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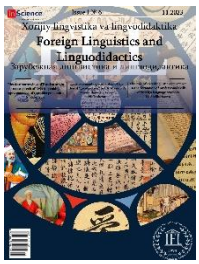

# Gender stereotypes in English children's speech

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**ABSTRACT**

This article investigates the manifestation of gender stereotypes in English children's speech and its implications for educational settings. Drawing on linguistic, acoustic, and socio-cultural research, it examines how gendered language patterns emerge in early childhood and influence children's perceptions, behaviors, and academic inclinations, particularly in STEM fields. The study synthesizes findings on children's utterances, perceptual and acoustic dimensions of gendered speech, the role of STEM stereotypes, and the impact of early play environments. It highlights the importance of addressing gender stereotypes through inclusive language practices, diversified role modeling, and the creation of equitable learning environments in homes and educational institutions. The article is targeted toward teachers and educators, providing practical insights and strategies to combat gender bias in the classroom and promote gender equality.


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# Ingliz bolalarining nutqidagi gender stereotiplar

***Kalit so'zlar:***
Jinsiy stereotiplar,
bolalar nutqi,
sotsiofonetika,
aniq va tabiiy fanlar ta'limi,
ilk bolalik davri,
til o'zlashtirish,
jinsiy tarafkashlik,
o'qituvchilar tayyorlash.

**ANNOTATSIYA**

Ushbu maqola ingliz tilidagi bolalar nutqida gender stereotiplarining namoyon bo'lishini va uning ta'lim jarayonlariga ta'sirini tadqiq etadi. Lingvistik, akustik va ijtimoiy-madaniy izlanishlarga asoslanib, gender til qoliplarining erta bolalik davrida shakllanishini hamda bolalarning tushunchalari, xulq-atvori va akademik moyilliklariga, ayniqsa STEM sohalarida ko'rsatadigan ta'sirini o'rganadi. Tadqiqot bolalar nutqi, gender nutqining idrok va akustik jihatlari, STEM stereotiplarining o'rni va ilk o'yin muhitining ahamiyati haqidagi xulosalarni umumlashtiradi.

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Maqolada gender stereotiplarini inklyuziv til amaliyoti, xilma-xil namunalarni taqdim etish va uy hamda ta'lim muassasalarida teng imkoniyatli o'quv muhitini yaratish orqali bartaraf etish muhimligi ta'kidlanadi. O'qituvchilar va tarbiyachilarga yo'naltirilgan ushbu maqola sinfdagi gender tarafkashlikka qarshi kurashish va gender tengligini rag'batlantirish bo'yicha amaliy ko'rsatmalar va strategiyalarni taqdim etadi.

# Гендерные стереотипы в речи детей на английском языке

***Ключевые слова:***
Гендерные стереотипы, детская речь, социофонетика, STEM-образование, раннее детство, изучение языков, гендерная предвзятость, педагогическое образование.

**АННОТАЦИЯ**

В данной статье исследуется проявление гендерных стереотипов в английской детской речи и их последствия для образовательных учреждений. Опираясь на лингвистические, акустические и социально-культурные исследования, она исследует, как гендерные языковые модели возникают в раннем детстве и влияют на восприятие, поведение и академические склонности детей, особенно в областях STEM. В исследовании синтезируются выводы о детских высказываниях, перцептивных и акустических измерениях гендерной речи, роли STEM-стереотипов и влиянии ранней игровой среды. В ней подчеркивается важность решения гендерных стереотипов посредством инклюзивных языковых практик, разнообразного моделирования ролей и создания справедливой учебной среды в домах и учебных заведениях. Статья направлена на учителей и педагогов, предоставляя практические идеи и стратегии по борьбе с гендерной предвзятостью в классе и продвижению гендерного равенства.

## INTRODUCTION

Gender stereotypes are pervasive social constructs that not only influence behavior and perception in adults but also begin to shape children's identities and language from an early age. In English-speaking societies, the subtleties embedded in children's speech provide a revealing insight into how cultural norms are internalized. This article investigates the manifestation of gender stereotypes in English children's speech, drawing on multiple studies that explore both the content and the acoustic dimensions of gendered communication. The significance of this research lies in its ability to clarify how early linguistic cues complement broader societal messages – ranging from play preferences to career aspirations – ultimately impacting children's future learning and life choices.

Existing research shows that gender stereotypes are evident in everyday language – from seemingly innocent remarks such as "Girls can't like the color black" to restrictive role expectations like "You can't be a superhero AND a princess" and "Flutes aren't for boys" [1]. Although these comments can be dismissed as child's play, they encapsulate

powerful societal norms that have measurable outcomes: influencing career preferences in over 50% of individuals and impacting relationship dynamics in close to 40% of cases [1]. Parallel studies in sociophonetics further reveal that gendered speech patterns develop at an astonishingly early age. When examining children's speech productions, researchers have reported that listeners – especially those who are native speakers (L1) – are significantly better at discerning gender differences, even in children as young as 2.5 years old [2]. This finding suggests that while some acoustic features of speech may arise from anatomical differences that emerge later in life, much of the gendered quality in speech is learned from early socialization.

