for success than do boys (Blick, 1976; Crandall, 1989, 1978). A speculation as to one of the causes of that phenomenon arises from the present studies, namely that language may be a contributor. That is, if first graders routinely use "he" to refer to everyone without knowing the grammatical rule behind the use, might they not begin to attach greater status and normativeness to the male, and correspondingly devalue the female? If Berl (1981) is correct that self-concept is assimilated to the gender schema, could the low self-confidence in females be related to aspects of the gender schema that have been shaped by exist language? These are important questions deserving research.

Although the discussion has focused on the majority of children who do not understand the grammatical rule for gender-neutral "he," it is also worth considering the substantial number of fifth graders (42% in Experiment 1, 34% in Experiment 2) who did demonstrate understanding of the rule. They are interesting because this rule does not appear in grammar texts until junior and senior high school. Thus the fifth grades have picked it up from other sources, such as contextual cues or explicit teaching from parents or other sources. The slight decline from Experiment 1 to Experiment 2 in percentages knowing the rule may be accounted for in two ways: (a) The interview questions were more complex, and thus the criterion for knowing the rule was a bit more stringent in Experiment 2; (b) it is possible that, even in the brief 2 years between collection of data in Experiment 1 and Experiment 2, the frequency of use of gender-neutral "he" has declined, if so, children are less likely to have learned the rule from contextual cues.

The absence of an effect for the fireman-firefighter manipulation (Experiment 2) is not too surprising given the "drop-in-the-bucket" problem. That is, after years of formation of a gender-related schema of firefighters, the single use of fireman or firefighter in this study could not be expected to exert a strong influence on ratings of how well men or women could do the job.

In contrast, the wigmaker data (Experiment 2) showed strong effects due to pronoun. Women were rated as least able at the job when the description used "he," intermediate for "they," and "he or she," and most able when "she" was used. It should be emphasized that the effect is a large one, with ratings of women moving from the middle of the 1 to 5 scale when the pronoun is "she" (M = 2.00) to close to the top of the scale when the pronoun is "he" (M = 2.72). These data permit the important conclusion that the use of gender-neutral "he," compared with other pronouns, does indeed affect the formation of gender-related schemas in children.

We know that, by first grade, children hold many stereotypical ideas, including stereotypes above adult occupators (O'Keefe & Hyde, 1983). The wigmaker data permit the more general conclusion that one likely input into the formation of these stereotyped ideas has been the language the children have learned, and specifically the pronouns used is referring to people in the occupation— for example, "he" for firefighters and doctors, and "she"
for nurses and teachers. Depending on the terminology one prefers, it can be concluded that the use of "he" affects the stereotyping of occupations, or the schema of an occupation that children form.

The absence of pronoun effects or ratings of men is the job of wugemakers is interesting and deserving of further research. Unfortunately, the design of the present experiment does not permit explanation of the result. This research again raises the classic issue of the direction of influence between language and thought (Bruner, 1964; Piaget, 1967; Saps, 1958; Whorf, 1956). Here, specifically, the question is whether sexist language is primary and produces sexist thought, or whether sexist thought is primary and produces sexist language. Stated in the language of schema theory, does the sexist language produce the schema, or does the schema produce the sexist language? Some data from the present experiments are relevant. When the cue pronoun is "he" the percentage of female stories is low (12% in Experiment 1, 17% in Experiment 2).

However, when the truly neutral pronoun "they" is used, the percentage of female stories is still substantially below 50% (18% in Experiment 1, 31% in Experiment 2). This result suggests that sexism in thought is primary— even when the pronoun gives no gender cue ("they"), subjects still overwhelmingly think of males. On the other hand, the subjects in the present experiments had already been exposed to sexist language for 6 or more years of their lives, including hearing "he" and "they" used interchangeably in sentences of the sort used in this experiment. Thus the sexist thought, evidenced by responses to "they," may be the product of years of exposure to sexist language, as well as many other factors.

The present research can be seen as aimed at investigating two issues simultaneously: the short-term and long-term effects of the use of gender-neutral "he." The short-term effects are clear: When children hear "he," even in an explicitly gender-neutral sentence, they are overwhelmingly likely to think of a male (the story-telling task results). The long-term effects of exposure to the gender-neutral use of "he" are far more difficult to investigate. The wugemaker task was designed as an analog to the sorts of long-term exposure that occur in nature. Subjects had no prior information about wugemakers. The wugemaker was repeatedly referred to as "he" for subjects in that experimental condition. And subjects in the "he" condition raised women as significantly more competent as wugemakers than subjects in the "they" condition (according to the results of a post hoc analysis using the Scheffe procedure). If one accepts the wugemaker task as an analog to long-term natural exposure to gender-neutral "he," then the results demonstrate the effects of gender-neutral "he" on stereotyping, and particularly the effects on ratings of female competence.

In summary, it is clear that the tendency for subjects to think of males when they hear "he" in a gender-neutral context (story-telling data) is present from first grade through the college years. The wugemakers demonstrate that the use of gender-related pronouns affects the concepts children form as an occupation, and particularly their idea of how well women would do at the occupation. The contributions of language to sex role development are deserving of considerably more attention, both theoretical and empirical. We must find out how children think about sexist language and other gender-related features of language, and how these features influence the developing gender schema.

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