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Review Paper

"Linguistically Unambiguous" - A Review of Gender-Coded Semantics on our Cognitive Framework

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ABSTRACT

Gender disparities serve as the foundation for everything related to culture, whether it's the family system, socialisation patterns, language attributes, task distribution, or areas of responsibility. Gender expression shapes both people's lives and the cultures in which they live. Throughout many years, gender has manifested through *linguistics, morphemes,* and *semantics*. "Linguistic Gender", in its original sense, is a property of many linguistic attributes, such as lexicon and semantics, reflecting the separation of nouns into grammatical categories, or grammatical genders, into three classes: *feminine, masculine, and neuter*. In many languages, including German, Hindi, Russian, Italian, Spanish, etc., they follow gendered semantics or grammatical structures (nouns). About 44% of the languages in the world follow "three genders" in their grammatical framework, and 38% of the world's population speaks a gendered language. The repercussions of semantic gender on cognitive processes are an ongoing debate in the field of contemporary psycholinguistics and language psychology, notably in studies on the connection between grammar and semantics. This research review aims to find out how gendered languages or grammatically gendered languages impact our cognitive framework. Such as how we categorize individuals within the codes of genders and the stereotypes that transpire within.

Keywords: *Language, semantics, gender, gender-fairness, stereotypes, gender biasness, cognitive perspective, grammar, cross-lingual comparison*

There has been an extensive background behind the idea that language influences cognition. Cultural linguistics emerged at the turn of the 19th century, and scholars like F. Boas, E. Sapir, and B. L. Whorf contributed to its popularization. They believed that grammatical structures were the cause of variations in how people learn, think, and experience reality (Whorf & Carroll, 2007).

Gendered languages comprise 44 per cent of the world's languages. They have marked genders to categorize and identify what goes in what and what does not; for example, in German, the word "professor/student" is "Professorin(fem..)/Professor(masc.) and Studentin (fem)/Student(masc.)" and so on. These gendered languages (German, Spanish, Nordic,

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Italian, etc) have article markers to identify gender depending on the context (Jahan, 2023). The main emphasis of the review is on how gendered semantics affect how we think or perceive.

If we count back, the language family from which languages like English, German, Spanish, etc came from had a common ancestor - Latin. This was derived from the Proto-Germanic roots, and if we date back a few more hundred years, it was found that the Proto Indo-European language system had initially two cases - inanimate and animate, which got further divided into *masculine* and *feminine*(animate) and inanimate, i.e., *neuter* gender.

Grammatical gender is one of the aspects impacting language's influence on cognition, according to the Sapir-Whorf linguistic relativity hypothesis; nowadays, numerous studies confirm that language has an impact on cognition (Lucy, 1996), and one of the factors influencing it is grammatical gender (Boroditsky et al., 2000; Cubelli et al., 2011; Vigliocco et al., 2005).

The field of psycholinguistics is particularly interested in grammatical gender languages because they investigate how grammatical gender affects various cognitive processes, such as memory, categorization, personalization, and attributing characteristics to things based on their biological sex, perceived gender and so on (Maciuszek et al., 2019).

For example, grammatical gender can transfer male and female attributes onto inanimate objects that do not have a biological sex marker (e.g., assigning male or female voices to artifacts depending on their grammatical gender or assigning gendered articles to the objects). In general, research on grammatical gender effects focuses mainly on whether it influences various cognitive processes, especially the semantic processing of nouns. It is emphasized that inter-lingual differences in grammatical gender systems influence their cognitive effects.

To understand the correlation between the gendered connotations and gender stereotypes "
..a scientific text was prepared based on the natural world because a.) a scientific, informative text would be written in an objective and formal tone so there are no confounding variables and; b.) words with gendered connotations - for example, the sun (el sol, a masculine term in Spanish), the moon (*la luna*, a feminine word in Spanish), and the rose (*la rosa*, a feminine word)"(Qiao et al., 2021).

