

Factors Influencing Children's Perception of Gender Roles and Their Psychological Impact: Evidence from Sociology and Psychology

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ABSTRACT

Gender stereotypes are ubiquitous and often have negative consequences. However, they are common in children's media, toys, and stories. Awareness of these gender stereotypes can hugely influence children's perception of gender roles. Further, family-related factors, such as familial makeup, parenting, and siblings order, may be crucial in children's acquisition of gender knowledge, which may later affect children's wellbeing, career aspirations, peer choices, and academic performance. In order to better understand factors influencing children's perception of gender roles and what psychological impacts they have, we integrated findings across the fields of sociology and psychology. We reviewed literature on the roles of the media, family, toys, and stories in shaping children's perception of gender roles across sociological and psychological journals. We only included papers discussing factors and impacts on children aged two to fourteen. The findings from this review indicate that children's media, toys, and stories commonly portray a disproportionate distribution and stereotypical gender representation of male and female characters. Besides, familial factors can influence children's perception of gender roles and gender flexibility. Findings underline harmful impacts gender stereotypes may have on children, ranging from mental health problems like depression, anxiety, and somatic complaints to bullying, problematic peer relations, impaired academic performance, and school misconduct. Given the prevalence of gender-stereotypical ideas embedded in parenting and children's media, toys, and literature and their negative impacts, we should be working to reduce the adverse impact of these stereotypes on children.

Gender Stereotypes

A stereotype is an overgeneralization of the attributes associated with a group of people (APA Dictionary of Psychology, 2022). A positive stereotype refers to a subjective and favorable idea about a social group of people (Czopp et al., 2015), whereas a negative stereotype depicts an unwanted trait believed to be possessed by a specific group (APA Dictionary of Psychology, 2022). Regardless of their difference, both types have the potential to be harmful in a variety of domains, including social changes (Bashir et al., 2013), relationships, cognitive performance, aspirations (Czopp et al., 2015), and health (Weiss et al., 2018).

A gender stereotype is a generalized belief about a quality that men or women possess (Castillo-Mayén, 2014; Abele & Wojciszke, 2018). Gender stereotypes are deeply ingrained in and persistently perpetuated by society (Haines et al., 2016). Using data collected in 1983 and 2014, Haines and colleagues (2016) found that despite attempts toward gender equality in a variety of fields, there is marked stability in how people perceive genders over the last few decades. Specifically, personality traits, occupations, and physical characteristics were still as strongly associated with either men or women in 2014 as they were thirty years before. While gender stereotyping of male behaviors remains largely the same, that of female roles has risen.

A prominent positive gender stereotype is that men are better leaders than women. This belief can hamper women's career paths (Nett et al., 2021) and result in female underrepresentation in superior positions (Agars, 2004).

There is a lack of women in high positions in the workplace even though female leaders may be equally effective at their work as male counterparts (Wolfram et al., 2020). Mechanisms through which this issue persists include limited international academic networks (Leemann, 2010), work-life balance (Leemann, 2010), institutional, socio-cultural, and personal beliefs (Yemenu, 2020). Imagining an accomplished manager, people tend to visualize a man (Willemsen, 2002). When it comes to managerial positions, masculine characteristics are believed to be more applicable (Willemsen, 2002), more important (Cuadrado et al., 2015), and are more often assigned to men than women (Powell et al., 2002; Holtzen, 2011; Cuadrado et al., 2015; Nett et al., 2021). This mismatch between ideas about leadership attributes and female gender roles may not only have an adverse impact on the appraisal of female workers' capability but also impede their ascent to higher positions (Wolfram et al., 2020). Embracing the same managing style as men but not fitting into gender stereotypes may still cause female leaders to be regarded as less effective and less preferred than male leaders (Rhee & Sigler, 2015).

Another example of a gender stereotype is the belief that science is a male profession. Scientists are commonly likened to men rather than women. This association is robust among many age groups, including children (Miller et al., 2018), undergraduates (Lane et al., 2012; Carli et al., 2016), adults (Nett et al., 2021), and across various nations (Nosek et al., 2009). This phenomenon may negatively affect students' academic achievements, discourage women from entering scientific fields, and result in a limited number of female scientists. US parents are far more likely to believe that boys are better at science than girls and there is a positive correlation between parents and their adolescent children's gender-stereotypical beliefs (Starr & Simpkins, 2021). This is significant because how adolescents perceive their science ability is relative to academic outcomes (Starr & Simpkins, 2021) and later occupational aspirations (Bleeker & Jacobs, 2004).

Negative gender stereotypes can also be seen in sports. Compared to men, women are generally believed to have lower athletic skills. The activation of this stereotype can negatively influence women's motor learning, self-efficacy (Heidrich & Chiviacowsky, 2015), and performance in a wide array of sports, namely soccer (Hermann & Vollmeyer, 2016; Cardozo et al., 2021), golf (Stone & McWhinnie, 2008), and tennis and basketball (Hively & El-Alayli, 2014). Sports-related negative gender stereotypes may lead female athletes to avert failure, which may intervene with proceduralized sensorimotor responses, reduce working memory capacity, and ultimately lead to worse performance (Stone et al., 2012).