In addition to the linguistic evidence, research into STEM (Science, Technology, Engineering, and Mathematics) stereotypes has demonstrated that gendered beliefs are evident in cognitive domains as well. Studies conducted in informal STEM learning environments reveal that while children's views evolve to be more equitable with age, early biases persist – especially among male children, who are more likely to assert that "boys should be good at STEM". This article synthesizes these diverse streams of research to provide a comprehensive understanding of how gender stereotypes manifest in children's speech and behavior, discussing the implications for educators, parents, and policymakers aiming to foster more inclusive learning environments.

**LITERATURE REVIEW**

The early socialization of gender roles is vividly expressed in everyday utterances. For instance, direct quotes like "Girls can't like the color black," "You can't be a superhero AND a princess," and "Flutes aren't for boys" serve as micro-level evidences of prevailing stereotypes in young children's language [1]. These statements, although often trivialized as part of playful banter, embed narrow gender expectations that can shape a child's understanding of what is permissible or desirable. The cumulative weight of these messages is significant, as they contribute to deeply ingrained beliefs whereby 51% of people's career choices and 40% of relationship dynamics are influenced by such stereotypes [1]. Scholarly research suggests that the proliferation of gender stereotypes in speech is not merely a reflection of individual bias but is also sustained by broader societal infrastructures – ranging from media representation to educational practices.

Research in sociophonetics has provided compelling evidence that gender differences in speech are not solely emergent from physiological factors: instead, they are at least partly acquired through language-specific socialization. In one longitudinal study, researchers investigated whether children as young as 2.5 years exhibit perceivable gender differences in their speech. The study found that native English speakers (L1 listeners) consistently outperformed non-native listeners (L2) in classifying gender in young children's voices, suggesting that language experience plays a crucial role in how gendered speech is perceived [2].

Acoustic parameters such as the fundamental frequency (f0) and formant frequencies (F1 and F2) were analyzed to determine their relationship to gender identification. Although these measures had a marginal association with gender-based acoustic differences, the reliance on these cues alone was not enough to explain the perceptual disparities between L1 and L2 listeners. Instead, the findings indicate that linguistic stereotypes – preconceived ideas about how boys and girls are expected to sound – might significantly enhance the ability of native listeners to accurately judge a child's gender. This notion shifts the focus from viewing voice differences as purely biological to understanding them as partly learned behaviors that are reinforced by sociolinguistic interactions.

Complementing the phonetic studies, research on STEM stereotypes in early childhood demonstrates that gender ideologies extend into academic and cognitive domains. In informal STEM learning settings such as science museums and aquariums, both children and adolescents display evolving attitudes towards gender and ability. Early childhood is marked by rigid in-group bias, where young boys and girls assert that members of their own gender are inherently more capable in STEM disciplines. For instance, research has shown that while younger children might adhere strictly to gendered expectations – such as believing that boys should be better in STEM – this bias begins to moderate with age, leading to more equitable responses during adolescence [3]. However, even as these views become more balanced over time, the formative impact of early exposure to gendered stereotypes in both speech and play remains significant.

Beyond explicit language and STEM-related activities, gender stereotyping profoundly influences children's play and interaction patterns. In early years settings, children's play is a critical medium through which gender roles are both enacted and reinforced. Studies have observed that children's play often reflects societal expectations, with girls more frequently engaging in domestic and nurturing play scenarios, while boys gravitate towards activities that emphasize physicality and risk, such as outdoor play [4]. Moreover, biased interpretations of gender roles often persist despite notable variations in children's home environments – for example, where some children witness non-stereotypical behaviors being modeled by both male and female family members [4]. Such discrepancies highlight how stereotypical play narratives in early education settings may fail to fully represent the diversity of children's lived experiences at home.

**METHODOLOGY**

This article synthesizes findings from a variety of empirical studies that examine gender stereotypes in children's speech, play, and perceptions of academic abilities such as STEM. The primary sources include:

**Linguistic Studies:** the research by Fung et al. (2021) on the development of gendered speech in children provides the foundation for understanding how perceptible differences emerge as early as 2.5 years of age and are more accurately discerned by native English listeners. The studies employed acoustic analyses focusing on f0, F1, and F2 parameters as well as perceptual tests involving both L1 and L2 listeners.

