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Gender: early socialization

Last update: March 2026
Topic Editor:
Carol L. Martin, PhD, Arizona State University, USA

Table of content

Synthesis 5

Parents' Socialization of Gender in Children 8
CAMPBELL LEAPER, PHD, AUGUST 2014

Peer socialization of gender in young boys and girls 14
[1,2]RICHARD A. FABES, PHD, [1,2]LAURA D. HANISH, PHD, [3]CINDY FAITH MILLER, PHD, [1,2]KYLIE BURKE, PHD STUDENT, NOVEMBER 2025

The Role of Schools in the Early Socialization of Gender Differences 20
[1]AMY ROBERSON HAYES, PHD, [2]REBECCA BIGLER, PHD, [3]VERONICA HAMILTON, PHD, DECEMBER 2025

Gender Self-Socialization in Early Childhood 26
MAY LING D. HALIM, PHD, JOSHUA DIAZ, BA, MARK ORTIZ-PAYNE, BA, NATASHA C. LINDNER, BA, DECEMBER 2025

The Complex Causes and Modification of Gender Development: Commentary on Hanish & Fabes; Leaper; Bigler, Hayes & Hamilton, and Halim & Lindner 36
SHERI A. BERENBAUM, PHD, ADRIENE M. BELTZ, MS, AUGUST 2014

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Topic funded by:



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Synthesis

How important is it?

Gender socialization[1] is the process through which children learn about the social expectations, attitudes and behaviours associated with one's gender. As children attain a sense of their own gender identity (i. e., knowing whether they are a girl or a boy), they pay heightened attention to information related to gender, and especially to same-gender models. This gender awareness, in combination with an early exposure to gender from multiple sources of socialization such as parents, siblings and peers, has immediate consequences on children's attitudes and behaviours toward members of their own and other-gender group. For example, children may favour their own gender in their attitudes (having more positive feelings towards own-group members) and show gender discriminatory behaviours (preferring to interact with members of their own gender only). This gender segregation, may be supported by adults but more often is the choice of children themselves and may become problematic because children need to be able to function in gender-integrated settings (e.g., day care or school). While children develop skills to interact with members of their own gender, their abilities to relate effectively with girls and boys are more limited. Accordingly, it is important to provide young children opportunities to play in mixed-gender groups in order to help them develop positive interpersonal relationships with both boys and girls across a range of settings.

What do we know?

Gender is one of the first social categories children become aware of. By the time they are three years old, they have formed their gender identity. They also begin to learn cultural gender stereotypes: that certain behaviours, activities, toys and interests are typical for boys and girls. Although children play an active role in shaping their gender identity development, their knowledge about gender comes from many sources of socialization, including parents, peers and teachers.

Parents

Parents provide children with their first lessons about gender. Although gender-egalitarian attitudes have increased in many cultures over the past decades, parents and especially fathers typically have different expectations for their sons and daughters with regard to personality traits, abilities and activities. Parents' roles inside and outside the family also influence children's conception of gender roles. Nowadays, most women pursue jobs outside of the home,

and men are increasingly involved in child care and housework. Interestingly, children who are raised by same-gender parents or who are exposed to father's child care involvement may be less likely to endorse gender stereotypes. In addition, father's participation in domestic duties and/or child care is associated with a lower likelihood of violence toward children.[2] Finally, parents reinforce gender stereotypes when they provide their sons and daughters with different toys, or when they describe general patterns about each gender (e.g., "girls like dolls while boys like football").

Peers

Another important way in which children learn about gender is through their interactions with peers. During early childhood, children prefer to play with peers who share similar interests or who they believe share those interests, and thus are more likely to be socialized by their same gender peers. While spending time with their friends, boys and girls learn what is appropriate for one gender or the other. This gender socialization can be direct or indirect. For example, children learn about gender stereotypes through their peers' direct comments (e.g., "long hair is for girls while short hair is for boys") and/or negative reactions when failing to conform to their gender expectations. Likewise, children learn and adopt gender-stereotypical behaviours (boy-typical versus girl-typical behaviours) as they spend more time interacting with members of their own gender.

Teachers/School

In addition to parents and peers, teachers are another source of gender socialization. Similar to parents, teachers have gender expectations, model gender roles, and reinforce gender-stereotypical behaviours in their classrooms. For example, educators may reinforce gender stereotypes by labelling and organizing students in group activities or by creating different activity centres for boys and girls. This gender segregation, in turn highlights gender as a social category and reinforces children's gender stereotypes and avoidance of cross-gender playmates.

Although it is clear that parents, peers and teachers socialize children to think and act in gendered ways, boys' and girls' development is also influenced by biological factors, such as sex hormones, which influences children's preferences for activities. As such, gender's development might be best described as resulting from the interaction between gender socialization and biological factors.

What can be done?

Parents and service providers are encouraged to provide children with a wide range of toys and activities during early childhood. Likewise, it is recommended that parents and teachers create playful environments where children interact positively with both boys and girls. These interactions would help children to develop skills to interact effectively in mixed-gender groups and to gain a better understanding of gender differences and similarities. In fact, parents, educators and practitioners are highly encouraged to pay attention to the stereotypic beliefs children express regarding each gender,as some may foster negative behaviours and attitudes against the other gender. This concern can be addressed by exposing children to counter-stereotypic models (e.g., a female hockey player or a male nurse) and by teaching them that being a girl or boy is more than just looking pretty or acting tough. Indeed, it is recommended that parents and educators discuss and challenge gender stereotypes with children (e.g., 'girls can also be great soccer players'). Yet, while it is recommended to challenge children's gender stereotypes, interventions might be most effective when they make gender less salient as opposed to more salient. Finally, educational policy makers are encouraged to emphasize the importance of co-educational school environments as they promote more gender-egalitarian attitudes and behaviours than all-boys/girls schools.