Factors Influencing Children's Gender Role Perception

The media, along with toys and stories, are highly gendered. Male and female characters can be presented disproportionately with a bias towards male ones in terms of number and time screen (Maker & Childs 2003; Götz et al., 2008; Zaheen et al., 2020) and differentially when it comes to characteristics traits and gender roles (Hamilton et al., 2006; Akbar, 2018). Toys aimed at different gender are produced to promote disparate skills and qualities (Reich et al., 2018; Blakemore & Centers, 2005).

Factors like family structure, parenting, and siblings also play a role in shaping children's attitudes about gender roles. Children's acquisition of gender knowledge is significantly affected by parents (Halpern & Perry-Jenkins, 2016; Kågesten et al., 2016). Children of gay and heterosexual parents are less flexible in gendered activities and characteristics than those of lesbian couples (Goldberg et al., 2012; Goldberg & Garcia, 2016, Carone et al., 2020), and siblings' gender can boost or reduce masculine and feminine traits (Rust et al., 2000).

Childhood is an important time for acquiring gender knowledge. Children's awareness of gender may start as early as 19 months on average, with girls typically beginning earlier than boys (Zosuls et al., 2009). From 3 to 5 years old, children display signs of gender rigidity, including a rise in gender-role conforming behaviors, gender identification (Halim, 2012), gender-typed play (Halim et al., 2013), appearance (Halim et al., 2014), and a decrease in cross-gender-typed play (Halim, 2012). After this period, there is an increase in children's gender flexibility (Halim, 2012) and a decrease in stereotype endorsement from 5 to 11 years of age (Trautner et al., 2005). Therefore, it is crucial to learn which factors may affect children's perception of gender roles and their impact on children.



TV Programs

The underrepresentation of female characters and stereotypical portrayal of gender roles are evident in many television programs targeted at children, including preschoolers (Case, 2015; Walsh & Leaper, 2020) and school-age children (Case, 2015; Götz et al., 2008) and consistent across major networks like Cartoon Network (Ahmed & Wahab, 2014), Disney Junior, Nick Junior, PBS, and Sprout (Walsh & Leaper, 2020), among various types of programs (Götz et al., 2008; Walsh & Leaper, 2020), and productions by different countries (Götz et al., 2008; Ahmed & Wahab, 2014, Rozario et al., 2017, Gultekin-Akcay, 2021).

Male characters constitute the majority of all characters in a wide array of programs, outnumbering female ones with a ratio of 2 to 1 (Götz et al., 2008; Ahmed & Wahab, 2014; Case, 2015). This bias toward males can also be witnessed among non-human characters such as animals, robots, monsters, and other fictional beings (Götz et al., 2008; Walsh & Leaper, 2020). Although the disparity persists regardless of networks, program types, and country of production, there are some variations. While there are significantly more male than female figures in programs featuring male and mixed-gender protagonists, the same does not apply to those with female leads which see no difference in both genders' rate of appearance (Walsh & Leaper, 2020). Live action shows, shows aimed at female or school age audiences, and shows with predominantly female characters have a more balanced proportion of characters' gender (Götz et al., 2008; Case, 2015).

In addition to the unequal appearance rate, there exists a discrepancy between the illustration of each gender. In terms of physical attributes, male characters are more likely to be demonstrated as strong and powerful (Ahmed & Wahab, 2014), whereas female ones are more often portrayed as weak, passive, sexually attractive, beautiful (Ahmed & Wahab, 2014) and given comments on their looks (Case, 2015). As regards personality characteristics, male characters are remarkably more sporty and intrepid, while their female counterparts are more likely to be depicted as affectionate and emotional (Ahmed & Wahab, 2014; Case, 2015). Colors commonly linked with masculinity are equally portrayed among both genders, yet those associated with femininity such as pink and purple are considerably more popular with female than male characters (Walsh & Leaper, 2020; Gultekin-Akcay, Z., 2021).

The stereotypical depiction of gender roles can be country-based. An analysis of over 9000 television shows targeted at children up to 12 years of age in 24 countries, shows that there are twice as many male figures as female ones (Götz et al., 2008). However, a closer look reveals that this ratio varies across nations. Norway has the most equal proportion, followed by Syria and the UK. In contrast, Argentina, Cuba, and Malaysia have the lowest rate of female protagonists, who make up only about one-fourth of all characters.

Viewership of gender-stereotypical programs can alter children's perception of gender roles. Studying four-year-olds from diverse ethnic backgrounds (i.e., Chinese, Dominican, Mexican, and African-American), Children tend to evaluate their gender more favorably than another by considering same-gender ones to be better (Halim et al., 2013). However, long-time exposure to television may cause children to view boys as being superior. Television consumption is positively correlated with gender-stereotypical beliefs (Ward & Grower, 2020). Specifically, heavier watchers are more likely to hold rigid gender-related ideas about appearance, toy use, jobs, and stick to traditional gender roles (Ward & Grower, 2020).

Cartoons

Cartoons comprise several gender stereotypes, which may adversely affect children. A study of children between 8 and 13 years of age in Punjab, India pinpointed a positive correlation between cartoon consumption and gender-stereotypical attitude (Zaheen & Khan, 2020). Exposure to Disney movies is relative to increased feminine behaviors and more sex-typed perception (Coyne et al., 2016; Indhumathi, 2019). Children who watch Disney movies tend to prefer gender-stereotypical jobs (Indhumathi, 2019).