**Social and Developmental Studies on Stereotyping: e**vidence regarding the influence of gendered utterances in everyday settings – as well as in formal educational environments – is drawn from investigations into the impact of stereotyped comments on children's career choices and interpersonal relationships. These investigations utilized observational methods and surveys to emphasize the long-term influence of early language exposure on gendered behaviors.

**STEM Stereotype Research in Informal Learning Environmental:** studies examining STEM stereotypes among children and adolescents in settings such as museums and science centers offer insights into the evolution of gendered ideas over developmental time. These studies, which have employed both quantitative surveys and qualitative analyses, reveal changing attitudes with age, as well as persistent biases that are particularly evident among male participants.

**Observational and Qualitative Studies in Early Years Settings:** additional insights are derived from qualitative observations of children's play, which indicate that stereotypical gender roles are not only reinforced through language but also through the choice of play activities and interactions with educators.

The methodology across these studies emphasizes a multi-modal approach: employing both acoustic measurements and perceptual judgments alongside observational and survey-based approaches. This combination allows for an integrative analysis of both the explicit and implicit dimensions of gender stereotyping in children's speech and behavior.

**RESULTS**

One of the clearest indicators of gender stereotyping at an early age is the language children use to describe socially constructed roles and preferences. Researchers have documented instances where children either repeat or internalize statements that align with narrow gender norms. For example, remarks such as "Girls can't like the color black" and "Flutes aren't for boys" epitomize the restrictive thinking that can confine a child's perception of acceptable behavior and interests. Such statements have long-lasting effects, as evidenced by studies that show a significant correlation between these stereotypes and later career and relationship outcomes – specifically, 51% of career choices and 40% of relationship patterns being influenced by these notions.

In parental and educational settings, the reinforcement of these stereotypes is further evidenced by subtle biases. Parental expectations, such as the notion that construction or technical careers are more appropriate for boys (with studies noting that parents view construction as a possibility 22% of the time for boys but only 3% for girls), provide clear examples of how language and expectation intersect to shape gender identities from infancy. These findings underscore the fact that children's speech not only mirrors societal norms but also actively contributes to the construction of gendered identities through everyday interactions.

Beyond lexical content, gender differences in children's speech have also been examined from an acoustic and perceptual perspective. Studies employing advanced acoustic analysis have focused on parameters such as fundamental frequency (f0) and formant frequencies (F1 and F2) to decipher whether there are verifiable differences between boys' and girls' speech patterns. Despite the absence of significant anatomical differences in vocal tract development among children before puberty, perceptual experiments have demonstrated that native English (L1) listeners can reliably distinguish gender in children's voices as early as 2.5 years old.

A detailed analysis of the acoustic measures showed that although f0, F1, and F2 all contribute to listeners' judgments, the differences observed are only marginal at the acoustic level. This suggests that native listeners may rely on a combination of subtle acoustic cues and ingrained gender stereotypes about how boys and girls should sound. In contrast, listeners with less linguistic experience in English (L2) tended to perform significantly lower in gender classification tasks. This discrepancy indicates that cultural and linguistic familiarity plays a pivotal role in how gendered speech is perceived and interpreted, revealing the critical influence of socialization in the acquisition of speech patterns.

The emergence of gendered speech is not a static phenomenon but evolves alongside other developmental factors. Longitudinal research indicates that gender differences in speech become increasingly pronounced as children age. By the age of 4, children typically exhibit distinct speech characteristics that allow for gender classification above chance levels, with further improvements noted at ages 5.5 and beyond.

Environmental factors, including parental communication styles and classroom interactions, are instrumental in shaping these speech patterns. For example, the subtle reinforcement of gender roles through differential treatment – where constructions and technical tasks are more readily associated with boys – can influence both the vocabulary and intonation patterns used by children when referring to activities or roles. This dynamic is supported by observations that parental bias is evident shortly after birth, with attitudes and expectations emerging as early as 11 months into parenthood [1]. The influence of these early interactions persists, contributing to a feedback loop in which the stereotypes perpetuate themselves through speech and behavior.

While the focus on gender stereotypes in speech offers one perspective, another important facet is how these stereotypes manifest in children's play and their understanding of academic disciplines like STEM. Informal STEM learning settings, such as science museums and aquariums, provide unique environments to observe how early gender biases translate into academic self-concepts and preferences.

Research has shown that even in free-play environments, children's choices reflect deeply ingrained gender ideologies. Young boys and girls often exhibit an early in-group bias, with boys more likely than girls to assert that their own gender "should" be good at STEM disciplines. Such declarations are not only indicative of a narrow understanding of ability but also influence the child's self-efficacy and future engagement with STEM subjects. As children grow, there is a trend towards more equitable views; adolescents are increasingly likely to endorse the idea that both boys and girls can excel in STEM. However, this gradual shift does not erase the early formative impact of gendered speech and behavior on academic self-perception [3].

