This study of the processes guiding children's gender-linked conduct focused on ages prior to the development of self-regulatory control through the exercise of self-evaluative reactions. The study sample consisted of 29 boys and 33 girls in Australia between 17 and 48 months old. Measures included: (1) a videotaped toy play session in which children were left alone with five boys' and five girls' toys; (2) Leinbach and Fagot's gender labeling point test, extended with a self-pointing task; (3) a gender-labeling test of photographs of inanimate objects framed in terms of which object a boy or girl would play with; (4) a test requiring children to produce a gender label for photographs; and (5) children's evaluation of a videotape sequences of other-gender-linked conduct. Children's knowledge of gender labels associated with toys was quite poor; however, regardless of age, during the toy play session, all children engaged in more same-sex than other-sex conduct. Younger children demonstrated little negative appraisal of other-sex conduct on the videotape, while the two older age groups were more likely to indicate that an other-sex toy was a "bad" toy for the child actor to play with. Children who could point to a boy or girl when their own photograph was one of the two photographs presented engaged in more same-sex activities than children who failed this task. Contains 17 references and 3 figures. (AC)
Sociocognitive Correlates of Gender-Linked Conduct

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In the past, three major theories have been advanced to explain gender development. Each has emphasized a different component of such development: affect (Freud, 1905), cognition (Kohlberg, 1966), and behavior (Mischel, 1966). Subsequently, new theories have emerged and old theories have been invigorated by the incorporation of new concepts. The increasing concern with the early socialization of gendered behavior, fueled particularly by the controversy over the role of gender constancy in the acquisition of gender-linked behavior, has largely been responsible for these advances.

From the cognitive developmental position, initially, the achievement of gender constancy was considered the driving force guiding children's performance of gender-related behavior. More recently this theory has been modified (e.g. Stangor & Ruble, 1987) to accommodate the findings of studies which have shown that children prefer same-sex toys (Marcus & Overton, 1978), imitate same-sex models (Bussey & Bandura, 1984), prefer to associate with same-sex peers and reinforce peers for gender-linked behavior (Lamb & Roopnarine, 1979), long before they have fully attained gender constancy. Cognitive development theorists now posit that gender constancy is associated with increasing responsiveness to gender-linked information (Frey & Ruble, 1992).

Another direction in light of these conflicting findings has been provided by gender schema theorists. In Martin and Halverson's influential 1981 paper, a developmental model of children's gender schematic processing was presented. They wrote:

According to the schematic model, a young girl when presented with an object would make several decisions based on her sex-typing schemas that will influence if or how she will interact with the object. For example, when presented with a doll, she will decide first that dolls are self-relevant; second, that dolls are 'for girls' and 'I am a girl', which means 'dolls are for me'. (p.1120)

From this viewpoint then it was not considered necessary for children to achieve gender constancy prior to adopting gender-linked conduct. Rather, gender identity was considered necessary. That paper, however, was not concerned with the possible emergence of gender-linked conduct prior to the attainment of gender identity.

While the importance of early gender labeling in laying the foundation for the formation of gender schema was proposed in Martin and Halverson's paper, later research sought to establish the relationship between gender labeling and gender-linked conduct. Although Thompson (1975) had earlier embarked on this
course, the gender labeling task developed by Leinbach and Fagot (1986) enabled a more methodologically adequate assessment of children's gender-labeling skills. However, there have been mixed results using gender labeling as the pivot for the emergence of children's gender-linked conduct.

Fagot, Leinbach, and Hagen (1986) found no relationship between gender labeling, which required children to point to either a boy or girl when photographs representing both sexes were displayed, and gender-linked toy play in children ranging from 21 to 40 months. In that study, regardless of whether children passed the gender pointing task or not, they spent significantly more time playing with same-gender- than with other-gender-linked toys. This finding was consistent with Weinraub et al's (1984) findings which showed that 26 to 38 month old children demonstrated gender-linked conduct before they could pass nonverbal gender categorization tasks or indeed had achieved gender identity. However, in a later study, Fagot and Leinbach (1989) reported that at 18 months, prior to successful gender labeling, there was little evidence of gender-linked conduct, but by 27 months children who passed the gender labeling task engaged in more gender-linked conduct than those who had not passed it.