Both underrepresentation of female characters and stereotypical gender portrayal can be observed in cartoon movies. Male characters occupy more screen time than female ones and account for the majority of leading roles (Zaheen et al., 2020). Activities such as nurturing children, doing household chores, and qualities like being physically charming, meek, and troublesome (failing frequently) are strongly likened to female but not male characters (Zaheen et al., 2020; An investigation of 152 US most popular animated movie posters released between 1937 and 2017 reveals the predominance of male main characters and their depiction as being more powerful (Aley & Hahn, 2020).

Advertisements

There is an enduring preference for male characters in television commercials over the last 27 years (Maker & Childs, 2003). Despite changes toward more egalitarian views, gender stereotypes are persistent (Deloney, 2015). Children's commercials are more likely to be male- than female-targeted (Deloney, 2015; Ford, 2018). Boys dominated male-targeted advertisements, which hardly feature girls and make up the majority of all characters in gender-neutral ones (Asztalos, 2013). The gender of the models featured in commercials may have an impact on children's perception of gender roles by shaping beliefs about the appropriate gender-typed behaviors (Pike & Jennings, 2005). In terms of settings, girls are more likely to be depicted indoors (Asztalos, 2013; Deloney, 2015) and in relationship roles (Ford, 2018), whereas boys are more associated with outdoor activities (Deloney, 2015) and in independent roles (Ford, 2018). Boys are more commonly portrayed as active, aggressive, and anti-social, while girls are generally illustrated as being passive, dependent, caring, and sharing. When it comes to play behavior, boys are expected to play with construction and transportation toys, and girls engage in playing with dolls and stuffed animals (Deloney, 2015).

Family structure

Family structure can significantly influence children's gender-related attitudes. In general, compared to children of heterosexual parents and gay fathers, biological as well as adopted sons and daughters of lesbian mothers display greater gender flexibility and less gender-typed play (Goldberg et al., 2012; Goldberg & Garcia, 2016; Carone et al., 2020). Lesbian couples' children are more willing to engage in gender non-conforming dress-up and play with crossgender toys (Carone et al., 2020).

Lesbian mothers' liberal attitudes regarding gender stereotypes may explain this decreased gender rigidity in their children. For instance, they are more likely to claim that certain traits and activities, such as timidity and active play, can apply to both boys and girls (Sutfin et al., 2008). This is significant because parents' gender-related ideas are associated with their children's beliefs and with gender stereotyping of children's space (Sutfin et al., 2008). Lesbian couples' sons and daughters are under less pressure to abide by gender roles (Bos & Sandfort, 2010), demonstrate less stereotypical views, and are provided with less stereotyped environments (e.g., bedrooms; Sutfin et al., 2008). Boys growing up in fatherless families (i.e., having a single, heterosexual mother or two lesbian mothers) are more feminine yet as masculine as those with fathers (MacCallum & Golombok, 2004).

Parenting

Overall, parents play a crucial role in shaping children's gendered attitudes. This influence has been found among children ranging from 6 to 14 years old (McHale et al., 2001; Kågesten et al., 2016; Halpern & Perry-Jenkins, 2016; Yildiz, 2019; Endendijk & Portengen, 2021). Parents' age and education are negatively correlated with their levels of traditionalism (Kollmayer et al., 2018). While fathers and mothers exhibit similar degrees of benevolent sexism, fathers express greater hostile sexism than mothers (Lipowska et al., 2016; Yıldız, 2019). Daughters of fathers who have high levels of hostile sexism tend to hold more gender-stereotypical notions. Although parents' perspectives are influential, their behaviors are more strongly relative to their children's perception of gender roles (Halpern & Perry-

Jenkins, 2016). Fathers and mothers usually use implicit rather than explicit methods to impart gendered information to their children, such as by purchasing gender-typed products and solidifying gender-conforming behaviors (Mesman & Groeneveld, 2018).

Parents' division of household chores can influence children's gender roles attitudes. In many families, there continues to be a traditional division of housework, with mothers being in charge of the majority of domestic chores (Croft et al., 2014). This phenomenon may cause young girls to view boys as superior (Halim et al., 2013) and endorse gender-conforming occupational aspirations (Fulcher et al., 2008; Croft et al., 2014; Endendijk & Portengen, 2021). For older, beliefs about domestic responsibilities are relative to parents' viewpoints regarding domestic gender roles. Children of mothers who endorse traditional roles are more likely to imagine following stereotypes later, and this relation is more pronounced among daughters than sons (Croft et al., 2014). When it comes to traditional fathers, this effect is witnessed among daughters only, with girls anticipating prioritizing family over jobs. Conversely, children of egalitarian fathers tend to expect equal involvement in both activities, with girls displaying an inclination towards working outside the home and pursuing less gender-stereotypical jobs (Croft et al., 2014).