Equally important is the role of gendered play in early years settings. Observational studies have highlighted that children's play is often segregated by gender, with girls typically engaging in activities centered on domestic roles, while boys gravitate toward more physically dynamic or 'risky' outdoor play environments [4]. Such patterns are not fixed; rather, they are heavily influenced by the type of play materials provided and the social environment.

**DISCUSSION**

The convergence of linguistic, acoustic, and socio-cultural research on gender stereotypes in early childhood speech provides a multifaceted picture of how these norms are internalized. A critical aspect revealed by the studies is that even before anatomical vocal differences become pronounced, children display speech patterns that are perceived as distinctly male or female. This early emergence underscores the role of social learning in the acquisition of gendered behaviors.

The linguistic evidence presented – from everyday stereotyped utterances to the nuances of acoustic perception – demonstrates that gendered speech is not simply a byproduct of biological maturation. Instead, it reflects early and persistent socialization processes. The finding that L1 listeners are significantly better at gender classification than L2 listeners suggests that an individual's familiarity with the linguistic and cultural context plays a crucial role in processing gendered cues. Native speakers are presumably attuned to subtle prosodic, lexical, and intonational features that align with culturally reinforced gender stereotypes. Although the measurable acoustic differences (e.g., in f0, F1, and F2) between boys' and girls' voices may be minimal, the perceptual reliance on these cues indicates that preconceived notions about how each gender should sound bolster listeners' judgments.

The powerful influence of parental bias and educational settings on children's gendered language use has important implications. Research has indicated that even subtle parental biases (for instance, the stark contrast where parents view construction or technical expertise as viable career choices for boys 22% of the time compared to only 3% for girls) contribute to a narrowing of children's perceived options for the future. This bias extends into early educational and social contexts, where teachers and peers further reiterate these stereotypes through both explicit language and non-verbal cues.

In early years settings, the nature of play plays a pivotal role. As documented in observational studies, children's play is often segregated along gender lines, with certain types of activities – such as domestic role play or risky outdoor activities – becoming containers for stereotypical behavior [4]. These patterns are not only reflections of pre-existing norms but also serve as mediums for reinforcing those very norms. Thus, the interplay between language, play, and broader cultural messages creates a comprehensive framework within which gender stereotypes are both maintained and transmitted.

The interplay between gendered speech and STEM engagement offers an additional layer of insight. Stereotypes extending beyond language into academic self-concepts have long-lasting effects on participation in STEM fields. Studies conducted in informal STEM learning environments reveal that early biases – where boys are more likely to assert that their gender "should" excel in STEM – can predispose children to internalize these roles, thereby influencing their eventual academic and career trajectories [3]. These findings underscore the essential need to address gender stereotypes early, not only to promote linguistic inclusivity but also to empower a broader spectrum of academic pursuits.

**CONCLUSION**

The convergence of evidence from diverse sources underscores that gender stereotypes in English children's speech emerge early and are deeply implicated in broader social, educational, and cognitive outcomes. The key insights from this synthesis include:

Early Emergence and Reinforcement:

– Children internalize stereotypical messages from an early age, as seen in commonplace utterances such as "Girls can't like the color black" and "Flutes aren't for boys".

– These messages contribute to long-term influences on career choices (51%) and relationship dynamics (40%).

In light of these findings, it is clear that addressing gender stereotypes in English children's speech requires a multifaceted approach. By challenging entrenched linguistic norms both at home and in educational settings, we can pave the way for more inclusive socialization processes that empower children to explore a broader range of identities and career paths. Future research should continue to refine our understanding of the interplay between acoustic, linguistic, and environmental factors, thereby providing robust support for interventions designed to foster equitable development in early childhood.

**REFERENCES:**

1. Bennett, S., and Weinberg, B. (1979). "Sexual characteristics of preadolescent children's voices," J. Acoust. Soc. Am. 66, 989–1000.

2. Fung, P., Schertz, J., & Johnson, E. K. (2021). The development of gendered speech in children: Insights from adult L1 and L2 perceptions. *JASA Express Letters, 1*(1), 014407.

3. Li, F., Rendall, D., Vasey, P. L., Kinsman, M., Ward-Sutherland, A., and Diano, G. (2016). “The development of sex/gender-specific /s/ and its relationship to gender identity in children and adolescents,” J. Phon. 57, 59–70.

4. Perry, T. L., Ohde, R. N., and Ashmead, D. H. (2001). “The acoustic bases for gender identification from children's voices,” J. Acoust. Soc. Am. 109(6), 2988–2998.

5. Cooper, A., Fecher, N., and Johnson, E. K. (2020). “Identifying children's voices,” *J. Acoust. Soc. Am.*, *148*, 324–333.

6. Shafer, L. (2018). Preventing Gender Bias. *Usable Knowledge, Harvard Graduate School of Education.*