To me, these conflicting findings beg the question of the nature of the relationship between gender labeling and gender-linked conduct. Further, if there is a relationship, what is the motivating link between labeling and conduct? If children can point with above chance accuracy to a boy or girl in pairs of boy and girl photographs, to what extent it can be assumed that children spontaneously label themselves as a boy or girl, label toys as boys' or girls' toys and then guide their toy play on the basis of these labels? Indeed, some studies show that developmentally children gender label toys only after, rather than before, they engage in gender-linked toy play. If children correctly label only persons and not toys, the motivating mechanism would possibly be different than if they labeled both persons and toys. Before examining data relevant to this issue, I will outline a model of gender development and the processes governing the motivation and regulation of gender-linked conduct which adds an additional dimension to both cognitive developmental theory and gender schema theory. This perspective is provided by Bandura's social cognitive theory (Bandura, 1986). From this viewpoint, gender-linked conduct is multi-determined and cognitive knowledge is but one of its determinants. Children's gender-linked conduct is expected to be influenced by motivational and emotional factors as well as their cognitive understanding of gender. This theoretical perspective specifies a dynamic interaction between factors likely to affect gender-linked conduct. Further, gender-linked cognitions are expected to emerge from gender-linked conduct rather than the reverse. Only later are children expected to regulate their gender-linked conduct through cognitive forethought.

Sociocognitive theory distinguishes three major motivational determinants of gender-linked conduct: external influences.
(anticipated reactions of others), internal influences (anticipated self-evaluative reactions), and self efficacy for gender-linked conduct. That is, the more children anticipate a negative reaction from others or self-censure themselves for other-sex conduct, or the more they feel incapable of effectively carrying out such an activity, the more likely they will be to engage in traditional gender-linked conduct.

Social cognitive theory further posits that, in the course of development, the regulation of behavior shifts from predominantly external sanctions and direction to internal sanctions and mandates based in personal standards, although external factors still remain important across the life span (Bandura, 1986). Initially, behavior is self-regulated on the basis of anticipatory outcomes mediated by the social environment. With increasing experience, social knowledge, and cognitive development, children construct their own personal standards relating to gender-linked conduct. Such conduct is then motivated and regulated mainly by the exercise of self-reactive influence. Children do things that give them self-satisfaction and a sense of self-worth. To avoid self-censure, they refrain from behaving in ways that violate their standards. The standards provide the guidance, the anticipatory self-sanctions the motivators. Self-sanctions thus keep conduct in line with internal standards. Whereas gender schema theory emphasizes conception-matching as the primary regulative process, social cognitive theory posits both a standard-matching and an affective self-reactive function.

Empirical support for the social cognitive view of gender development as shifting from socially guided to self-regulatory control of gender-linked behavior has recently been demonstrated (Bussey & Bandura, 1992). In that study, it was found that with increasing age children revealed a greater ability for anticipatory self-regulation of gender-linked conduct. It was also shown that gender-linked standards guide gender-linked conduct. Children engaged in gender-linked behavior they regarded self-approvingly but shunned other-sex behavior that would lead them to react self-critically. The younger children, the 3-year-olds, however, unlike the 4-year-olds, neither exhibited any differential anticipatory evaluative self-reactions nor any linkage between anticipatory self-reactions and gender-linked conduct.