Parents may help form and bolster stereotypical beliefs in children through gender-typed environments and gender talk during book reading (Sutfin et al., 2008; Endendijk, 2014). Parents often decorate children's spaces in a highly gender-conforming manner, and boys' bedrooms are substantially more stereotyped than girls' (Sutfin et al., 2008). However, across all family types (i.e., heterosexual, gay, and lesbian couples), more liberal parents tend to provide their children with less stereotyped environments (Sutfin et al., 2008). Parents may also convey gendered messages to children during reading time. This transmission of information may take place in the form of gender labels, evaluative comments, and gender-typing assertions (Endendijk, 2014). While reading picture books for their children, parents make more stereotypical than counter-stereotypical statements and are prone to use masculine or feminine labels for gender-neutral characters depending on the activity that character is involved in, thereby indirectly establishing appropriate behaviors for each gender (Endendijk, 2014). Mothers give more evaluative comments, whereas fathers have more statements confirming gender stereotypes. Fathers with two sons put more emphasis on adherence to male stereotypes than those with two daughters or mix-gender children (Endendijk, 2014).

Siblings

Along with parents, siblings can influence gender development in children (Rust et al., 2000; McHale et al., 2001; Kuchirko et al., 2021). Boys and girls with a same-gender older sibling are more masculine and feminine respectively than those without siblings, and children with no sibling are more gender-conforming than those with an opposite-gender sibling (Rust et al., 2000). While having an older brother is associated with increased masculinity and decreased femininity in both boys and girls, the effect of having an older sister is different. Boys with an older sister tend to be more feminine, yet no less masculine, whereas girls may be more masculine but no less feminine (Rust et al., 2000).

The impact of siblings' gender may be owing to disparate gender developmental trends among first- and second-born children. Although second-born children are predisposed to develop in a way that makes them similar to older siblings, first-born children undergo de-identification, the process by which they become different from younger siblings (McHale et al., 2001). Growing up, first-born children may act as role models for younger siblings (McHale et al., 2001). While there is a decline in gender stereotyping among children up to eleven years of age (McHale et al., 2001; Trautner et al., 2005), gender flexibility tends to plateau after that. This change is more marked among first-born children, who report more stereotypical attitudes (associate certain traits with a gender) and participate more in gender-conforming activities between 10 and 12 years of age (McHale et al., 2001). Therefore, during the transition to pre-adolescence, first-born children may no longer be effective models for second-born children, who are generally more flexible during this period (McHale et al., 2001). Another distinction between first and second-born children is the extent to which parents influence their views of gender roles. The role of parents is significant among first-born children, yet moderate among second-born ones, whose perception, characteristics, and pastime activities are more strongly correlated with older siblings' orientations (McHale et al., 2001).



Toys

Children often exhibit gender-typed play behavior. They tend to prefer gender-typed toys over cross-gender ones (Weisgram et al., 2014; Davis & Hines, 2020). Girls are more willing to play with neutral toys than boys (Weisgram et al., 2014; Davis & Hines, 2020), and boys' liking for playing with cross-gender toys is relative to paternal flexibility (Yıldız, 2019). Parents of young children express higher levels of tolerance when their daughters play with masculine toys than when sons play with feminine toys (Freeman, 2007). Despite liberal perspectives, while playing with their sons, parents still use primarily masculine toys. While playing with daughters of the same age range, parents show a greater degree of flexibility, spending equal time with feminine, neutral, and masculine toys (Wood et al., 2002). With age, the discrepancy between boys and girls' preferences for either masculine or feminine toys increases (Davis & Hines, 2020).

Depending on the gender of the targeted young consumers, toys may have disparate characteristics and promote different sets of skills, qualities, and hobbies. Although there are signs that toys have been less stereotyped, with those previously regarded as being exclusively for either boys or girls (to a lesser extent) now being rated as gender-neutral, toys by and large are still highly gender-typed (Wood et al., 2002; Blakemore & Centers, 2005). Toys for girls are commonly related to nurturing, taking care of physical appearance, and developing domestic skills. In contrast, boys' toys seem to be more violent, competitive, and dangerous (Blakemore & Centers, 2005; Reich et al., 2018). Toys can be further stereotyped in a wide variety of ways, ranging from the use of labels, colors (Weisgram et al., 2014), play narratives (Reich et al., 2018) to marketing methods (Auster & Mansbach, 2012). The disparity was reflected among the toys marketed on the U.S. Disney Store website in 2010 (Auster & Mansbach, 2012). Toys titled "boys only" were mostly red or darker shades like brown, gray, black and encompassed the majority of the action figures (such as the model of Captain America), construction toys, weapons, and vehicles presented. Girls' toys were primarily pastels, particularly pink and purple, covering most dolls and beauty products such as cosmetics or jewelry portrayed on the website.

Differential gender representation can also be witnessed among Lego sets, which are some of the most popular children's toys. Reich et al. (2018) investigated LEGO City and LEGO Friends sets advertised on the Lego.com website between January 2012 and February 2015 and found marked differences regarding gender representation. LEGO City sets contain predominantly male figures (90%) and present a broad range of specialized occupations (e.g., firefighter, race car driver, astronaut), whereas LEGO Friends include mainly female characters (92%), who are depicted with a limited number of jobs revolving chiefly around selling products (e.g., food, clothes). Female characters in LEGO Friends sets engage in activities like sharing, caregiving, and domestic work like cooking and cleaning significantly more than male characters in LEGO City sets. In contrast to the serene background and companionship characteristic of LEGO Friends sets, LEGO City sets' settings are more dangerous, with male figures displaying more heroic actions and more likely to work single-handedly.