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Parents' Socialization of Gender in Children

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August 2014

Introduction

When parents have a new baby, the first question they typically ask is whether they have a girl or a boy. Children's gender assignment becomes a powerful social identity that shapes children's lives. During early childhood, girls and boys spend much of their time in the home with their families and look to parents and older siblings for guidance. Parents provide children with their first lessons about gender. Possible ways that parents might influence children's gender development include role modeling and encouraging different behaviours and activities in sons and daughters.[1]

Problems

One of the challenges for researchers studying parental socialization is to separate the influences of parents on children and the influences of children on parents.[2] Fifty years ago, when researchers observed correlations between parenting practices and children's behaviour the typical inference was that the parents were influencing the children. However, developmental psychologists now recognize that children also influence their parents' behaviour. Thus, drawing conclusions about causal influences of parental socialization on children's gender development must be made carefully.

Key Research Questions

When evaluating the influence of parents on children's gender development, four questions are pertinent:

- Do parents tend to have gender-stereotypical expectations for their children?
- Do parents tend to model traditional gender-role behaviours to their children?
- Do parents tend to encourage gender-stereotyped behaviours and to discourage cross-gender-stereotyped behaviours in their children?

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- Do gender-related variations in parents' expectations and behaviour have causal influences on children's gender development?

Research Results

Parents' gender-stereotypical expectations.

Gender-typed expectations may occur regarding personality traits (e.g., "boys are aggressive"), abilities (e.g., "girls are good at reading"), activities, and roles (e.g., "men are scientists").[3] As gender equality has increased in many many cultures during the last several decades, there has been a corresponding increase in adults' endorsement of gender-egalitarian attitudes. There is now more variation among parents with some holding traditional expectations and some expressing egalitarian expectations for their daughters and sons.[4,5] Also, some parents may support egalitarian views about some domains (e.g., occupations) but remain more traditional about other domains (e.g., family roles). Finally, parents (especially fathers) tend to be more rigid in their expectations for sons than daughters.[6]

Parents' gender-role modeling.

One of the dramatic social changes in much of the industrialized world in the last 50 years has been in the entrance of women into the labor force. In contemporary industrialized societies, most women with children work outside of the home. Men's average involvement in childcare and housework has also increased, although domestic responsibilities continue to be handled mostly by women in most dual-career families.[6] Research finds that fathers' childcare involvement is negatively related to children's gender stereotyping. Through active involvement in childcare, fathers demonstrate that the adult male role may include nurturing as well as instrumental activities.[7]

The potential influence of parental gender-role modeling has also been implicated in studies of children raised by lesbian or gay parents.[8] Compared to children raised in two-parent heterosexual families, children raised by same-gender parents tend be less likely than to endorse certain gender stereotypes. However, when same-gender parents divided labor with one parent as primary caregiver and the other parent as the primary breadwinner, their children were more likely to express stereotyped views about adult roles and occupations.[8]

Parents' differential treatment of daughters and sons.

In many parts of the world, parents with limited financial resources have a strong preference for sons. As a result, priority for resource opportunities ranging from health care to education may be given to sons over daughters.[9] This stark contrast in the differential treatment of sons and daughters is generally not seen in wealthier countries. Nonetheless, there are common ways that parents in these societies may socialize girls and boys differently.

According to one comprehensive review of studies conducted in western countries, the most consistent manner by which parents treat girls and boys differently is through the encouragement of gender-stereotyped activities.[10] This includes the types of toys that parents might purchase or the kinds of activities that they promote. For example, parents are more likely to provide toy vehicles, action figures, and sports equipment for their sons; and they are more likely to give dolls, kitchen sets, and dress-up toys to their daughters. Once children begin to request particular toys (usually by around 3 years of age), it is unclear how much parents are shaping their children's play activity preferences as opposed to acceding to their children's stated preferences.[11]

There are also subtle ways that parents may reinforce gender stereotypes even when they are not overtly encouraging them. This is commonly seen in parents' use of essentialist statements about gender. Examples would be "Girls like dolls" or "Boys like football." In these instances, the parent is expressing what is known as a descriptive stereotype (i.e., describing general patterns or "essences" about each gender) rather than prescriptive stereotype (i.e., stating what should occur). Research suggests that even middle-class mothers who held gender-egalitarian attitudes often used essentialist statements with their preschool-age children. Also, they rarely challenged gender stereotypes (e.g., "It's ok if a girl wants to play basketball").[12,13]

On average, parents in many industrialized cultures are more flexible about the play activities they consider acceptable for daughters than sons.[6,10] (Relatively little research has examined parental attitudes toward girls' and boys' play in non-western or non-industrialized countries.) Also, fathers tend to be more rigid than mothers in encouraging gender-typed play (especially in sons).[6,10] For example, many American parents encourage athletic participation (a masculine-stereotyped activity) in their daughters. In contrast, few parents encourage doll play (a feminine-stereotyped activity) in their sons. Indeed, many parents are alarmed in such cases. However, evidence suggests that some parents are more tolerant of cross-gender-typed behaviours in sons than seen in earlier decades.[4,14]

