Children's Gender-Role Stereotypes: A Sociological Investigation of Psychological Models

Alexa A. Albert
University of Rhode Island
Judith R. Porter
Bryn Mawr College

This study investigates sociologically the predictions of the cognitive developmental, the social learning, and the interactive models of gender-role development. We examine the effect of a variety of variables on gender-role stereotyping among a sample of 1264 four-, five-, and six-year-old children enrolled in preschool programs in a major metropolitan area. Age, sex, and race are found to be significantly related to children's gender stereotypes. With age, children increasingly associate stereotypical behavior patterns with the male and female gender roles. Children are also found to demonstrate a higher degree of gender-role stereotyping with regard to members of their own sex. An age/sex interaction effect indicates that the tendency of children to demonstrate a higher degree of same-sex stereotyping is most pronounced among four-year-olds. Finally, black children are found to be less gender-typed in their images of males and females than are white children. These data suggest that the interactive model, including both social and cognitive factors, is the best explanation of these data and should be further investigated.•

Growing awareness of the deleterious effects of rigid conceptualizations of male and female gender roles has led to a resurgence of interest in the factors affecting the development of gender-role attitudes in children (Weitzman et al., 1972; Sternglantz and Serbin, 1974; Maccoby and Jacklin, 1974; Huston, 1983, 1985). Since the early 1970s, numerous studies in the psychological literature have observed that, despite recent attempts to alter the assignment of social roles to the sexes, very young children still continue to develop a constellation of attitudes organized around male and female concepts. Recent research (Britton and Britton,

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1971; Nadelman, 1974; Tibbetts, 1975; Flerx, Fidler, and Rogers, 1976; Kuhn, Nash, and Bruken, 1978; Birnbaum, Nonsanchuk, and Croll, 1980; Williams and Best, 1982; Albert and Porter, 1983) has demonstrated that young children still continue to develop gender-role stereotypes, the content of which has remained relatively stable over the past two decades. Like previous studies (Emmerick, 1959; Hartley, 1960; Kagan and Lemkin, 1960), research in the 1970s and 1980s has found that children still continue to view males as more active, aggressive, independent, fearless, competent, and dominant in behavior, while they associate the qualities of nurturance and expressiveness with females (see Huston, 1983, 1985, for a comprehensive review of this most recent literature). In addition, young children make gender-typed classification of objects like toys, clothes, and household items at an even earlier age than they make gender-typed attributions of personal and social characteristics.

Although a great deal of time and energy has been invested in the examination of gender stereotyping in children, neither the recent nor the past research in this area has provided an adequate investigation of the two major theories of childhood gender-role socialization that have dominated the child development literature, namely cognitive developmental theory (Kohlberg, 1966, 1969a; Kohlberg and Zigler, 1967) and social learning theory (Kagan, 1964; Mischel, 1966, 1970). These theories present different views of the socialization process and the manner in which cultural, social structural, family, and cognitive variables affect the development of gender-role attitudes in children. The importance of submitting these highly psychological paradigms to a sociological investigation that examines the impact of the sociocultural factors as major sources of differences in children's gender-role attitudes cannot be overstated. Although the effect of sociological variables has been assessed in past literature, most of the samples used have been either too small or too homogeneous to systematically examine the effects of a variety of independent variables on children's sex-role attitudes while controlling for the effects of other relevant variables. As a result, the field is characterized by a collection of small-scale studies that use different samples and focus on a limited number of variables, making generalization difficult.

The present research is a preliminary investigation of the cognitive developmental and social learning theories of gender-role development, as well as of a more recent model combining both perspectives, using a sociological focus on a variety of demographic variables and a single sample large enough to assess the effects of a number of sociological and psychological factors on children's gender-role attitudes. Gender stereotypes have a variety of dimensions (gender traits, gender roles, stereotypes of toy suitability, peer preference); some of these follow

different developmental trajectories (Huston, 1983). This study focuses on stereotypes of gender roles and gender traits, the most frequently studied aspects of gender stereotyping in children.

THEORETICAL MODELS OF GENDER-ROLE DEVELOPMENT IN CHILDREN

Social learning theory's predictions regarding the development of children's gender stereotypes are based on a number of assumptions about the importance of cultural and social variables in the socialization process. This theory rejects the notion of stages of cognitive development in children and thus does not accept the view that children's social attitudes are mediated through cognitive development. The social learning paradigm assumes that gender stereotypes in children are learned by the same kinds of mechanisms that apply to all types of social behavior. The basis of gender typing is the social environment, not the organism. Gender-role stereotypes and attributes are transmitted to the child through the principles of learning theory, namely operant conditioning and observational learning.

Rather than presenting one global theory of the development of gender-role stereotypes in children, social learning theory incorporates a number of learning theory principles that have been formulated in psychological laboratory research. It adopts the social modeling paradigm of Albert Bandura (1962, 1969; Bandura and Walters, 1963), arguing that gender-role stereotypes initially develop in children as a result of their observation and imitation of relevant social models in their environment. The subsequent strengthening of gender-role stereotypes, as well as the performance of gender-typed behavior patterns, is viewed as resulting from the child's experience with social reinforcement for conformity to gender-role stereotypes, in accordance with the principles of operant conditioning (Miller and Dollard, 1941; Skinner, 1953; Gewirtz, 1969).

The exact mechanism through which children experience social reinforcement for conformity to sex-typed behavior patterns can vary. Children may either directly experience reinforcement for compliance or noncompliance with gender-role stereotypes, or they may vicariously experience social reinforcement through their observation of the consequences of such behavior experienced by social models. Although some theorists (Bandura, 1962, 1969) suggest that children will attend more closely to same-sex models, primarily because of previous reinforcement for imitating same-sex people, the social learning model generally implies that many variables other than gender can affect imitative learning and that same-sex imitation occurs especially in situations where gender is emphasized or where there is a high degree of cultural sex

typing of behavior (Maccoby and Jacklin, 1974; Huston, 1983). Gender stereotypes in children can also be affected by symbolic processes such as language that are not dependent on social reinforcement but that can convey to the child the sex-appropriateness of a given attitude or behavior pattern by simply labeling the activity as male or female.