Naturally, it was observed that participants began to associate an adjective or a word with a particular gender with stereotypes as a result this continues to propagate these beliefs such as, "men are tough and self-assured and engage in agentic tasks"/" women are gentle and sensitive" etc (APA Task Force on Issues of Sexual Bias in Graduate, 1976; Kotek et al., 2021)

In most cases, these schemas can be identified with the help of the Implicit Association Test (IAT) to get an idea of why we have chosen to assign gender markers to inanimate objects and how it has flourished to the point of people personifying them, as well as the semantic attribution of "warmth'. "sociability", and "nurture" in the feminine case and vice versa in the masculine case ("power", "dominance", etc) (Panerati et al., 2023). Our review focuses on the question of whether it is the cultural background, societal aspects, or is it the innate nature within us which causes us to seek familiarity/ gender associationism that we assign to the words or inanimate objects (Boutonnet et al., 2012).

A situation in question is the debate over whether the grammatical gender of nouns influences how people perceive or illustrate the entity implied by the term (Boroditsky et al., 2000). In one of the studies done by Bellar and their associates, they compared two different samples of people who speak different languages and have different gender systems which provided them with conclusions about this impact (Beller et al., 2015); they compared *Bokmål* & *Nynorsk (both of them being Norwegian dialects)*.

It has been seen that, in Indo-European languages or language systems (Meier-Brügger et al., 2003), linguistic gender is based on the male-female dichotomy, otherwise known as *masculine/feminine* (Mailhammer, 2000). In contrast, other languages rely on the animate-inanimate distinction. In many cases, it has been noted that objects like fruits, flowers, insects, etc are usually denoted in feminine form in German (die Rose, die Erdbeere). Mammals, birds, trees, etc are denoted in masculine forms, and the rest are denoted in *das* article or neuter form (Cubelli et al., 2011). In many gender-reliant languages, it is often the same structure, however. While syntax gender appears to reflect semantic information, the opposite is also claimed: grammatical gender can potentially impact meaning. Vygotsky's linguistic analysis has been supplemented by empirical evidence, which has had varied findings (Vygotsky, 1962).

There are numerous concerns yet to be addressed: how the gender-specific terms generate inferences about the social gender order and mediate speakers' thinking of the social world, whether we can explore conceptualisations of gender at the level of discourse, what would be the biased effect of the generic use of the masculine gender, and what are the cognitive mechanisms underlying gender stereotypes and inequalities.

REVIEW OF LITERATURE

This review includes (1) studies on how grammatically gendered languages influence stereotypical frameworks and promote sexism, (2) linguistic gender and feminist perspectives, and (3) the skewed effect of the generic use of the masculine gender.

Systematic searches were made covering the early 1990s to 2020s, using the search terms "grammatical languages" and "gender-stereotype"/ "sexism", "androcentrism", "feminism and feminine default of language use", combined once with "linguistic relativity" and once with Germanic language (German and English) and Romance languages (Italian, Spanish, French). A total of about 50 research papers (empirical as well as review papers) within this time frame were reviewed.

Psycholinguistically, due to these gendered terms and grammatical lexicon, we may tend to think stereotypically, for example, when we think of the word "Driver/Mechanic" we are most inclined to think about "a man driving/repairing a car" and the same goes for women, when we think of "Psychologists/Nurses" we are inclined to think of a woman in the mentioned profession (Misersky & Redl, 2020). The same goes for many languages, including German and Hindi. They tend to use gendered nouns, such as "Der Mann/Die Frau", or "Ladka/Ladki" - we can see the noticeable inflections in Hindi ("*nadi behti hai*n" - transl. "The river flows" or "*suraj uthta hai*" - transl. "The sun rises") and the articles used before the word in German indicate the genders like, "Die S-bahn/Der Krankenwagen" (Neef & Braunschweig, 2021).

Linguistic Gender and Feminist Perspectives

In mediaeval English, the word "gender" is a loanword from Anglo-Norman and Middle French *gendre*, which is where the current English word gender originates. The first noted use of the word "gender" dates back to 1404(Debuk, 2016).

In summary, the definition of "gender" as "male or female" has been around for a while. For over 500 years, people have been using it in the manner feminists frequently criticize—that is, as merely a fancy word for "sex.".