Research Gaps

More research is needed that addresses the extent and the manner by which parents influence their children's gender development. Previous research has been largely based on correlational designs that do not prove causation. Some associations in behaviour between parents and their biological children may be due to shared genetic influences (e.g., activity level is partly inherited).[2] Well-conducted longitudinal research is best able to address possible casual influences. The relative importance of parents compared to other socializing agents (peer groups, media, teachers, etc.) needs to be examined in more depth. In addition, more research needs to consider indirect forms of parental influence. For example, by encouraging children's involvement in organized activities (e.g., sports teams, science camps), parents can affect their children's experience outside of the family.[15] Finally, we need a better understanding of how cultural contexts shape gender roles in the family and the socialization of girls and boys.[16]

Conclusions

Dramatic transformations in women's and men's roles inside and outside of the family have occurred during the last half century in most of the industrialized world. The traditional image of the two-parent heterosexual family with the father serving as the provider and the mother as the homemaker is no longer the norm in many industrialized countries. Instead, most mothers pursue jobs outside of the home and many fathers are involved in childcare. In addition, many children are raised by single parents and by lesbian/gay parents. Despite these role changes, there remain relatively few truly egalitarian parenting arrangements. Also, studies suggest that parents with gender-egalitarian attitudes may nonetheless act differently with daughters and sons.[12] Longitudinal studies suggest that parents' treatment of sons and daughters may have an influence on some aspects of their gender development.[3,6]

Implications for Parents, Service Providers, and Policy Makers

Parents, service providers, and policy makers may wish to foster more flexible gender roles in children to help them develop a broader repertoire of socioemotional and cognitive skills. Although parents can have an influence on children's gender development, their impact can sometimes be overestimated. Because gender is a social category that organizes virtually every segment of society, there are multiple sources of socialization in children's gender development. Besides parents, these potentially include other family members, peer groups, friends, the media, and teachers.[11] As children get older and become more autonomous, the influences of peers and the media often become especially powerful.

Parents can try to encourage their children to play with a combination of feminine- and masculine-stereotyped toys and play activities during early childhood; however, they may find their efforts run counter to children's attitudes once they are exposed to peers and the media. In addition, parents can be mindful of the kinds of peers with whom their children affiliate. They may be able to foster greater gender-role flexibility through encouragement of organized mixed-gender activities in which girls and boys learn to work together as equals. Finally, parents can make a concerted effort to discuss and challenge gender stereotypes with their children.

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Peer socialization of gender in young boys and girls

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November 2025, Éd. rév.

Introduction

By the time children are about 3 years old, they are aware of the fact that they are boys or girls and that there are certain behaviours, activities, toys and interests that are more common for members of their own gender.[1] Gender differences in children's behaviours and interaction patterns also begin to become apparent by this age. For instance, boys are more active, physical and play in larger spaces than girls. In contrast, girls are more prosocial and play closer to adults than boys.[2] One important way in which children learn about gender roles and develop gender-typed behaviour and attitudes is through their interactions with peers.[3]

Problems

Like adults, children prefer to spend time with other children who are similar to themselves and segregate themselves from peers who are different. Over time, children who spend time together tend to become much more similar to each other. This is true in regard to gender development – children's gendered behaviour becomes more pronounced the more that they spend time with same-gender peers. This propensity of boys and girls to prefer and spend time with same-gender peers is one of the most consistent and robust characteristics of children's social development.[4] Initially, girls and boys may select same-gender playmates because of socialization pressures, gender stereotypes, or because of similarities in interests and activities. As children spend more time with same-gender peers, they become even more similar to them due to influence, or the tendency of behaviours and interests to spread through social ties over time and can lead to even more segregation.[2]

Key Research Questions

There are several important research questions in this area. These include:

- How do peers socialize behaviours in girls and boys?
- What do peers do that encourages or discourages gendered behaviour?
- What are the consequences of peer socialization of gender?

Research Results

From an early age, children are interested in and responsive to their peers, and they form meaningful relationships with them.[5] As children spend more time interacting with their peers, they have opportunities to socialize one another by encouraging or discouraging particular behaviours, by modeling, and by creating norms that guide children's behaviours. Gender is salient to young children's own identities and perceptions of others, and they frequently use gender to socialize each other's behaviours. For example, one child might tell another child that a particular activity is appropriate for one gender or the other (e.g., "Dolls are for girls" or "No boys allowed in our fort"). Or it can happen by developing a concept as to what kinds of behaviours and interests make one feel part of a gendered peer group.

Researchers in the U.S. have found that the more time boys spend playing with other boys, the more gender-typed they become. In other words, boys who play frequently with other boys become more active, more dominant, and more aggressive. Similarly, girls who frequently play with other girls engage in behaviours that are more typical of girls.[6] These researchers also found a "dosage effect" – the more time children spent with same-gender peers, the more gender-typed their behaviour became.