The study I am reporting here focused on the processes guiding children's gender-linked conduct prior to their developing self-regulatory control through the exercise of self-evaluative reactions. Although in our previous study 3-year-olds had not developed personal standards for gender-linked conduct, we found that they were aware of peers' negative reactions to other-sex conduct. Therefore the finding that at 3 most children engaged in gender-linked conduct was not surprising. But what about the processes associated with children's gender-linked conduct prior to that age?
Data are presented on 62 children (29 boys and 33 girls) aged between 17 and 48 months. The data were collected across 2 sessions. Measures included a 6 minute toy play session in which children were left alone with 5 boys' and 5 girls' toys (boys' toys: truck, lorry, garage, tool set, power set; girls' toys: baby doll, barbie doll, beauty set, tea set, hat and bag). Toy play was videotaped. Children's gender labeling ability was assessed using Leinbach and Fagot's (1986) gender labeling test. In addition, this pointing test was extended to assess not only children's ability to point to the photograph of a boy or girl, man or woman, but also their ability to point to a boy or a girl when presented with a photograph of themselves and a child of the other sex (self task). Children were also presented with photographs of inanimate objects including toys, clothing and household task items (e.g. a broom, a spade) and were asked which one a girl or boy would play with, wear or use. The same stimuli used in the pointing test were used in a labeling test in which children were asked to label the gender of the person to whom the experimenter pointed (labeling test). Specifically, the children were asked, who is this - a boy or a girl? ----?, who plays with this - a boy or a girl?, who wears this - a boy or a girl?, etc. as appropriate. These questions required children to produce gender labels and thereby paralleled the questioning format used in the Slaby and Frey (1975) gender constancy interview. Children had to produce a label rather than point to a picture when the label was provided. These tests were counterbalanced in their presentation. Children were also shown video sequences of other-gender-linked conduct. Half way through the video children were asked to evaluate whether they thought that was a 'good' toy for the child to play with or a 'bad' one, and if there was a better one displayed in front of the child in the testing room, they were asked to pick it up and give it to the experimenter.

First, I will examine the results of the pointing and labeling tests. Here, children were divided into 3 age groups, with mean ages of 20 months (n=20;17-24), 31 months (n=20; 26-36), and 43 months (n=22; 37-48). As you can see from Figure 1, children were able to respond to gender labels of animate before inanimate objects (the gender pointing test). In support of Leinbach and Fagot's (1986) findings, they responded accurately to the gender labels of adults before children. Not surprisingly, the 43-month-old children demonstrated more advanced understanding of gender labels than the 20-month-olds. Children's knowledge of gender labels associated with toys was quite poor, confirming other findings. Children's performance on the test requiring them to generate a gender label, the gender labeling test, revealed that for the older age group this response type had little impact on the assessment of their gender knowledge. However, it impacted more dramatically on the younger age groups, particularly the 20-month-old children. They demonstrated less knowledge of gender labels when they were required to provide a label compared to simply pointing to the appropriate person or object (see Figure 2). This finding suggests that children's knowledge of gender is greater than can be demonstrated with their current verbal skills. Further, it
suggests to me that it is unlikely that these children spontaneously gender label themselves or others before engaging in gender-linked conduct.

Children's gender-linked conduct was analyzed for the amount of time children spent playing with the girls' and boys' toys as a function of sex and age. There was no age main effect nor any interactions involving age. The toy type by sex interaction was highly significant across all three age groups. Regardless of age, all children engaged in more same- than other-sex conduct (see Figure 3). This result held whether or not the children passed the adult or children gender pointing or labeling tasks, the gender toy pointing or labeling tasks or any of the other pointing or labeling tasks, including the gender self-labeling task, but excluding the gender self-pointing task. That is, when children were required to point to either a boy or a girl when one of the photographs was of themselves, there was a three way interaction between sex of child, duration of gender-linked play and labeling. Children who could not pass this task did not engage in gender-linked differentiated toy play.

Children's reactions to the video sequence of other-sex toy play were subjected to an analysis of variance. The younger children demonstrated little negative appraisal of such conduct compared to the two older age groups who were more likely to indicate that an other-sex toy was a 'bad' toy for the child actor to play with. Some of the older children, particularly the boys, even yelled at the video actor about their toy choice.