Gendered language or linguistic gender dates back to the 5th century. It is one of the earliest premises in language. Greek philosopher Protagoras was the first to use the term gender and the grammatical categories of gender markers (masculine. Feminine, neuter); since Greek has its roots in the Indo-European language family, it is represented semantically based on biological sex, its shape and size (inanimate objects) as well as, animacy (Aikhenvald, 2016; Meier-Brügger et al., 2003; Vigliocco & Franck, 1999).

From a morpho-syntactic point of view, there was found to be a cross-linguistic difference between Italian and French. Whether negative, positive or neutral, the evaluative interpretation varies across languages and socio-cultural contexts and how we have evolved around it (Mailhammer, 2000; Neef & Braunschweig, 2021). In some gendered languages, gender reversal (e.g. Addressing a woman in the "socially-conditioned-default-masculine-way" is considered offensive. Thus, when the gender reversal in terms of grammar does occur, it can be seen as humans are treated in a downgraded way or seen as an inanimate "object" rather than a person (Olga Steriopolo, 2021; Vigliocco & Franck, 1999).

In the realm of languages and epistemology, both sexism and sexist stereotypes were a lot more prevalent in the earlier days. In terms of andro-centric languages or languages where masculine default is widely used, it pushes the subconscious idea that women are not as adequate as men are and the same goes with grammatical gender (S. Romaine, 1997; Tarif, 2015). As they "led the way in the adoption of feminist linguistic alternatives for occupational terms," it appears that the Anglophone communities have been especially active in promoting gender neutralization (Pauwels, 1999).

In recent times, the efforts to modify andro-centric linguistic usage and generic masculine modality have sparked controversy and debates, feminists believe that the use of generic masculine modality to address anyone regardless of their gender or sex erases women, and their impact. In the 17th century, grammaticians who wanted a more andro-centric society and male dominance worked to suppress feminine forms of some professions, leading to the contemporary rule that preferred the masculine over the feminine in the French language (Houdebine-Gravaud, 2018).

Gender Stereotype and Language

Gender stereotypes are often manifested through language. These stereotypes have continued to exist for centuries. These stereotypes act as a marker of socio-cultural beliefs about gender roles and the perceptions that are ingrained in people's minds (Ellemers, 2017)

Gender-based discrimination persists despite numerous regulations implemented in recent decades to promote gender equality (Tabassum & Nayak, 2021).

Though from a contradictory view, stereotypes may serve as helpful in a few instances to get a cohesive idea of how this specific group of persons may act. However, in most cases, it ends up being a lot less beneficial as in specific cases, gender stereotypes end up being a burden that the present generation has to carry, thereby undermining a person's potential or assessing what makes them unique (Ellemers, 2017). Gender stereotypes in the classroom lead to the perception that female students are less gifted than male students in all branches of science (Ko et al., 2006; Leslie et al., 2015). For example, male students are perceived as excelling in biology even while their female peers have superior scores.

Language is a fundamental way of communicating with others and an integral part of our lives (Jahan, 2023). But it is also understood that language shapes the way we perceive things, whether animate or inanimate. Languages have the potential to change how we look at stereotypes, either by omitting them, i.e. adapting and growing around them or if someone's bilingual/multilingual, they may have equal sorts of preconceptions in whatever languages (specifically gendered ones) they speak (Beller et al., 2015; Kousta et al., 2008; Lucy, 1996).

Some argue that the feminization of language and gender is detrimental since generic feminine suffixes are usually associated with negative connotations. A study found that women who were referred to as *Professorin*/*Professoressa* as compared to their masculine counterparts, were seen as less persuasive or as a devaluing way of addressing women (Faina et al., 2006; Sczesny et al., 2016).

Gathered Studies

The study held by Beller and associates had 115 participants from the Norwegian district of Bergen. Most participants scored average, and gender congruency differed within the two Norwegian dialects (*Bokmål* & *Nynorsk)* (Beller et al., 2015). As stated in the paper, the following are the results drawn from his paper,

- *"*For the six sets of Gender-Congruent items (masculine vs feminine animates, allegories and stereotypical objects,) no differences between the two dialect groups were found."
- "The four gender-neutral sets of items (masculine vs feminine generic animates and neutral objects) evoked the most neutral ratings of all items."
- "Finally, for the four sets of gender-incongruent items (masculine vs feminine allegories and stereotypical objects), the ratings were flipped according to the category definition; now the masculine items evoked strong female ratings and the feminine items had strong male ratings."