Boys and girls spend large amounts of time playing with same-gender peers and relatively small amount of time playing with peers of the other gender.[6,7] This pattern is known as gender segregation.[8] Gender segregation begins by age 2.5 to 3 years and increases in strength and intensity through the elementary school years.[9] As a result, children are most likely to be socialized by peers of the same gender. This also means that boys and girls have different experiences and learn different skills, competencies, and interests in their interactions with same-gender peers. Boys learn how to get along and play effectively with other boys whereas girls learn how to influence and play more cooperatively with other girls.[10] Over time, these same-gender peer preferences become stronger, strengthening gender segregation and the promotion of gender-typed behaviours and interests. This tendency has been referred to as peer

group segregation and makes it less likely that boys and girls interact and learn from one another.[11] Peer group segregation based on gender also promotes gendered stereotypic beliefs, attitudes, and biases about and towards the other gender. In contrast, when children broaden their peer group interactions and spend time with other-gender peers, gender-based biases and negative perceptions are diminished and the range of social skills and competencies are enhanced.[11]

Research Gaps

To understand how peers socialize young girls' and boys' behaviours, independent observers can be trained to determine when children are interacting with one another, who they are interacting with, and what they are doing together.[12] For instance, observers might note the settings or circumstances that facilitate interactions with peers, whether children play with girls or boys or both, and which girls and boys are involved. They might also note whether children are engaged in gender-typical activities (e.g., girls playing with dolls) or behaviours (e.g., boys being physically active), whether peers encourage or discourage children's gendered behaviours, and how children respond to their peers' reactions (e.g., increase or decrease the behaviour, argue, etc.). Additionally, technological advances offer new ways for researchers to study young children's gender-based peer relationships. Developments in data collection devices, such as wearable cameras and sensors, provide researchers with innovative ways to monitor who children are playing with and what they are doing.[13,14] Longitudinal studies, in which children are followed over time are needed to better understand same- and other-gender peer socialization.

Conclusions

Whenever children gather together, there are opportunities for them to socialize one another along gender lines. The research findings related to peer socialization of young children's gender development suggest that boys and girls grow up in separate social worlds, rarely getting the chance to learn about and learn from each other.[2,4,8] In addition, there is some speculation that this segregation and lack of understanding carries forward into later male-female relationships in adolescence and adulthood.[2] In early childhood, children develop skills for interacting with members of their own gender, but the opportunities to develop skills for interacting comfortably and effectively with the other gender are more limited. Gender-based peer group segregation may become problematic because children grow up in a gender-integrated society. To be successful across the range of settings that they will find themselves in, children must be able to

interact and relate effectively with both males and females.

Implications for Parents, Service Providers, and Policy Makers

Parents, service providers, educators, and policy makers are advised to help young children structure and organize their peer interactions to maximize the benefits of peer socialization. This is particularly important for interactions with other-gender peers because children need support in understanding gender differences and in gaining comfort with other-gender peers. One way that this can be done is to provide opportunities for children to play positively with both boys and girls in mixed-gender groups. Mixed-gender groups can provide a safe place for learning about similarities and differences across genders and for the development of skills that allow children to interact effectively with both boys and girls. Adults can also make efforts to decrease the salience of gender (avoidance of blue and pink coloring) which has been shown to reduce gender segregation and increase gender integration.[15]

It also is important to recognize that gender segregation contributes to gender differences in children's behaviours and attitudes. When boys and girls spend most of their time with same-gender peers, it tends to exaggerate these differences.[6] Efforts to redirect children towards gender-integrated peer play have been successful and doing so has been found to increase more cooperative and positive interactions between boys and girls, which improves classroom climate.[16] Such gender-integrated interactions and relationships help children expend their social competencies, empathy, social problem-solving, and capacity to work effectively across differences, providing benefits that extend beyond the classroom.[11] As such, efforts should be directed towards finding ways to bring boys and girls together so that they have positive experiences with each other and develop an enhanced understanding, appreciation, and respect of one another.

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The Role of Schools in the Early Socialization of Gender Differences

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December 2025, Éd. rév.

Introduction

The question of how gender differences across domains (e.g., traits, behaviours, abilities) arise is a central topic of investigation in psychology. Experts agree that nature (i.e., biology) and nurture (i.e., environment) act together in reciprocally causal, interactive ways to produce gender differences.[1] The experiences afforded to girls and boys within schools are known to affect gender differentiation both directly, by providing differential skill practice and reinforcement,[2] and indirectly, by providing input that leads children to actively socialize themselves along gender-differentiated pathways.[3]

Subject

Schools are major contexts for gender socialization, due to both the large amount of time that school-aged children spend in these settings and the variety of important socialization agents present in the context (e.g., teachers, peers, media/technology).[4] For nearly all psychological traits on which young boys and girls differ (e.g., language ability, play preferences), the distribution of the two groups' performance or ability in these areas is overlapping. Schools, then, have the potential to magnify or diminish gender differences by providing environments that promote within-gender similarity and between-gender differences, or the inverse (within-gender variability and between group similarity).

Problems

Schools affect gender differentiation via the influence of teachers, peers, and policies. Teachers and peers directly influence gender differentiation by providing boys and girls with different learning opportunities and feedback. Teachers and peers are also sources of learning about gender. Teachers present curricular materials that contain gender stereotypic behaviour, and

peers exhibit gender stereotypic attitudes and behaviour. Children internalize gender stereotypes and prejudices, which in turn guide their own preferences and behaviours.[1]

Research Context

Psychologists have documented the ways in which schooling contributes to gender differences via (a) interviews with school staff and students, (b) naturalistic observations of teachers and students, and (c) experimental studies of classroom conditions. Observational studies allow researchers to examine gender differences, attitudes, and behaviours across a range of school types. Experimental studies allow for the identification of school-related causes of gender differences.