Assessing toys, both parents and non-parents consider same-gender-typed toys to be the most desirable, followed by neutral, and lastly cross-gender toys (Wood et al., 2002; Kollmayer et al., 2018). Parents holding less rigid gender-related attitudes tend to allow greater flexibility in their children in terms of toy choices and play behavior; mothers are less gender-stereotypical than fathers (Kollmayer et al., 2018). There may exist a mismatch between parents and children's expectations regarding approval of gender-atypical toys play (Freeman, 2007). While egalitarian parents may exhibit a willingness to provide their children with gender-atypical toys, young children tend to believe that parents would support gender-typical toys more than gender-atypical toys.

Gender-typed toys may have negative implications. Young girls playing with Barbie dolls may believe that they have fewer career options than boys and significantly fewer than those playing with Mrs. Potato Head (Sherman & Zurbriggen, 2014). Since toys are produced to promote different skills, exclusive exposure to strongly stereotyped toys may not be conducive to comprehensive development in children (Blakemore & Centers, 2005).



Story books

Despite changes toward equal representation of gender in the last six decades, children's picture books released between 1960 and 2020 continue to feature the long-standing dominance of male characters (Casey et al., 2021). Although it is evident that male characters outnumber female characters, the ratio between them varies across studies, ranging from 2:1 to 4:1 depending on the sample, authors' gender, role types (main versus title characters), age groups (children versus adults), genres (fiction versus non-fiction), targeted audience (older versus younger children), and character types (human versus non-human) (Hamilton et al, 2006; Chamberlain, 2011; Casey et al., 2021). Unlike female writers who generally depict an equal distribution of gender, male authors' books feature significantly more male characters and protagonists than female ones (Hamilton et al, 2006; Casey et al., 2021). Fictional literature, literature with human protagonists, and stories aimed at older children have a more proportionate ratio of female and male characters than non-fictional literature, literature with non-human protagonists, and stories targeted at younger audiences (Casey et al., 2021).

Gender stereotypes permeate children's story books. Concerning occupations, male and female characters are chiefly portrayed in gender-conforming jobs, yet male characters are presented with significantly more occupational choices than their female counterparts (Hamilton et al, 2006; Chamberlain, 2011). Mothers appear considerably more than fathers, stay indoor more than outdoor, are more often mentioned by the children (Anderson & Hamilton, 2005; Adams et al., 2011), and are involved in far more nurturing activities (Hamilton et al, 2006; Chamberlain, 2011) as well as domestic work (Adams et al., 2011) than their partners. It is also more common for mothers to express emotions such as sadness (crying) and happiness (Anderson & Hamilton, 2005; Adams et al., 2011). Fathers are usually portrayed as ineffective and idle (Anderson & Hamilton, 2005).

Fairy tales

Fairy tales contain several gender-stereotypical ideas. An examination of ten prominent fairy tales (e.g., Aladdin and his magic lamp, Rapunzel) by Akbar (2018) identifies distinctive representations of two genders. In the titles, male characters have official names, yet female characters' names are largely based on characteristics, attributive rather than formal ones. Female characters, if not in an inactive state of being confined to a room, house, or tower, would be doing household chores, sewing, or embroidery. Male characters are mainly depicted as being on an adventure in case of a prince or protagonist and doing other work in case of other characters. Regarding status, male characters typically have superior positions and female characters usually have to depend on them for better placements within the society. The qualities assigned to each gender are highly gender-stereotypical, with men being portrayed as courageous, adventurous, combative, active, and logical, and women being illustrated as submissive, weak, and emotional. Female characters' beauty, submissiveness, passivity, dependence, and association with housework in other fairy tales have also been observed (Cekiso, 2013; Totibadze, 2019).

Psychological Impact

Studies of children from diverse ethnic backgrounds and age ranges show that boys hold more traditional attitudes and show higher levels of gender typicality than girls (Egan & Perry, 2001; Smith & Juvonen, 2017; Pauletti et al., 2017; Hoffman et al., 2019; Masters et al., 2021), while girls display less stereotypical views and have higher levels of other-gender typicality than boys (Xiao et al., 2022; Pauletti et al., 2017). Compared to girls, boys feel more pressure to adhere to stereotypes (Yu & Xie, 2010; Pauletti et al., 2017; Hoffman et al., 2019; Nielson et al., 2020; Masters et al., 2021), receive less support for gender-nonconforming behaviors from parents and peers (Xiao et al., 2022; Bos & Sandfort, 2010), yet display greater contentment about their gender (Egan & Perry, 2001; Bos & Sandfort, 2010; Yu & Xie, 2010; Masters et al., 2021). Gender typicality is relative to boys' sexist beliefs (Pauletti et al., 2017). Gender



typicality may increase with age (Pauletti et al., 2017), but this increase in gender conformity is observed among boys only (Goldberg & Garcia, 2016; Rogers et al., 2017). Considering children's stereotypical attitudes, gender stereotypes may negatively affect their peer relations, academic performance, self-esteem, and mental health.