There are thus many potential sources of variance in children's gender-role stereotypes, according to social learning theory, as the social models to which children are exposed and their experience with reinforcement for sex-role behavior can differ with a number of cultural, social, and family factors. This paradigm focuses on the many environmental conditions that affect both the content and process of gender-role socialization. It has not, however, provided an exhaustive list of these variables.

The social learning model has not been clearly substantiated by previous research. Maccoby and Jacklin (1974), in their review of the literature, find that there are few differences in parental socialization by gender of child; for instance, there is no clear evidence that one sex receives more reinforcement for dependency or autonomy than the other. They do, however, find positive encourgement for sex-appropriate activities such as toy choice. Huston (1983) points out that recent studies show more difference in direct socialization by gender than earlier studies did, in part because earlier studies focused primarily on mothers, while recent studies indicate that fathers are more likely than mothers to treat boys and girls differently. Recent research also indicates that adults use gender in forming impressions of children, in interpreting the meaning of a child's behavior, and as a directive in their interactions with children; these perceptions and actions follow stereotyped patterns (Rubin, Provenzano, and Luria, 1974; Condry and Condry, 1976; Condry and Ross, 1985). Adults encourage more motor activity and rough-and-tumble play patterns for boys and tend to label the same behavior differently when it occurs in males and females (Condry and Condry, 1976; Condry and Ross, 1985). It is not clear whether these perceptions of differences arise from true gender differences in behavior or from social stereotypes. Maccoby and Jacklin (1980), for instance, argue that sex differences in aggression have a genetic origin, while Tieger (1980) suggests on the basis of a review of cross-cultural literature that parents differentially socialize males and females virtually from birth and that parental gender stereotypes cause the development of gender differences in aggression. Although this nature/nurture argument about the origin of specific gender behavior is not resolved, it is clear that observational studies of aggression in preschool-age children are not objective, since the rater's knowledge of the child's gender influences the perception of labeling of an action as aggressive (Condry and Ross, 1985). Whatever its source, gender-specific behavior seems to be further en-

couraged by parental perception and labeling of different behaviors as actually occurring, expected, and appropriate for males and females. In addition, there is evidence that young children perceive that parents expect conformity to gender-role standards of behavior (Albert and Porter, 1982). These results would appear to substantiate the social learning perspective. Many of these studies of parental socialization, however, deal with different dimensions of gender-role development (stereotypes, behavior, personality attributes) and do not control for a number of relevant social and cultural factors.

Although most of these studies concentrate on differential reinforcement by gender, social learning models are also the underpinning for studies that address other social variables. The assumption is that there will be differential reinforcement of children's gender-stereotyped behavior and attitudes if the gender traditionalism of the reinforcing agents systematically differs; however, the paradigm does not make specific predictions about the effects of these other factors.

An implicit social learning model has been utilized to investigate the effects of race, class, and several other sociocultural factors as sources of variation in gender stereotyping. Black children are less stereotyped than whites when asked about parental characteristics (Gold and St. Ange, 1974) and whether women can engage in nontraditional activities (Kleinke and Nicholson, 1979), but the reverse is found when children are asked about sex stereotypes concerning occupations (Cummings and Taebel, 1980). There is some evidence that blue-collar children gender-stereotype occupations more highly than do their white-collar counterparts (Cummings and Taebel, 1980), but other literature does not show a class effect in gender stereotyping (Huston, 1983). Some research demonstrates that boys from father-absent homes, where presumably there is less opportunity for modeling, have less masculine scores on various types of measures (Huston, 1983). When mothers are employed, children tend to be less gender stereotyped (Huston, 1983), again presumably because of the availability of nontraditional models.

Parental attitudes about sex stereotypes are poor predictors of children's sex-typed behavior, though they sometimes predict children's stereotypes (Huston, 1983). Some research supports findings that children learn same-sex stereotypes from older siblings through modeling and reinforcement (Huston, 1983). The findings for most of these variables, however, are not consistent, the samples are small, and multiple controls are not utilized.

In contrast to social learning theory, which implies that there is variation in children's gender-role stereotypes, the cognitive developmental model assumes that all children demonstrate a universal pattern of development in the manner in which they begin to stereotype the

sexes. Developmental change in gender stereotyping is thought to parallel more general developmental change in cognitive processes; such developmental change is inherent in the organism. Underlying this paradigm is the Piagetian assumption that social attitude development in children is mediated through processes of cognitive development (Piaget, 1947, 1951, 1952). In order to understand the development of all social attitudes in children, as well as the importance of cultural and social variables in the socialization process, one must understand the cognitive rules or operations that children of a particular age grouping are capable of employing as they process information about the social environment. Cognitive developmental theory also accepts Piaget's more specific description of the thought of the child before age seven as egocentric, concrete, centralized, and physicalistic, and his assertion that such young children attempt to intuitively grasp the meaning of social relationships through body image.

On this basis, cognitive developmental theory argues that two processes coalesce which result in an age-developmental increase in the tendency of all children to associate dimensions of aggression (aggression, activity, fearlessness) and social power (leadership, competence, dominance, independence) with the male gender role while they associate nurturant behavior (nurturance, expressiveness) with the female gender role. First, as children increasingly employ perceptual information about body images in making judgments about gender categories, they become increasingly aware of the body differences between the sexes. Second, during the same age period, children also become aware of the extrafamilial sex-role division of labor within society at large. For example, children become aware that social roles involving aggression and violence (policeman, soldier) and power and decision making (President, judge) are played by men while women specialize in roles involving maternal and caretaking activities. Such observation of the sex-role division of labor in the general culture has a more profound effect on the development of gender stereotypes in children than do differences in role behavior exhibited by parents. Children in any society are thus likely to share common, obvious, and consistent patterns associated with male and female behavior in that society.