To further examine the relationship between gender-labeling, evaluation of other-sex conduct, and gender-linked conduct, correlations were computed. Because of the similarity in the performances on these measures between the 31- and the 43-month-olds, these two groups were combined. For the younger age group only one significant effect emerged (see Table 1). Children who could point to a boy or girl when their own photograph was one of the two photographs presented, the gender self-pointing task, engaged in more same-sex activities than children who failed this task. There was some continuity of this finding with the older children in that gender self-pointing was related to less other-sex activities. Of course most of the older children had mastered the gender self-pointing task, so it is not unexpected that this correlation with conduct would decline across age. The other finding evident from the correlations was that the more the older children evaluated other-sex activities negatively, the more likely they were to engage in same-sex activities and avoid other-sex activities. For the older children, awareness of others' affective evaluative reactions to gender-linked conduct provided a stronger link to conduct than the more traditional measures of children's gender labeling (self, others, and objects) and gender knowledge of toys, clothing, and adult chores.

Why would the younger children be motivated to behave along gender-linked lines? For the younger children in this study,
gender-linked conduct was related to their ability to point to boys and girls when their photograph was included in the pair of photographs, the gender self-pointing task. It is possible that this finding confirms the importance of gender labeling for gender-linked conduct. However, it must be remembered that this relationship only existed when children pointed to either the boy or girl when one of the photographs in each pair was of themselves. It may be that children who can identify their own gender as a boy or girl early on have parents who label their gender more frequently than do other parents, provide their children with more gender-linked cues in the form of toys, and structure their environment so that gender cues are more salient. For example, we are currently investigating this interpretation in a sub-sample of parents who espouse and practice gender-equalitarianism. It is noteworthy that the children who passed the self-pointing task did not pass the pointing task when boys and girls other than themselves were in the photographs. Nor were they able to provide the label for a boy or girl when their own photographs were used. It is therefore unlikely that they were spontaneously labeling themselves as a boy or a girl and the toys as 'for boys' or 'for girls' and then matching their behavior to these labels. Rather, it is proposed that, stemming largely from environmental cues, children form categories of toys 'for me to play with' and 'not for me to play with'.

It is also noteworthy that although the self-labeling was still related to gender-linked conduct for older children, evaluative reactions to other-sex conduct were more strongly related to their gender-linked conduct. However, although most children's ability to gender-label the toys was poor (54%, 25% and 0% of children passed this test at 43, 31, and 20 months respectively), they consistently engaged in gender-linked conduct. Hence, it is unlikely that children choose to play with toys by matching their own gender label ("I am a girl") to the gender label of the toy ("Dolls are for girls, therefore I will play with dolls"). It is more plausible that girls, for example, are aware that long-haired children play with dolls, or 'I play with dolls and people like me also play with dolls'. Consequently, it is not surprising that building on their discrimination of the two sexes as demonstrated in the habituation studies with infants, children learn to associate certain activities with a particular sex. At this age such an association between hair length and toys may be sufficient to guide toy play. Our future studies are in fact exploring these possibilities by using children who look similar, but with one child labeled as a boy and the other as a girl. That is, physical appearance and gender labels are systematically manipulated to examine the extent to which labels are important at this age for children's evaluative judgments of other children's conduct. Only experimental manipulation of these variables rather than correlational studies will clarify these processes.

Although results are only tentative, some of the parental reports from this study are interesting in that although parents
were unlikely to actively encourage or discourage gender-linked toy play in their children, some of the subtleties in their responses appear relevant. For example, although many parents indicated that they would buy other-sex toys for their children, few had done so. For the few parents who had bought their boy a doll, it was a baby doll, not a barbie doll, and usually bought at the time a new sibling was about to be born so that the boy could have 'his own baby'. As well, parents provided more elaborate justifications for other-sex toy selection for boys than for girls. The way in which parents structure their children's environments with the toys and clothing that they provide for their children may promote children's evaluation of gender-linked activities. While peers may play a more overt role in shaping gender-linked conduct, we should not be surprised if parents' subtle influence could have long-term effects on children's standards for gender-linked conduct. For example, strong power assertive techniques are not conducive to the internalization of moral standards and hence it is possible that parents' more subtle practices of structuring their child's environment along gender-linked lines as well as their reasoning and emotional responses are critical factors in children's formation of gender-linked standards.