Gender stereotype perceptions and health

Children view gender-conforming peers more favorably than gender-nonconforming ones and gender-nonconforming girls more positively than gender-nonconforming boys (Kwan et al., 2020). Sanctioning of behaviors violating gender norms emerges early and there is a positive correlation between children's stereotyping and sanctioning (Skočajić et al., 2020). Older boys sanction more often than younger ones, and boys' gender-atypical behaviors are more likely to be sanctioned and associated with higher costs than girls' (Skočajić et al., 2020; Masters et al., 2021). The highest cost was assigned to appearance violations, followed by attribute and social norm violations (Masters et al., 2021).

While gender nonconformity is relative to mental health problems, these problems are more likely to stem from social causes as a result of gender atypicality rather than gender atypicality itself (Jewell & Brown, 2014). Gender atypicality is associated with social rejection (DeRosier & Mercer, 2009), peer victimization (DeRosier & Mercer, 2009; Toomey et al., 2014; Navarro et al., 2016; Smith & Juvonen, 2017), and aggressive behavior, especially among girls (Toomey et al., 2014). Whereas perpetration of victimization is related to feeling pressure to abide by gendered ideas (Navarro et al., 2016). Peer victimization may have several negative outcomes. It is associated with perceived health problems (de Bruine et al, 2022), social anxiety (Smith & Juvonen, 2017), withdrawal among girls, and decreased feminine behaviors among boys (Ewing Lee & Troop-Gordon, 2011). There is a correlation between children's gender typicality in seventh grade and social anxiety in eighth grade, girls' gender typicality in seventh grade and somatic complaints in eighth grade, and between boys' peer victimization (which is associated with gender typicality) in seventh grade and externalizing problems a year after (Smith & Juvonen, 2017). Gender typicality may have a direct influence on girls' somatic complaints and an indirect impact on children's social anxiety and on boys' externalizing problems through victimization (Smith & Juvonen, 2017).

Gender typicality and gender contentment are positively correlated with psychosocial adjustment, whereas feeling pressure to conform to gender stereotypes is negatively relative to psychosocial adjustment (Egan & Perry, 2001). Concerning mental health and social relations, gender typicality is negatively related to loneliness (Yu & Xie, 2010) and internalizing problems (Pauletti et al., 2017), yet positively related to global self-worth (Egan & Perry, 2001; Pauletti et al., 2017; Bos & Sandfort, 2010; Yu & Xie, 2010; Indhumathi, 2019), social competence (Egan & Perry, 2001; Bos & Sandfort, 2010; Yu & Xie, 2010), and peers' acceptance (Egan & Perry, 2001). Children's self-esteem, self-perception, and self-realization can be harmed by gender stereotypes (Deloney, M. B., 2015). Feeling pressure to adhere to gender stereotypes and satisfaction with one's gender is negatively and positively correlated with self-esteem respectively (Egan & Perry, 2001). Other possible outcomes of gender role conformity include depression and worse emotional adjustment. Gender nonconformity among third-graders is related to negative emotional adjustment (DeRosier & Mercer, 2009), whereas for sixth graders, gender nonconformity is positively correlated with depression (Xiao et al., 2022). The risk of depression is higher among children whose parents' tolerance is low (Xiao et al., 2022).

Gender stereotypes can have a negative effect on students' academic involvement and achievements. A study of Flemish early adolescents between 12 and 14 years of age indicates an association between male students' pressure to adhere to gender stereotypes and school misconduct (Heyder et al., 2021). Male students' self-efficacy declines on feeling pressure, which does not happen to girls, whose self-efficacy even elevates under gender conformity pressure (Vantieghem & Van Houtte, 2015). There is a negative association between gender roles nonconformity among school-age children and academic results (DeRosier & Mercer, 2009) as well as academic involvement (Rogers et al., 2017). Gender development and gender conformity affect different ethnic groups differently. From grade six to nine, levels of gender typicality and gender conformity pressure both decline among European French and North African French girls, decrease and stabilize among European French boys, while remaining constant and increasing among



North African French boys (Hoffman et al., 2019). Corby et al. (2007) examined White, Black, and Hispanic fifth-graders and discovered some notable variations. Compared to Black and Hispanic peers, white students experience substantially less pressure to follow gendered ideas. For white and Hispanic students, positive psychosocial adjustment is negatively associated with felt pressure and positively associated with gender typicality and gender contentedness, yet for black students, the only observed association was between gender contentedness and self-esteem. Unlike their white counterparts, Hispanic children's gender contentedness and gender conformity pressure, instead of predicting greater internalizing problems, were related to lower internalizing problems.

Gender stereotypes perceptions and performance

Males are better at math while females are better at reading are two widespread, stereotypical beliefs having the potential to afflict children's performance. The gender stereotype associating math with males may emerge early and have several adverse consequences. Children associate intellectual competence with males as early as six years old (Bian et al., 2017). Girls at this age are less likely than boys to describe same-gender partners as "really, really smart" and engage in activities labeled for "really, really smart" individuals. Gender stereotypical attitude regarding intellectual competence among young girls is negatively relative to interest in activities designed for gifted children (Bian et al., 2017). Starting from second grade, children exhibit specific gendered beliefs about males' math ability on both implicit and explicit levels (Cvencek et al., 2011). Compared to girls, male elementary schoolers identified with math more strongly (Cvencek et al., 2011). Despite indicating that boys and girls are equally capable of math, young girls are more likely to associate men with adult mathematicians than women, pictures of advanced math with males than those of basic math, and men with better math ability than their female counterparts (Steele, 2003).