Key Research Questions and Recent Research Results

How do teachers contribute to gender differences?

Many educators endorse cultural gender stereotypes (e.g., math is easier for boys than girls) and prejudices (show preferences for same-gender individuals).[5] These biases can be explicit (e.g., consciously endorsed) or implicit (unconsciously held), and they influence teachers' classroom behaviours.

Teachers' gender stereotypes and prejudices shape their classroom behaviour in at least three ways. First, teachers often model gender stereotypic behaviour. Female teachers, for example, often exhibit "math phobic" behaviours.[6] Second, teachers often exhibit differential expectations for males and females (e.g., creating "dress-up" and "construction" centers and accepting—even facilitating—gender-differentiated use).[7] Third, teachers facilitate children's gender biases by marking gender as important by using it to label and organize students.[8] In one study, teachers were asked to use gender to label children and to organize classroom activities by, for example, greeting children with "Good morning, boys and girls" and asking children to line up by gender. Other teachers ignored students' gender. Young children whose teachers labeled and used gender showed higher levels of gender stereotyping than their peers.[9] Preschool teachers' labeling and use of gender increases their pupils' gender stereotyping and avoidance of cross-gender playmates.[10]

How do peers contribute to gender differences?

Like teachers, peers contribute to the socialization of gender differences via multiple pathways. Upon entering school, children encounter large numbers of peers, many of whom model traditional gender behaviour, producing and reinforcing the content of gender stereotypes.

In addition, schools are characterized by gender segregation. When many peers are available, children tend to select same-sex playmates.[11] Children's gender segregation, in turn, affects their play experiences, leading them to spend more time in stereotypic play.[12] Furthermore, gender segregation predicts children's future conformity to gender stereotypes. After observing preschoolers for six months, researchers found that, as the amount of time that children played with same-sex peers increased, children's own behaviour became more gender stereotypic.[12]

Peers also contribute to gender differentiation by teaching their classmates stereotypes (e.g., "Short hair is for boys not girls") and punishing them for failing to conform to stereotypes via verbal harassment and physical aggression.[7] Importantly, intervention programs can teach young children to recognize and challenge their peers' sexist remarks (e.g., "You can't say girls can't play!").[13] In later grades, peers' gender stereotypes about abilities in various subjects influence students ' academic self-concept and performance. For example, high school girls in peer groups that believe that math is a "male domain" have a lower math self-concept than girls in a more egalitarian peer group.[14]

How do school policies contribute to gender differences?

Beyond individual behaviours and practices in the classroom, official school policies shape gender expression and behaviour as well. In the United States, for example, education policy makers at both the federal and state levels have made official statements recognizing the existence of only "two genders" and restricting schools in discussing, promoting, or acknowledging gender identities that do not fit within this paradigm.[15,16] These policies have raised concerns about the wellbeing and mental health for gender non-conforming youth, especially children and teens who identify as transgender.[17]

Research Gaps

Many of the socialization processes that lead to gender differentiated outcomes, including gender segregation, are not well understood. In addition, more work is needed to identify effective means to prevent and minimize gender biased attitudes and behaviour. Future research is also needed to document the experiences of children who do not conform to traditional gender

roles (e.g., children with same-sex parents or who identify as transgender). Especially considering the increase in policies and proclamations mandating a binary approach to gender identity in the U.S., Canada, and other countries, researchers should continue to measure the effects on not only gender stereotyping in youth broadly but also the specific well-being of children in school whose behaviour, identity, and appearance do not conform with stereotypes.[17]

Conclusions

Schools are important contexts for the socialization of young children's gender attitudes and behaviour. Teachers and classmates shape children's gender attitudes and, in turn, gender differences in cognition and behaviour. Unfortunately, teachers receive relatively little training in recognizing and combating gender stereotypes and prejudices—their own and others—and, as a consequence, teachers often model, expect, reinforce, and lay the foundation for gender differentiation among their pupils. Thus, most schools create and maintain—rather than counteract—traditional gender stereotypes, biases, and differences.[14] However, educators who adopt a commitment to gender egalitarianism and thus promote cross-gender interaction, expose pupils to counter-stereotypic models, and discuss and teach challenges to gender stereotyping and harassment optimize their pupils' developmental outcomes.

Implications for Parent, Services, and Policy

Educators and policymakers should be aware of the impact that early gender-stereotyped pathways have on the shaping of students' attitudes towards specific subjects, for example, STEM.[18] Teachers need training to recognize their own explicit and implicit biases and how these biases affect their classroom behaviours. Additionally, teachers should receive explicit training in confronting children's biases, so that they reduce peer policing of gender normativity.[19] For example, teacher-directed interventions that give children opportunities to play with other-gender peers have been shown to improve the quality of cross-gender friendships.[20] Parents should seek educational settings for their students that are gender integrated and that make use of curricula that directly teach about, and challenge, gender bias and inequality.[21]

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Gender Self-Socialization in Early Childhood

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December 2025, Éd. rév.