Cognitive developmental theory argues that children generalize their perception of the physical and social role differences between the sexes and thus develop a constellation of beliefs about the characteristics of males and females. For example, the perception of the male as larger and physically stronger than the female and the observation that men play the aggressive and high-power roles in society lead children in this age group to conclude that men are more aggressive than women and higher in social power. In a similar fashion, the young child's perception

of both the female body and the specialization of women in certain nurturant or expressive social roles results in the child's association of particular stereotypes with the female gender role.

This paradigm predicts a curvilinear age pattern in the development of gender stereotypes. Gender identity, or self-categorization as boy or girl, is acquired by about age three, and serves to organize incoming information and attitudes. Between approximately five and seven years of age, gender constancy develops; that is, the child is able consistently to label self and others as male or female in spite of superficial transformations in hair, clothing, or interests. Once children develop a conception of gender constancy, they become motivated to seek information about their own gender by attending more closely to the roles of same-sex individuals.

Between the ages of three and seven or eight, all children will demonstrate an increase in the tendency to associate particular stereotypes with the male and female gender roles. After this age period, extreme forms of gender-role stereotyping will begin to decrease, this paradigm predicts, on the basis of the assumption that cognitive development and the growing ability for abstract thought lead to a decrease in the tendency of children to interpret social relationships in physicalistic terms. Also, after age seven or eight, children develop the cognitive ability to take roles, and they become capable of ascertaining that sex-role assignment is based on a system of social relationships. Their social attitudes will increasingly be influenced by the groups in which they participate and the variety of male and female roles to which they are exposed. There will thus be variance in the sex-role stereotyping of older children.

Studies have offered some support for the cognitive developmental paradigm of gender stereotyping. The predicted curvilinear age pattern has been substantiated by a number of investigators, particularly in the area of stereotyping of activities and interests (Huston, 1983; Ruble and Stangor, 1986). A number of other studies, however, have found little relationship between the child's level of gender constancy and attraction to same-sex activities and models (Huston, 1983).

The most recent theories of gender-role socialization take an interactive approach that includes both cognitive and social learning factors. Although these theories are heavily influenced by the cognitive developmental perspective, they recognize that emphasis on cognition has neglected antecedent social factors and has stressed universals at the expense of subgroup differences. Social learning theory, on the other hand, has viewed the role of the child as too passive or incidental. The general paradigm of recent theories is that social cognitions mediate between the social situation and social responses of individuals (Ruble, Higgins, and Hartup, 1983). The major variant of this new, hybrid set

of theories is schema theory, which focuses on the cognitive mechanisms that organize, transform, and construct the child's world. Schemas guide information processing by structuring experiences and providing a basis for making inferences and interpretations. Martin and Halverson (1981) suggest that there are two schemas involved in gender-role learning, a schema consisting of general information to categorize objects, behavior, traits, or roles as male or female and an "own-sex" schema, a narrower and more detailed version of the first, consisting of information children have about objects, behavior, traits, and roles that characterize their own sex. Children learn to process information in terms of an evolving gender schema; they assimilate incoming information in schema-relevant terms, imposing structure and meaning onto incoming stimuli. As children learn the contents of society's gender schema, they learn which attributes are to be linked with their own sex and hence with themselves (Bem, 1981).

These theories differ from cognitive developmental approaches in that they do not emphasize developmental processes as the source of schemas (Huston, 1983). Bem (1981) for instance, disputing the cognitive developmental contention that gender is so inherently salient because of physical sex differences and the child's physicalistic thought patterns, argues that it is the cultural emphasis on gender that makes it a salient dimension. She sees perception as a constructive process where what is perceived is a product of the interaction between incoming social information and the perceiver's preexisting schema, which is based on definitions of males and females the culture provides. The process of schematic thinking is universal, but the contents of the equivalence classes can vary by society and presumably by subgroup. Although schema theory does not specifically address sources of variation in the content of gender schemas, most schema models at least leave open the possibility for such cultural or subcultural variation, since sex-typing information comes from observation of different models and from parents, peers, and others who may differently label particular behaviors as appropriate for males and females.

These interactive theories are in agreement that gender schemas increase in strength between ages two and seven to eight, since the child develops greater knowledge of gender stereotyping with age and personal gender identity is also elaborated. These paradigms also agree that children are particularly attentive to attributes labeled as appropriate for their gender and that gender schemas are more elaborated in terms of same-sex than of opposite-sex models, as a result of the child's motivation to define the self and to develop self-esteem by conforming to cultural definitions of gender-appropriate behavior. Although Ruble and Stangor (1986) agree with Kohlberg that gender constancy, which culminates at ages five to seven, is necessary for children to actively

begin to seek information about their own gender and selectively attend to same-sex models, most schema theorists (Martin and Halverson, 1981; Bem, 1981; Cowan and Hoffman, 1986) feel that gender identity ("I am a girl") and gender labels ("this is for girls") are sufficient for the elaboration of same-sex schema. Hence, the elaboration of gender schema culturally appropriate for one's own gender may begin before the age of five, when gender constancy is supposedly stabilized.

There is some evidence that supports schema theory. The memory of gender-consistent information compared to gender-inconsistent information increases with age, and young children show better recall of same-sex items (Ruble and Stangor, 1986). Also, a number of studies have shown high levels of gender stereotyping of activities and objects before gender constancy occurs (Huston, 1983).

HYPOTHESES

Social learning theory predicts that children's gender-role stereotypes will vary to some degree as a function of a number of cultural and social variables, although it does not directly specify these factors. Gender-role traditionalism among adults has been shown to vary with race (Ladner, 1972; Weitzman, 1979), class and maternal employment (Mason, Czajka, and Arber, 1976), religion (Porter and Albert, 1977), and age (Thornton, Alwin, and Camburn, 1983); these factors should also create variation in children's gender stereotypes, as differential reinforcement and modeling presumably will occur. Black children, middle-class children, Jewish children, and children with working mothers should exhibit less traditional gender stereotypes, as should children of younger mothers. At least some studies of the effects of race, class, and maternal employment have suggested that this is indeed the case.