I will conclude by restating that I believe different mechanisms motivate gender-linked conduct depending on cognitive competence and social experience. It is mainly through environmental cues that children develop a preference along gender-related lines for particular toys. They first label themselves followed by gender-linked labeling of toys. Although labeling may serve as a cue for acquiring gender-linked information, decisions about which aspects of the vast repertoire of gender-linked information are performed will increasingly depend on children's evaluation of gender-linked conduct. External influences such as anticipated reactions of others will serve as an early major guide for gender-linked conduct, and later internal influences through self-evaluative reactions will serve as additional guides to conduct. However, increasing cognitive competence and social experience will enable such self-evaluative reactions to be disengaged so that some children will engage in non-traditional conduct if it serves a particular goal (e.g. a girl may decide to play with a mechano set if she wants to be an engineer). The social cognitive theory of gender development specifies not only the developmental course for the development of traditional gender-linked conduct but also processes associated with increased flexibility in gender-linked conduct which is expected to bear little relationship to gender-linked cognitions.
References


Table 1
Correlations between Gender-Linked Cognitions and Gender-Linked Behavior

<table>
<thead>
<tr>
<th></th>
<th>Youngest Age Group (17 - 24 months) n = 20</th>
<th>Oldest Age Group (26 - 48 months) n = 42</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Same-sex Activities</td>
<td>Cross-sex Activities</td>
</tr>
<tr>
<td><strong>Pointing Tests</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child</td>
<td>.00</td>
<td>-.29</td>
</tr>
<tr>
<td>Self</td>
<td>.55*</td>
<td>-.48</td>
</tr>
<tr>
<td>Adult</td>
<td>.02</td>
<td>-.37</td>
</tr>
<tr>
<td>Toy</td>
<td>-.50</td>
<td>.32</td>
</tr>
<tr>
<td>Clothes</td>
<td>-.30</td>
<td>.29</td>
</tr>
<tr>
<td>Household activities</td>
<td>-.18</td>
<td>.25</td>
</tr>
<tr>
<td><strong>Labeling Tests</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child</td>
<td>-.53</td>
<td>.26</td>
</tr>
<tr>
<td>Self</td>
<td>-.44</td>
<td>-.01</td>
</tr>
<tr>
<td>Adult</td>
<td>-.46</td>
<td>.27</td>
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<tr>
<td>Toy</td>
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<tr>
<td>Clothes</td>
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<tr>
<td>Household activities</td>
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<tr>
<td>Peabody</td>
<td>.03</td>
<td>-.18</td>
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<tr>
<td>Cross-sex evaluative reactions</td>
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</tbody>
</table>

No correlation coefficients were computed between the three Labeling Tests (Toy, Clothes and Household activities), the cross-sex evaluative reactions and gender-linked activities for the younger children because either none or only one child performed these tests.

* p < .05
** p < .01
Figure Captions

Figure 1. Mean percentage correct for the gender-pointing test as a function of age and type of task.

Figure 2. Mean percentage correct for the gender-labeling test as a function of age and type of task.

Figure 3. Mean duration of gender-linked behavior as a function of gender-linked activity.
'Pointing' Test

Note: ch = child; se = self; ad = adult; toy = toy; clo = clothes; ho = household task.
'Labeling' Test

![Graph showing mean percentage correct for gender tasks]

**Note**: ch = child; se = self; ad = adult; toy = toy; clo = clothes; ho = household task.
Mean Duration of Gender-Linked Behavior as a Function of Sex of Subject and Gender-Linked Activity

![Graph showing the mean duration of gender-linked behavior as a function of sex of subject and gender-linked activity. The graph depicts two sets of data: one for boys (solid line and circles) and one for girls (dashed line and squares). The x-axis represents gender-linked activities (Masculine to Feminine), and the y-axis represents performance duration (in seconds) ranging from 0 to 300. The graph illustrates a trend where boys tend to perform masculinized activities for longer durations, while girls tend to perform feminized activities for longer durations.]