Introduction

The role of gender in the lives of young children has garnered attention, as early gender-related concepts, self-perceptions, preferences, and behaviour have the potential to affect choices, aspirations, social networks and many other future life domains. Gender is one of the first social categories children become aware of and, in early childhood, is highly important to most children. There are three main perspectives on factors influencing gender development: physiology, socio-structure and culture, and cognition-motivation.[1] We focus on one facet of the cognitive-motivational perspective, which emphasizes children's own active role in shaping their gender development.

Subject

Self-socialization theories propose that children are "gender detectives," intrinsically motivated agents actively seeking out information about gender.[2] Further, children's understanding and awareness of gender affects how they organize and interpret the information they collect. Gender schemas, or organized knowledge structures, provide standards for them to guide their behaviour. Finally, these theories emphasize developmental change in children's knowledge about gender and in their gender-related behaviours.[3]

Problems

Parents and practitioners may strive toward the ideal of individuality, often believing that children should be free of societal constraints based on gender. Unrestricted by gender stereotypes and prescribed roles, they hope that children will be exposed to a wider variety of situations and people to develop a broader array of skills.[4] However, some parents can be dismayed, when, despite efforts to be "gender-neutral," their young children may act or dress in highly gender-stereotypical ways. Acting in gender-stereotypical ways in early childhood is

common and gender self-socialization theories explain why.

Research Context

Research on gender development has received broader attention since the late 1960s, accompanying the feminist movement.[5] An emphasis on cognition in gender development became prevalent in the late 1970s to early 1980s when psychology in general became influenced by cognitive theories.[6] Gender development research and self-socialization theories have largely focused on normative trends in White, middle-class American girls and boys. Recently, however, there have been pushes to learn from more diverse populations, as well as to conceptualize and recognize gender on a spectrum rather than as binary.[7,8]

Key Research Questions

Inquiry into the active role of children in shaping their own gender development focuses on two broad questions: (1) When do children learn about gender and how does this knowledge about gender change over time? (2) How does children's knowledge about gender affect their gender development?

Recent Research Results

When do children learn about gender and how does this knowledge about gender change over time? Psychologists have studied many types of cognitions in children related to gender, including: awareness of gender categories, understanding of gender constancy and knowledge of gender stereotypes. Children can perceptually discriminate males and females even in infancy.[9,10] However, children are not thought to conceptually understand gender categories until 18 to 24 months.[11] By about 27 to 30 months of age, sometimes earlier, children seem to have a rudimentary sense of gender identity, shown by the ability to verbally label their own gender ("boy"/"girl").[12]

Children further learn about gender and develop a sense of gender identity through early childhood. Kohlberg proposed that toddlers often consider gender to be fluid and over time learn about its relative permanence (gender constancy).[13] This involves understanding that for most people, gender remains permanent over time (*gender stability:* a boy becomes a man) and superficial transformations (*gender consistency:* a girl remains a girl even if she wears pants or plays with trucks). Traditionally, research has shown across different cultures that

understanding of gender constancy is usually attained by age 6 to 7.[14] More recently, however, results from one study have put this timeline into question, as children as young as age 3 showed understanding of gender consistency when given situational explanations for gender-nonconforming behaviour.[15] In addition, some scholars have begun to recognize that the construct of gender constancy emerged from a cisnormative framework[16]. For instance, compared to cisgender children, transgender children were more likely to recognize that occasionally gender does not remain permanent over time.[17] Transgender children also recognized that their own gender as infants differed from their current gender. Thus, in contrast to Kohlberg's assumptions of constancy, scholars are beginning to recognize that gender is *not* unchanging.[18] A focus on children's recognition of their gender has shifted to a focus on children's affirmation of their gender.[18]

A third type of knowledge that children gain are gender stereotypes. As early as 18 months of age, children have knowledge of gender stereotypes that grows in amount and in complexity across development.[19] Young children often rigidly believe and endorse these gender stereotypes, but start to show flexibility (both girls and boys can be strong) around age 6 to 8.[20] The combination of attaining a sense of gender identity with knowledge of gender stereotypes provides the basis for gender schemas (organized knowledge structures).

How does children's knowledge about gender affect their gender development? Self-socialization theories posit that children's knowledge about gender motivates them to be similar to those of the same gender while distinct from those of a different gender.[3] They then learn what each gender entails and attempt to follow these gender norms and stereotypes. Research has found that after children achieve basic gender identities, they have heightened attention to information related to gender and especially attend to same-gender models. Simultaneously, they exhibit improved memory for that which they deem relevant for their own gender, while also distorting information to fit their schemas.[21-23] With this constructed and consolidated information, children learn how to act in gender-stereotypical ways.