In addition, social learning theory implies and some studies (Huston, 1983) suggest that the presence of an older same-sex sibling, a high percentage of same-sex peers, the presence of the father, sex-typing of maternal discipline and independence training practices, and traditionalism of maternal gender-role attitudes and aspirations for behavior should lead, through direct modeling and reinforcement, to more pronounced gender stereotyping among children. Although the child's sex and age may affect the degree of stereotyping, through differences in cumulative reinforcement and in reinforcement for conformity to same-sex models, they will not vitiate the influence of other cultural, structural, and family factors, which themselves create some degree of variation in reinforcement for conformity to traditional patterns. The social learning paradigm also implies that children are attentive to both same-sex and opposite-sex stereotypes, since they are reinforced positively for conformity to their own and negatively for conformity to opposite-sex patterns. As

cognitive developmental processes are not instrumental, according to this model, there should be no age/sex interaction effect; selective attention at a particular age to own-sex stereotypes should not occur.

The cognitive developmental model predicts that the social factors mentioned above should show minimal effect, as the development of gender stereotypes is based on physicalistic thinking and typical social patterns within a given society. The child's age and gender should be the best predictors of gender stereotypes, with an age/sex interaction effect occurring no earlier than age five, when children develop gender constancy and become selectively attentive to stereotypes of their own gender.

Age and sex should be the best predictors of stereotyping, according to schema theory too, since the child's cognitive development mediates social influences. Yet variation in stereotyping due to cultural and structural factors may also occur, though the paradigm does not predict which factors are salient. In addition, an age/sex interaction, with strong selective attention to own-sex stereotypes, should occur earlier than age five, as gender identity rather than gender constancy is sufficient for selective attention to same-sex models.

METHOD

Our sample consists of 1264 children and their mothers residing in the Philadelphia metropolitan area. The data were collected from the mid to the late 1970s, well after major national changes in gender-role attitudes and behavior had been reported (Thornton, Alwin, and Camburn, 1983). The age distribution for the boys in the sample is as follows: 198 four-year-olds, 284 five-year-olds, and 148 six-year-olds. For girls, the figures are 210, 295, and 129, respectively.

The sample was obtained from seventeen kindergartens, eleven nursery schools, and eight daycare centers in urban and suburban Philadelphia and was designed to include children from a wide range of social backgrounds. Both private and public institutions were sampled. An attempt was made to survey all of the children in each class. Over 95 percent of the children in each class participated in the study. Table 1 presents a profile of the children on a few demographic variables. White children are somewhat higher in socioeconomic status than their black counterparts; however, the sample includes both black and white children from all socioeconomic levels.

Children's gender-role attitudes were assessed during a structured doll-play and story-telling session. Each child was taken individually to a quiet room in the school or center by one of the ten interviewers. To control for the race and sex of the interviewer, three black females, six white females, and one white male were included on the research

TABLE 1. Demographic Profile of the Sample (percentages)

	Whites (N=974)	Blacks (N=290)
Mother's Education		
Less than high school	7.0	16.6
Graduated high school	27.3	42.7
Some college	24.8	19.5
College graduate and above	40.8	21.2
Father's Education		
Less than high school	10.5	22.9
Graduated high school	17.3	35.1
Some college	18.5	11.7
College graduate and above	53.7	30.3
Mother's Occupation*		
Professional	15.0	15.5
Business	1.6	.7
Lower white-collar	11.5	24.4
Blue-collar	8.9	15.9
Unemployed	60.9	43.6
Father's Occupation		
Professional	30.1	19.1
Business	19.2	7.3
Lower white-collar	25.2	17.2
Blue-collar	19.4	26.3
Unemployed or occupation unknown**	6.1	30.1
Family Structure		
Father present	80.5	51.8
Father absent	19.5	48.2

*The DOT was utilized to determine occupational groupings.
**A demographic profile of the fathers in this category indicated that this is a very low-income population.

team. Neither race nor sex of the interviewer was found to significantly affect the children's assignment of gender-role stereotypes on our measures. The room to which the child was taken contained the dolls, dollhouse equipment, and pictures used during the child's interview. The child and the interviewer remained in the room, where the child interacted solely with the interviewer, for the duration of the session, approximately twenty to twenty-five minutes.

Nine boy-girl doll pairs, each doll approximately four inches high, were utilized during the session. Each boy-girl doll pair was dressed in the same color clothing and had identical hair color to control the possibility of a child selecting a doll on the basis of color preference. Each

doll pair was dressed differently from every other pair. A picture of an adult male and a picture of an adult female were also used. White dolls and pictures were used with white children, and black dolls and pictures were used with black children.

When the child and the interviewer arrived in the room, the child was told that they were going to use the dolls, dollhouse equipment, and pictures to make up a story about children for a television show. In order to assess the child's gender identity, the interviewer told the child that they were going to tell a story about a child who looks "very much like you." All of the children in the sample selected a doll of the same sex as the subject for the story game.

The interviewer then told the child two stories, one concerning a day at home and the other concerning a day at school. At certain points in each story, the child was asked to select a doll or picture that engaged in the behavior described. This story game was adopted from a similar instrument that was used to examine children's racial stereotypes (Porter, 1971).

The story game included measures of both gender-trait and gender-role stereotypes. The items were designed to assess the traits and the roles that both children and adults differentiate by gender (Williams and Best, 1982; Albert and Porter, 1983; Huston, 1983). The gender-trait stereotypes examined in the story included the following dimensions: independence, aggression, activity, strength, fearlessness, dominance, disobedience, dependence, nonaggression, passivity, expressiveness, obedience, concern with physical appearance, nurturance, intellectual competence, and instrumental incompetence. For example, the following event item was included to determine if children associate instrumental incompetence with either males or females:

> Then the children play for awhile more, and some of the children are playing with a bike. Then the wheel comes off the bike. The teacher isn't there, so the children will have to fix it. But one of the children says, "I just don't know how to fix the bike." Which one doesn't know how to fix the bike?