Movies aimed at children audiences broadcast over a fifty-year period between 1967 and 2016 presented and perpetuated the stereotype linking men with intellectual superiority (Gálvez et al, 2019). Exposure to programs containing this stereotype can reinforce children's stereotypical beliefs, boost boys' sense of belonging yet lower their utility value, and promote girls' gender-stereotypical occupational aspirations (Bond, 2016; Wille et al., 2018). While even one-time watching of these programs can trigger the stereotype associating males with STEM subjects among girls, one-time watching of counter-stereotypical content has little effect on adjusting girls' gendered beliefs (Bond, 2016).

Gender stereotypes regarding math influence students' academic results and self-concept substantially (Igbo et al., 2015). Activation of the stereotype equating males with math can lead to undermined performance among girls but not boys (Neuville & Croizet, 2007; Tomasetto et al., 2011), yet girls whose mothers firmly dismiss this gender stereotype do not experience a decline in performance (Tomasetto et al., 2011). Girls' gender-stereotypical attitude is negatively correlated with competence development (Ehrtmann & Wolter, 2018). In addition to impaired math performance and competence development, stereotypes can influence girls' academic paths. Teachers' gender stereotypes about math can lead to girls' underperformance in math class and the decision to enter less competitive high schools (Carlana, 2019). These effects can stem from lower self-confidence among girls who have traditional teachers (Carlana, 2019).

Similarly, there is a common gender stereotype that girls are better at reading skills than boys. This gendered belief is common among teachers (Retelsdorf et al., 2015). As early as preschool, teachers' gender-stereotypical attitudes about reading ability is relative to boys' but not girls' reading motivation, which may affect the acquisition of reading skills at the end of first grade (Wolter et al., 2015). Boys in first grade tend to perform worse than girls in terms of reading skills (Wolter et al., 2015). For older students, all teachers, individuals, and classmates' gendered beliefs impact the development of reading skills. Teachers' gender-biased perception in favor of girls can have a negative influence on boys' self-concept (Retelsdorf et al., 2015), reading achievement (Muntoni & Retelsdorf, 2018), and reading motivation (Wolter et al., 2015). However, the distinction between older boys and girls' reading motivation was only witnessed among those with gender-stereotypical teachers but not egalitarian ones (Wolter et al., 2015).



Individual gender-stereotypical belief about each gender's reading skill can affect students' self-concept, reading motivation, self-efficacy, and competence development. However, these effects are negative among boys but positive among girls (Ehrtmann & Wolter, 2018; Muntoni et al., 2021). In terms of peers, classmates' traditional attitudes and boys' reading results are negatively correlated (Muntoni et al., 2021). Boys' reading performance is worse under stereotype threat, yet improves in reduced-threat conditions (Pansu et al., 2016).

Discussion

We were interested in studying the factors contributing to children's perception of gender roles and their psychological impacts. To this end, we reviewed the literature in sociology and psychology. We found that the media, family, stories, and toys can be highly gender-stereotypical. In general, the first and last two factors portray disproportionate distribution and stereotypical representation of gender. In terms of the third factor, aspects such as family structures, parenting, and siblings can engender differential effects among boys and girls. These gender stereotypes may have several psychological negative impacts, including peer victimization, problematic social relationships, lower self-esteem, impaired academic achievement, heightened school misconduct, and other mental health problems such as social anxiety, somatic complaints, and depression. We recommend that the four major factors and their possible psychological impacts continue to be investigated together for a better understanding of how gender stereotypes may emerge and persist as well as their threats.

Continual examination of this topic is crucial considering latent issues such as benevolent sexism, the priority of sexualized attractiveness, reduced working memory capacity, and intellectual helplessness. Benevolent and hostile sexism, two subcategories of ambivalent sexism, are positively correlated among children (Hammond & Cimpian, 2021). Boys from three through eleven years old demonstrate benevolent sexism, indicating that boys should be the heroes (Gutierrez et al., 2020). For girls, the idea that girls should be put on a pedestal emerges early (between three and six years old) yet much later among boys (Gutierrez et al., 2020). Ambivalent sexism may influence children's self-perception. Boys' benevolent and hostile sexism are positively and negatively relative to self-evaluation of warmth, while girls' benevolent and hostile sexism are positively and negatively associated with self-perceived competence. However, these associations may vary with age (Gutierrez et al., 2020). Concerning benevolent sexism, it is important to note that the depiction of female characters as weak, dependent, passive, and submissive has been found on many platforms, including television programs (Ahmed & Wahab, 2014), advertisements (Ford, 2018), and fairy tales (Cekiso, 2013; Totibadze, 2019).