Early childhood is a time of "gender rigidity" in behaviour and beliefs.[24] Children at this age show high engagement with gender-stereotypical toys, increasingly avoid cross-gender-stereotypical toys, and increasingly dress in gender-stereotypical ways.[25-27] This pattern has been seen in transgender children as well, with transgender children preferring peers and clothing associated with their lived gender rather than with their birth sex.[28,29] In support of these theories, research has sometimes found that children's knowledge about gender predicts gender-stereotypical

behaviour in early childhood.[9,10,30] For example, children who understand gender labels or show heightened attention to and interest in gender sooner tend to hold stronger gender-typed preferences and use gender stereotypes to guide their behaviours.[30,31]

Children's knowledge about gender is theorized to also have immediate consequences for their feelings and attitudes toward own-gender and other-gender peers.[32] Indeed, early childhood is also a time of "rigidity" in gender attitudes. Children evaluate their own gender group more positively than they do the other gender group.[33] They also tend to favor their own gender in their behaviour, such as in allocating rewards.[33-35] Gender segregation begins in early childhood as well.[36] Children increasingly prefer associating with their own gender, a phenomenon that continues through elementary school. Some research supports the idea that children's knowledge about gender relates to gender attitudes and sex segregation.[30,34,37,38] For example, children who showed stronger attention to and interest in learning about gender tended to display stronger favoritism towards own-gender peers.[30]

Research Gaps

There is much evidence supporting the idea that children shape their own gender development. Though researchers have shown that children's knowledge and understanding about gender is related to their gender-stereotypical behaviour and attitudes, some studies, however, find no connections.[10,11] It is likely that several factors (e.g., prenatal biological influences, media portrayals, peer and parental attitudes) interact together with self-socialization to affect children's gender-related behaviour, yet few studies have attempted to test this interaction. One exception shows the promise of this line of future research. Girls exposed to high concentrations of androgen prenatally (congenital adrenal hyperplasia; CAH) showed decreased levels of self-socialization.[39] This decreased self-socialization (in the form of decreased use of information that an object was "for girls") might be a mechanism that partially explains general decreased levels of gender-typing among CAH girls. Additionally, although growing in number, few studies have examined gender self-socialization beyond White, middle-class, cisgender or American children. New research on ethnically minoritized and transgender children suggests that self-socialization processes operate similarly among these populations.[29,40] Emerging research with nonbinary children and youth has also found that they take an active approach in forming a gender identity, processing feelings and cognitions surrounding gender pronouns and gender norms[16]. Nonbinary children and youth have reported that parents (as well as books, friends, and online spaces) scaffolded their learning, but much more work is needed.[16,41] Finally, more research is needed to

understand the longer-term consequences of self-socialization and early gender-typing, such as for later goals, preferences, gender attitudes and well-being.

Conclusions

While multiple factors affect children's gender development, children also play their own active role. Starting very early on in development, children seek to classify themselves by gender once they have recognized gender groups. Young children then strive to make meaning of gender, paying attention to information about gender and forming gender schemas. Because children's cognitions about gender change over time, it is expected that their gender-related behaviours, beliefs, and attitudes should as well. Indeed, it has been found that early childhood is often a time of increasing "rigidity" in gender-stereotypical preferences for peers and toy activities, as well as in their gender-stereotypical play and dress. There is also evidence that children relax in following these strict gender norms around the time of middle elementary school. Much research has found support for connections between children's growing knowledge of gender and their gender-stereotypical behaviours, beliefs, and attitudes; however, these connections are not always found.[11]

Implications for Parents, Services and Policy

Children's quick grasp of the concept that our world can be sorted into gender groups reflects how heavily our society emphasizes gender. Nearly every aspect of life is infused with connotations of maleness or femaleness. A downside of highlighting gender to such a degree is that it can increase gender stereotyping and negative gender discriminatory behaviour.[42,43] This stereotyping and prejudice can lead to reduction in the diversity of choices, skills and relationships available to children.

Even with a de-emphasis on gender in their immediate environments, children will still likely actively construct what gender means. Parents, educators, and practitioners should be aware of what associations are tied to gender groups. For example, it seems that young girls pick up on the message that being a girl means looking like a girl and being preoccupied with appearance.[44] Boys attune to messages that they need to be tough like superheroes.[45] These associations may have negative mental and physical health consequences later in development. Expanding and diversifying the meanings we associate with gender will help children also form a more expansive self.

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The Complex Causes and Modification of Gender Development: Commentary on Hanish & Fabes; Leaper; Bigler, Hayes & Hamilton, and Halim & Lindner

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August 2014

Introduction

The authors of the papers[1-4] in this section consider ways in which boys and girls differ, and how those differences stem from social factors and can be reduced by social changes. But, the causes of and modifications to behaviour are complex, as are the links between science and social policy.

Research and Conclusions

a. Where we agree

As documented in the four papers[1-4] in this section, it is clear that a variety of social agents (peers, parents and schools) contribute directly to some of the differences between the sexes, and that these agents also encourage children to socialize themselves in gendered ways. It is also clear that social practices often limit the development of both girls and boys, and that children need to be prepared to interact with people who are different than they are – so it is important to find ways to optimize the development of all children. As such, we agree with many of the interpretations provided by the authors.

b. Where we disagree

The authors focus on socialization effects on gender-related attitudes and cognitions (thinking about gender), but links between attitudes and behaviour are complex, and there is a large social psychological literature on the moderators of such links.[5] Gendered attitudes are sometimes, but not always, related to gendered behaviour, and most associations are surprisingly modest in size.[6] Even then, the causal path between attitudes and behaviour is not clear. Classic social

psychological research shows that attitudes may change as a result of behaviour, rather than the reverse.[5] It is, therefore, important to identify conditions under which gender-related attitudes influence and are influenced by gender-related behaviours.

c. What is missing?

The papers in this section[1-4] cover a number of important influences on gender development, with an emphasis on the average child. But, gender development is nuanced, depending on biology, developmental status and context.