Gender-role stereotypes were assessed by recording the child's selection of the adult figure (male or female) who cooks, fixes a chair, goes out to work at a job, and feeds the baby. The child also selected an adult figure to be a teacher, a doctor, a pilot, and a babysitter.

Other studies (Huston, 1983) have suggested that children learn gender roles earlier than they learn personal and social characteristics or gender traits, but those studies have used abstract verbal labels to measure traits. We translated these traits into concrete event items, making them more easily comprehensible. We find similar age trends in both the gender-trait and gender-role items, and many of the trait items sig-

nificantly correlate with the role items. Multivariate analysis of trait indexes and role indexes considered separately does not show differences between the two sets of scales in the pattern of effects caused by our independent variables. Therefore we have combined them into a general gender-stereotyping scale.

Given the age of the children in our sample, the story-telling session could not be too long; therefore we had to limit the number of items included. Although some well-documented gender-trait and gender-role stereotypes may have been excluded, those that are examined in the story game have been used extensively in the child development literature (Huston, 1983) to represent children's images of males and females.

The gender traits and gender roles depicted in each item were determined by independent ratings of three adult judges who were familiar with the behavior of young children. The judges assessed not only the content and gender stereotyping of the item but also the positive/negative quality of behavior depicted. Only those items on which there was unanimous agreement in ratings among the judges were selected for inclusion in the scales. Table 2 presents an abbreviated description of each item and the judges' assessment of the gender trait or gender role depicted in the item. The context of each item within the stories helped clarify the stereotype involved; the nurturance component of playing house, for example, or the intellectual competence dimension of "giving the right answer" were implied in the narrative.

Family background information was obtained from a questionnaire completed by the child's mother. Approximately 85 percent of mothers returned the questionnaire. The type of discipline experienced by the child was measured by the mother's rating of a series of techniques (physically punishing the child, withdrawing of privileges, etc.) with regard to the likelihood that they would be employed in disciplining the child. A measure of the degree of independence training experienced by the child was obtained from the mother's listing the age at which the child was allowed to engage in a number of activities, such as play outside without supervision. The mother's sex-typed aspirations for the child's behavior were assessed through her selecting from an adjective check list (independent, aggressive, etc.) the three qualities that she would most prefer and the three qualities she would least prefer the child to develop. The questionnaire also contained two measures of maternal gender-role attitudes, including questions commonly used in adult gender-role research. One index measured the mother's attitudes toward gender roles within the family (for instance, "In general, in the family, the woman should have the major responsibility for child care") and the other assessed her attitudes toward working mothers (for instance, "A working mother can establish as stable and secure a rela-

TABLE 2. Event Items Described in Television Story Game with Corresponding Stereotype Ratings*

Event Item	Stereotype Dimension
Male Event Items	
1. Which one throws toys around (when told not to?)(−)	disobedience
2. Which one figures out puzzle?(+)	intellectual competence
3. Which one has the good idea and tells the others what to do?(+)	leadership/intellectual competence
4. Which one plays football?(+)	active/football player
5. Which one bosses the other kids?(−)	dominance
6. Which one is brave and climbs the tree?(+)	fearlessness
7. Which one says, "I'm not afraid we'll get lost. Let's keep going to the store"?(+)	fearlessness/independence
8. Which one gives the right answer?(+)	intellectual competence
9. Which one was noisy when told to be quiet?(−)	disobedience
10. Which one is going to be in the fast running race?(+)	active/runner
11. Which one is the strongest and can throw the ball furthest?(+)	physical strength
12. Which one is rough and hits the other children?(−)	aggressive
13. Which one fixes a chair?(+)	instrumental/husband-father role
14. Which one goes to work?(+)	instrumental/husband-father role
15. Which one drives the plane?(+)	pilot
16. Which one is doctor?(+)	doctor
Female Event Items	
1. Which one wants to play house?(+)	expressive/wife-mother role
2. Which one goes over to take care of the little child?(+)	nurturance/helping
3. Which one begins to cry because they're scared they'll get lost?(−)	dependence
4. Which one always likes to comb their hair and wear their best clothes?(+)	concern with physical appearance/expressiveness
5. Which one cries when mommy and daddy go out?(−)	dependence
6. Which one was quiet when told?(+)	obedience
7. Which one likes to dance?(+)	expressiveness
8. Which one lets everyone push ahead in line?(−)	passivity/nonaggressive

TABLE 2. (Continued)

Event Item	Stereotype Dimension
9. Which one is going to sit and play quietly with toys?(+)	passivity
10. Which one says, "I don't know how to fix that bike"?(−)	instrumental incompetence
11. Which one goes over to take care of the hurt child?(+)	nuturance/helping
12. Which one gets scared and begins to cry?(−)	passivity/nonaggressive
13. Which one is a babysitter?(+)	babysitter
14. Which one is the teacher?(+)	teacher

* + and − indicate positive or negative desirability rating of event item.

tionship with young children as a mother who does not work.") See Porter and Albert (1977) for a complete description of these indexes. Occupation was measured as an open-ended variable, and occupational groupings were later determined by the Dictionary of Occupational Titles, with craftsmen, operatives, service workers, and laborers categorized as blue-collar and clerical workers and salespeople coded as lower white-collar.

RESULTS

An initial examination of the data indicates that children do, in fact, continue to develop gender-trait and gender-role stereotypes. Further, gender-role attitudes in children increase with age and are affected by sex. Tables 3 and 4 present data on the sex to which children attribute the behavior depicted in the event items.

As can be seen in Table 3, with the exception of items 5, 9, and 12, male gender typing is fairly well established in boys by age four and continues to increase with age. Four-year-old girls have less rigid conceptions of the male role, but male sex typing among girls also increases with age. By age six, a majority of boys and girls share similar male sex-trait and sex-role stereotypes.