The sexualized gender stereotype that girls should take special care of their appearance to win boys' attention may affect female students' academic performance. Female middle schoolers' agreement with this sexualized belief in seventh grade can predict self-efficacy in eighth grade, which in turn may predict greater endorsement of this stereotype (Brown, 2019). Traditional girls who strongly identify with this notion about women's appearance tend to exhibit lower mastery goal orientation (Brown, 2019). Remarkably, the significance of women's beauty is highlighted in various television programs (Ahmed & Wahab, 2014; Case, 2015), cartoons (Zaheen et al., 2020), and fairy tales (Cekiso, 2013; Totibadze, 2019), which may have an impact on girls' focus on appearance

Chronic stereotype threats may undermine math performance. An examination of secondary schoolers shows that stereotype threat is relative to impaired working memory. Among highly gender-typical girls, chronic stereotype threat's impact on math performance may be significantly mediated by working memory and intellectual helplessness (Bedyńska et al., 2018). Chronic stereotype threats may also negatively affect boys' language achievement. Another study on the gender stereotype associating language skills with females discovers that chronic stereotype threat is negatively related to working memory effectiveness but positively related to intellectual helplessness among boys (Bedyńska et al., 2020).

Efforts to mitigate the detrimental impacts of gender stereotypes on children have been made recently using a wide array of methods, ranging from counter-stereotyping of toys (King et al., 2020), storybooks (Bonus et al., 2022), fiction literature (Kneeskern & Reeder, 2020), and television programs (Beck et al., 2017) to new curriculum

(Shutts et al., 2017; Chung & Huang, 2021; Spinner et al., 2021). The results of these intervention studies are mixed. Showing children videos featuring teachers introducing counter-stereotypical play behavior can adjust their attitudes about appropriate toy play (King et al., 2020). While reading storybooks about male-dominated occupations such as STEM can convince mothers of their children's capability and encourage girls' interests in STEM domains, reading storybooks about female-dominated jobs such as healthcare and domestic work can cause mothers' disapproving comments, particularly when the characters are males, and diminish boys' interest in these careers (Bonus et al., 2022). Reading long stories featuring gender-nonconforming protagonists may help children to be less stereotypical (Kneeskern & Reeder, 2020). Exposure to a Canadian genderless television program named "Annedroids" can elevate gender flexibility among young viewers (Beck et al., 2017). The gender equality curriculum was experimented with Tawainese preschoolers, resulting in a decline in gender-stereotypical beliefs (Chung & Huang, 2021). Swedish children in gender-neutral preschools display less stereotypical attitudes, are more likely to befriend other-gender peers, yet exhibit as strong automatic gender encoding as those in normal schools (Shutts et al., 2017).

One limitation of this paper is that it does not cover the influence of gender stereotypes on all ages. Our review does not inform on the extent to which early exposure to these factors affects gender role perception in middle adolescence and adulthood. Since most of the papers about stereotypes in the media, toys, and stories target younger groups in our age range, it is unclear whether these three factors have such an impact on psychological outcomes noticed in pre-adolescents (9 to 14 years of age), the main target group of psychology papers, as other factors like family structure, parenting, and birth order. Another limitation is that the gender stereotypes and psychological impacts discussed are related to a binary system of gender. Therefore, other minority groups such as the LGBT community may experience different or more intense psychological issues.

Adults and late-adolescents may undergo different psychological issues from pre-adolescents. Children who exhibited the most gender-conforming and gender-non-conforming behavior before 11 years old were at greater risks of displaying depressive symptoms between 12 and 30 years old, which was largely due to childhood abuse and victimization. Between 23 and 30 years old, around one-fourth of these gender-non-conforming and one-fifth of gender-conforming participants had mild or moderate depression (Roberts et al., 2013). Female ninth through twelfth graders' moderate gender nonconformity is relative to sadness, hopelessness, consideration of suicide, and suicide planning. These associations were also witnessed among boys from grade nine to twelve with the addition of suicide attempts, cocaine use, methamphetamine use, heroin use, and injection drug use (Lowry et al., 2018).

The impacts of gender stereotypes may be more severe among non-binary children. Lesbian, gay, and bisexual youths between fifteen and nineteen years old who demonstrated gender-nonconforming behavior in childhood recounted suffering more peer victimization and had more mental health problems (D'Augelli et al., 2006). Around one-tenth of these youths were discovered to be suffering from PTSD, which was associated with early peer victimization (D'Augelli et al., 2006). Reflecting on their childhood, lesbians express the highest degree of childhood separation anxiety of all groups, whereas gay men exhibit a higher degree of childhood separation anxiety and more depressive symptoms than heterosexual men (Petterson et al., 2017).

Future research should include more experimental and intervention studies that apply a framework considering both sociological and psychological factors. We suggest that sociological studies examine the illustration of gender stereotypes in the media, stories, and toys frequently to promptly underline existent problems and modern trends toward gender equality. Psychological studies should also investigate the impacts of gender representation on the aforementioned platforms on children for timely interventions. Because of the prevalence and persistence of gender stereotypes, more intervention studies should be conducted among children to study ways in which stereotypical beliefs can be reduced and egalitarian views can be promoted.

Our findings help to provide a more comprehensive view of sources that may play a role in shaping children's gender-related beliefs and how gender stereotypes can negatively influence children up to fourteen years of age, thereby highlighting the need for interventions and paving the way for greater gender equality.



Acknowledgments

I would like to thank my mentor Sarah Olshan for guiding me through the process of writing this paper and for giving me valuable comments on how to better it.

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