The role of biology. Children do not enter the world as blank slates, and there is substantial evidence that biological factors influence gender development. Sex hormones play a particularly prominent role, with prenatal exposure to high levels of male-typical hormones associated with behaviour that is shifted in a male-typical direction.[7,8] For example, compared to girls with typical hormones, girls who have been exposed during gestation to high levels of male hormones (e.g., androgens) tend to be more interested in and engage more with male-typed activities across the life span: As children, they play more with toys such as legos and vehicles;[9,10] as teenagers and young adults, they are more engaged in sports and electronics, and are more interested in occupations that involve things rather than people;[8] as adults, they are more likely to have jobs typically occupied by men.[11] This suggests that at least some differences between typical boys and girls stem from the difference in the levels of their sex hormones during early development (and the corresponding effects of these hormones on the developing brain). There are other aspects of biology that play a role in gender development (e.g., hormones at puberty, circulating hormones in adulthood).[12]

These biological influences on gender development mean that socialization does not operate in a vacuum. Socialization may magnify biological predispositions, so small biologically-influenced differences become large behavioural differences. Alternatively, socialization may counteract biological predispositions; for example, girls who have male-typed interests because of prenatal exposure to high levels of androgens may receive pressure to be female-typical, although little is known about the effectiveness of such socialization.[13,14] This topic represents an exciting research opportunity; elsewhere, we have provided examples of how work on gender development pursued from a socialization perspective could be enhanced by attention to biological processes.[15]

The role of development. It is important to remember that psychological aspects of gender are not static. Gendered characteristics develop across time, and socialization effects may vary with children's developmental status. For example, psychological changes at adolescence might modify the effect of socialization experiences, given the increased autonomy, peer contact and parent-child conflict at that time compared to childhood.[16]

The role of context. Much gender socialization occurs within families. Important differentiations may be between sons and daughters, rather than boys and girls in general, and may further depend on children's birth order, and parents' marital relationship.[17] Consider two examples. Change in gendered attitudes from age 7 to 19 varies across context and personal characteristics:[18] on average, traditionality declines with age, but traditional attitudes increased in firstborn boys with brothers and traditional parents. When husbands have more job-related resources than wives (income, job prestige), women tend to have less power in the marital relationship[19] and this is likely to affect children's socialization, e.g., modeling. Furthermore, parents themselves are changed by the sex of their children. For example, parents' family activities, including household tasks, depend on whether they have daughters or sons; parents with offspring of the other sex report less traditional leisure activity interests by the time their children reach middle childhood.[20]

Context extends beyond the immediate social world of the child. Other aspects of context, such as culture, neighbourhood and social organizations, likely also matter for gender development, and may moderate the effectiveness of parents, peers and schools.

Implications for Development and Policy

It is difficult to judge the implications described by the authors because of the limited evidence available to guide policy. Interventions do not always work as planned, so it is essential to have empirical tests of interventions before they are widely implemented.

Questions about the nature and direction of attitude-behaviour links mean that it is difficult to know how the interventions proposed in the papers will work. If attitudes do not cause behaviour, then changing attitudes or stereotypes about gender will not have the effect of changing behaviour. For example, classroom interventions that make gender salient increase children's gender stereotypes, but not their own sex-typed interests.[21] It may be enough to change attitudes, but then that should be the stated goal.

It is not always clear what is needed to change behaviour. Several interventions designed to increase the participation of girls and women in science, technology, engineering and mathematics (STEM) fields focus on breaking stereotypes. One of them, Science Cheerleaders (www.sciencecheerleader.com) has “professional cheerleaders pursuing science careers who playfully challenge stereotypes […] and inspire young women to consider (STEM) careers […] by recasting the image of scientists and engineers.” But, there is little evidence that this approach is effective.

In fact, interventions that challenge stereotypes might actually have unintended effects because they call attention to gender. As noted by the authors of papers in this section, interventions may work best if they make gender less – not more – salient. But, this would not be clear without careful empirical testing. Thus, we should be cautious about introducing interventions that make sense without carefully testing them.

It is also important to consider that intervention effectiveness may differ across people, as a function of personal characteristics and social experiences, such as interests, developmental status, family structure and other contexts. An intervention that has an average beneficial effect may not harm anyone, but that should be tested. When there are scarce resources and limited time, it is also valuable to identify children most likely to benefit from interventions.

A key question concerns the motivations behind interventions. We agree that all children should have the opportunity to do whatever they want to do, and that policy should focus on combatting stereotypes and prejudice that reduce the options available to children (and adults) and providing equal opportunities and access to resources. But, some children may still make gendered choices. Is the goal to eliminate opportunity disparities or gender differences? Whereas some programs strive to provide equal opportunities for both genders, other effort to increase gender equity focus on making girls and women more like boys and men (e.g., improving girls’ math and spatial skills), rather than making boys and men more like girls and women (e.g., improving boys’ emotion recognition skills). This reflects the tendency in many countries to value male-typed characteristics over female-typed characteristics; consider the status and salary of careers dominated by men versus women. It is important to consider how policy decisions regarding gender may reflect the differential prestige accorded to the sexes, and whether policy changes should focus on encouraging gender similarity or according boys (men) and girls (women) equal respect, status and opportunity. Promoting respect, status and opportunity is consistent with human rights approaches.

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