The two male items (3 and 8) that both boys and girls ages four to six associate with members of their own sex assess intellectual competence. Although it has been observed that both children and adults associate this gender trait with the male role, the girls in our sample do not view the boys as more intellectually competent. The association of intellectual competence with the male role may not develop in girls until sometime after the preschool period. In a similar fashion, boys do not overwhelmingly accept the negative behavior depicted in items 5,

TABLE 3. Male Event Items: Percentage of Children Attributing the Event Item to the Male Doll by Sex and Age

	Boys			Girls		
	Age 4 (N = 198)	Age 5 (N = 284)	Age 6 (N = 148)	Age 4 (N = 210)	Age 5 (N = 295)	Age 6 (N = 129)
1. Throws toys	65	63	65	53	75	89*
2. Figures out puzzle	69	71	65	38	50	48*
3. Good idea	73	79	79	34	35	32
4. Football	81	92	84*	65	81	86*
5. Bossy	50	59	55	64	78	86*
6. Brave	88	91	93*	45	63	67*
7. Says "let's keep going"	69	80	86*	44	59	60*
8. Gives the right answer	78	80	81	25	27	27
9. Noisy	47	38	35	65	81	90*
10. Fast running race	80	91	94*	55	76	83*
11. Strongest	90	93	95	44	56	60*
12. Rough/hits	44	53	59*	81	88	97*
13. Fixes chair	94	99	99*	89	98	100*
14. Goes to work	77	87	92*	73	76	79
15. Pilot	89	93	96*	87	95	95*
16. Doctor	89	86	87	83	79	82

*p = .05

TABLE 4. Female Event Items: Percentage of Children Attributing the Event Item to the Female Doll by Sex and Age

	Boys			Girls		
	Age 4 (N = 198)	Age 5 (N = 284)	Age 6 (N = 148)	Age 4 (N = 210)	Age 5 (N = 295)	Age 6 (N = 129)
1. Plays house	35	59	70*	74	80	90*
2. Takes care of child	43	45	60*	63	71	78*
3. Cries/scared lost	72	81	89	65	71	77*
4. Combs hair/wears best clothes	38	58	68*	80	74	79
5. Cries/parents go out	62	79	79*	61	68	73
6. Quiet	27	30	32	73	85	92*
7. Likes to dance	55	71	68*	85	87	92
8. Lets everyone push ahead	53	60	62	41	56	64*
9. Sits and plays	42	67	71*	79	83	92*
10. Can't fix bike	69	81	91*	54	67	77*
11. Helps hurt child	41	42	48	64	56	61
12. Scared and cries	68	79	83*	72	81	85*
13. Babysitter	64	71	78*	81	91	95*
14. Teacher	71	69	60	85	87	85
15. Cooks at stove	72	81	90*	82	96	97*
16. Feeds baby	79	89	90*	89	95	98*

*p = .05

9, and 12 as characteristic of members of their own sex. This tendency not to claim as one's own a trait that is socially undesirable has been observed in other research (Cowan and Hoffman, 1986; Albert and Porter, 1983).

The data presented in Table 4 demonstrate that four-year-old girls sex-type the female role to a greater extent than do four-year-old boys. The two items (8 and 10) that four-year-old girls are most reluctant to associate with their sex depict the negative sex-trait stereotypes of passivity and instrumental incompetence. Four-year-old boys, on the other hand, do not associate six of the positive female sex-trait stereotypes (items 1, 2, 4, 6, 9, and 11) with the female role. Between the ages of four and six, however, female sex typing increases among both boys and girls. By age six, male children clearly attribute to the female role the behavior depicted in all but two of the female event items, both of which have positive connotations.

From these data, two unweighted gender-typing scales were constructed, one measuring children's attitudes toward the male role and the other, children's attitudes toward the female role. A male gender-typing score was assigned by counting the number of times that a child selected a male doll or picture in response to each of the sixteen male items. Likewise, a female gender-typing score was determined by counting the number of times a child selected a female doll or picture for each of the sixteen female items. Both scales had a range of from 0 to 16, with a high score indicating high gender typing. Cronbach's alpha was .59 for the male gender-typing scale and .60 for the female scale.

Initially, the scales were trichotomized into a high, medium, and low degree of gender stereotyping and both scales were crosstabulated by age, sex, race, religion, parents' educational levels, parents' occupations, age and sex of siblings, father presence/absence, mother's employment, maternal age, maternal child rearing practices (e.g., disciplinary practices and independence training), mother's gender-role attitudes, mother's sex-typed aspirations for the child's behavior, and sex of child's friends. Race, sex, and age were the only variables consistently found to be significantly related to the male and female stereotyping scales, with older children and white children significantly more stereotyped on each scale and with each sex showing a tendency to score higher on own-sex stereotyping.

Multiple classification analysis or MCA (Tabachnick and Fidell, 1983), a statistical technique similar to a multiple analysis of variance, was used as our multivariate measure. The scores on the male and female stereotype indexes were treated as continuous variables, and age was used as a three-category variable (4, 5, and 6 years). MCA tests the significance level of the difference of means of the dependent variable for various categories of an independent variable while controlling for the

effects of other independent variables. A comparison of the deviation of the category mean from the grand mean indictes the magnitude and the direction of an effect of an independent variable on a dependent variable. Because of the large number of independent variables used in the study and the necessity of examining a number of interactions, we ran a series of MCA's. The original analysis included the effects of age, sex, and race, which were the only variables significant in the original crosstabulations. Additional group of variables were added in subsequent analyses, to evaluate the possibility of additional direct effects and salient interactions.

Race and an age/sex interaction were the only variables found to be significantly related to children's male and female gender-trait and gender-role stereotypes in these analyses. Table 5 presents these results.[1]

The adjusted deviations from the grand mean presented in Table 5 indicate that gender typing of the male role increases with age among both boys and girls, as predicted by cognitive developmental theory. Age has more of an effect on the development of male gender-trait and gender-role stereotypes among girls than among boys. Four-year-old girls are the least likely to sex-type the male role; their scores are considerably below the mean. By age six, girls become more similar to boys in their male gender-trait and gender-role stereotypes, in that their scores are above the mean. These scores are similar to those of four-year-old boys; however, the data also demonstrate that, overall, the boys are more likely than girls to sex-type the male role. Further, due to the low degree of male gender-trait and gender-role stereotyping among four-year-old girls, the effect of sex is most pronounced among four-year-old children, a finding which supports the interactive model.

As can be seen in Table 5, age is also related to the development of female gender-trait and gender-role stereotypes, as cognitive developmental theory predicts. The effect of the age variable here is most pronounced for boys. By age six, however, boys continue to remain behind girls in the extent to which they sex-type the female role. Their

[1] Goodman log linear analysis (Goodman, 1972a, 1972b; Kunreuther et al., 1978) was also applied to the data. We ran a series of log linear models to test for both direct effects and possible interactions of the independent variables on the male and the female gender stereotyping scales. Age was dichotomized into 4 and 5/6 years, and logits were computed on the basis of the difference between the high and low categories of each scale. Although the Goodman technique is powerful, it requires the use of variables with a small number of categories; some of the variables like age were thus artifically dichotomized and the scales could not be treated as interval measures, risking loss of potentially useful information. However, the results from the Goodman technique were similar to those of MCA, with race, sex, and age the only factors affecting gender stereotyping on both indexes and with an age/sex interaction effect on both scales.

scores are only slightly above the mean and similar to those of four-year-old girls. Girls gender-type the female role to a greater extent than do boys. Again, as the interactive model predicts, this sex difference is most evident among four-year-old children.

Race also significantly affects the development of male and female gender-role attitudes in children. The deviations from the grand mean indicate that, in comparison to black children, white children are more likely to gender-type both the male and female roles, a finding which supports the social learning model.

DISCUSSION

The social learning model of early gender-role socialization does not receive strong support from this investigation. None of the cultural,

TABLE 5. Effects of Age, Sex, and Race on Gender-Role Attitudes[a]

		Dependent Variables			
		Male Gender-Role Stereotyping Grand Mean = 11.49		Female Gender-Role Stereotyping Grand Mean = 11.29	
Independent Variables	N	Unadjusted Deviation[b]	Adjusted Deviation[c]	Unadjusted Deviation[b]	Adjusted Deviation[c]
Age—Sex					
4-year-old boy	198	0.47	0.47	−2.32	−2.33
5-year-old boy	284	0.96	1.01	−0.66	−0.63
6-year-old boy	148	1.08	1.05	0.04	0.02
4-year-old girl	210	−2.03	−2.06	0.15	0.14
5-year-old girl	295	−0.18	−0.35	1.24	1.25
6-year-old girl	129	0.42	0.18	2.08	2.08
		eta = .42	beta = .42	eta = .50	beta = .50
F		52.73*		78.41*	
Race					
White	974	0.21	0.23	0.08	0.10
Black	290	−0.73	−0.79	−0.29	−0.35
		eta = .16	beta = .17	eta = .06	beta = .07
F		42.35*		7.75**	
Multiple R		0.45		0.50	
R^2		0.20		0.25	

*p < .0001
**p < .005
[a]Additional MCA's were computed weighting black responses by 2 and by 3. Weighting did not affect the results, so the unweighted results are presented above.
[b]The unadjusted deviation is the deviation of the category mean from the grand mean without controlling for the other variables.
[c]The adjusted deviation is the deviation of the category mean from the grand mean after controlling for the effects of other variables.

structural, or family variables except race seem to affect the level of gender stereotyping among preschool-age children. Observed differences by gender and age in stereotyping are stronger and more exclusive than the reinforcement model would seem to imply, and the observed age/sex interaction effect is not predicted by that paradigm.

The cognitive developmental model receives more support from this study. Regardless of the effects of the many independent variables examined, age and sex were found to be important predictors of children's gender stereotyping. The observed age pattern conforms to cognitive developmental predictions. Between the ages of four and six, children do demonstrate an increase in the degree of their stereotyping of both male and female figures. Also, as cognitive developmental theory suggests, children are selectively attentive to stereotypes of their own gender. This paradigm, however, posits an age/sex interaction effect no earlier than age five, since gender constancy is presumed to be a necessary condition for selective attention to same-sex attributes. Our data suggest that children begin to selectively attend to members of their own sex at an earlier age.

The greatest challenge to cognitive developmental theory in the present data is the observation that black children demonstrate a lower degree of both male and female gender stereotyping than do white children. This difference cannot be explained within the cognitive "deprivation" framework, which cognitive developmental theory has most fully delineated in its analysis of group differences in the development of moral attitudes in children (Kohlberg, 1969a, 1969b). In comparison to other social groups in the United States, it is argued, low-income black children more frequently experience two structural conditions that result in a lower degree of cognitive stimulation and, therefore, slower social attitude development. First, on the general social structural level, low-income blacks are not well-integrated into an extensive network of secondary social, political, and economic groups, and second, this population contains a high proportion of households headed by females.

When applied to the development of children's gender-role attitudes, the cognitive "deprivation" framework would predict that low-income black children in households headed by females should demonstrate a "time lag" in the initial onset of gender-role stereotyping and, up to a given point, should remain behind their "nondeprived" counterparts in stereotype development. More specifically, in comparison to children in other social groups who begin to stereotype the sexes at approximately age four to five, low-income black children in households headed by females should not begin to demonstrate an age-developmental increase in the degree of their gender stereotyping until approximately age five to six.

A number of observations in the data indicate that the effect of

the race variable cannot be adequately explained within a cognitive "deprivation" framework, however. According to cognitive "deprivation" predictions, only certain categories of black children (low-income, father-absent) should be observed to exhibit a lower degree of gender stereotyping than children in other social categories. Our sample contained many black children in middle-class, father-present homes; these children, too, exhibited a low degree of gender stereotyping. Race was found to exert an independent and a direct effect on children's stereotyping of both male and female figures; it did not interact with either social class or father presence/absence in affecting this phenomenon. Nor was either social class position or father presence/absence found to be directly related, alone or in interaction, to the degree of children's gender stereotyping. The lack of any relationship between the three variables purported to be indicative of cognitive "deprivation" and thus slower social attitude development in children does not conform to the predictions of the cognitive "deprivation" model.

Further, examination of the age trends in gender stereotyping for each race, controlling for class and father presence/absence, shows that in comparison to whites, black children did not demonstrate a "time lag" in the initial onset of the process of gender stereotyping. Rather, while black children were found to exhibit a lower degree of gender stereotyping than their white counterparts, the pattern of gender stereotype development was identical for children in both racial groups. Between the ages of four and five, black and white children both demonstrated an increase in the degree of their gender stereotyping. A similar pattern of gender stereotype development was even observed between low-income, father-absent black children and white children in father-present, middle-class families.

The interactional approach represented by schema theory provides the best explanation of these data. Gender schema theory predicts greater elaboration of schema with age. In particular, it predicts that gender schematic representations will be more developed in terms of same- rather than opposite-sex models, which is clearly demonstrated by our findings. In contrast to Kohlberg's cognitive developmental model, however, most gender schema theorists do not posit the necessity of gender constancy for selective attention to same-sex patterns. Gender identity, which appears at an earlier age, is sufficient. Thus children may be selectively attentive to same-sex attributes prior to age five. Our data provide clear support for this prediction. Four-year-olds of each gender are already highly attentive to cultural stereotypes pertaining to their sex and are considerably less sure of trait and role stereotypes characterizing the opposite gender. By ages five and six, the difference between boys and girls in own- and opposite-sex stereotyping are not as great. Although both own-sex and opposite-sex schemas become more

elaborated with age, own-sex schemas apparently appear earlier than opposite-sex schemas and at an earlier age than Kohlberg predicts.

The observed effect of race can be incorporated more readily into the interactional than the cognitive developmental model. Social and cultural factors can affect the content of the child's schemas. Thus variation between subgroups is possible, rather than only the development of a single universal pattern from physical attributes and "typical" societal models that Kohlberg suggests.

The lesser degree of gender stereotyping among black children may indicate that these children are exposed to sex-role behavior on both the family and community levels which is quite different from that observed by children in other social categories. Such differences in sex-role behavior on the part of adults in their specific subcultural setting may serve to blunt the effects of other observations of gender-typed behavior in the culture at large. More specifically, racial discrimination has caused black women to become more independent, and black women have made a greater economic contribution to the household than have white women. Although some studies have not found blacks to be more liberal than whites in gender-role attitudes (Ransford and Miller, 1983), other findings indicate that independence and self-reliance may be emphasized more in the socialization of black women (Ladner, 1971; Weitzman, 1979). Thus subcultural inputs to black children may be less sex-typed than those to children in other social categories, and they may serve to counteract the perceptions gained from the general culture. As a result, black children may construct a constellation of gender attitudes that is more moderate than that constructed by white children. While black children demonstrate the same pattern of gender sterotype development during the same age period as their white counterparts, the pattern of development is less pronounced. Schema theory, with its acknowledgement of cultural and structural inputs, can account for this variation in content of gender stereotypes. It does not explain, however, why race is the only sociocultural factor that has an impact on gender stereotyping in our study.

CONCLUSION

Our sociological investigation, which has focused on a variety of demographic variables, offers preliminary support for the interactive model of gender stereotype development, including both cognitive and sociocultural factors. Although children classify the social world into male and female at an early age and selectively attend to their own gender stereotypes as part of the developmental process, the content of these stereotypes is to some extent affected by the models and reinforcement in the child's social surroundings.

This study indicates the need for further research in a number of areas. We have used only a single gender-role attitude measure as the primary dependent variable. Current views suggest, however, that gender development is a multidimensional concept, composed of gender identity, gender constancy, attitudes, and behavior. Even among attitudes, sex stereotyping of toy preference and peer preference are different from traits and roles. Several studies have suggested that different aspects of gender typing may follow different developmental paths (Huston, 1983). In addition, there is a difference between knowledge and acceptance of stereotypes. What we have measured here is only one piece of a much larger puzzle. In order to fully test these competing theoretical perspectives, similar investigations with large samples and multivariate statistics should study these other dimensions of gender development and their relationships. In particular, it is important to do such research on the dimension of gender constancy and to include this dimension in future studies of gender stereotyping, since the age at which gender constancy develops is crucial to an evaluation of the cognitive developmental and the interactional models.

Large-scale survey research can provide only indirect investigation of these various psychological paradigms, since modeling, parental reinforcement behavior, and cognitive processes are inferred from the effects of the independent variables rather than being tested directly. The most relevant measures of the actual process of attitude transmission that we use are the mother's child rearing practices, aspirations for the child, and gender-role attitudes. Our research indicates that none of these factors has an impact on gender attitude development in children. However, our measures are based on self-reporting by the mother rather than on observation of her actual behavior. Methodologies involving experimental design and observation of actual reinforcement patterns by parents, peers, and school are needed to substantiate these results. It is especially important to investigate fathers' communication of gender patterns, since some research indicates that fathers are more likely than mothers to treat boys and girls differently (Huston, 1983). Such studies would enable us to evaluate more accurately the processes by which differences in traditionalism of gender stereotypes among subgroups are actually communicated to children. Our research suggests that special attention should be paid to investigation of racial differences in the content of gender stereotypes and the mechanisms by which they are transmitted to young children. Psychological studies of gender stereotype development have concentrated heavily on white, middle-class children. Examination of patterns of gender attitude development in other subgroups and cultures is needed to elaborate the interactive model. Such research should help to isolate those cultural and social variables that are most crucial in affecting the development of gender attitudes

in children. From such data, the level of cultural and social change required to decrease the development of gender stereotypes in very young children can be ascertained.

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