In a study done by Qiao and Guo et al, on the effects of grammatical gender of language on gender stereotypes, the authors chose two groups speaking different languages, proposing two sets of studies exploring the correlation between gendered language and level of gender stereotype, as well as the correlation between the grammatical gender and gender stereotypes (Qiao et al., 2021).

- In the first study, 100 native Spanish-speaking participants were from Spain and 100 native English speakers from the US to complete the GRSS or Gender Role Stereotype Scale.
- In the second proposed study, 400 local Spanish English bilinguals were chosen from university campuses in California because Spanish is a gendered language while English is not.

- After running tests to measure the baseline idea, it was found that hypothetically (1):
  i) Since the pooled data for the Spanish group turned out to be bigger, it could very well be possible that Spanish people may have less gender consciousness due to their habit of referring to random items as a specific gender, leading to a lack of tight application of stereotypes to individuals.

  ii) *Or*, hypothesis (2): the two groups don't have significant differences, therefore, demonstrating that individuals in the Spanish and English groups have equal gender preconceptions. For example, the word "governor"/ "governess", may provoke imagery of the latter one, that a governess is supposed to be someone who minds the house and takes care of the children, which is quite the same in Spanish as well. It is known as *governanta* and implies someone who is in charge of the cleaning duties or someone who looks after the household chores (Martín, 2011)

In one of the studies by Belacchi & Cubelli (2012), 173 participants were native Italian speakers; 80 of them were University students, and 93 were preschoolers at a nursery. The children were able to assign feminine or masculine attributes to the colors (pink/blue) and apply the same to the animals. In experiment two, 35 native English speakers at the University of Edinburgh participated, and they showed no problems in figuring out which animals belonged to the respective gender, except, they were at the same level as animals whose Italian name implies the gender.

In experiment three, 239 preschoolers aged from 3-5 participated. This experiment confirmed the claim of implicit knowledge of grammatical gender, especially in 5-year-olds. They were a lot more receptive and sensitive to the information carried by the syntactic cue or the determiner and the morphological cue. The findings were consistent with Seigneuric et al's study on 9-year-olds, except it was on native French preschoolers(Seigneuric et al., 2007; Tomasello, 2000).

In one set of studies, participants were asked to produce or rate masculine and feminine characteristics in response to a variable stimulus depending on grammatical gender, either real or implied or otherwise stated. In a seminal experimental article, as stated by Ervin, Italian speakers rated pairs of non-words that differed only for the ending vowel (either the predominantly masculine gender marker – o or the predominantly feminine gender marker – a; e.g., *gico* and *gica*)(Cubelli et al., 2011; Ervin, 1962).

An excerpt from Aronoff states that "linguistic gender appears to be functionally independent of conceptual structure". It is thought to be stored at a distinct representational level than that specifying semantic information (Aronoff & Spencer, 1994). Grammatical gender is supposed to affect our cognitive perception and semantic judgments; the categorization judgment task appears to be appropriate for investigating the supposed effect of gender on meaning and determining if it is conceptual or linguistic. However, the former aspect provided the necessary impression about the result owing to the form of the conceptual representation incorporating grammatical gender as a distinguishing characteristic. Secondly, the outcome should reflect a high level of activation, which should enhance and speed up the lexico-semantic association.

Taken from (Lotto et al., 2001) picture set, a group of 16 pictures was chosen from 8 semantic categories. Participants were presented with a total of 64 experimental pairs and 64

filler pairs, which were composed via the same criteria as the experimental pairs. The degree of semantic relatedness and visual similarity within each pair was evaluated separately by 40 Italian participants, on two 7-point scales (1 semantically unrelated, visually dissimilar; 7 semantically related, visually similar)" (Cubelli et al., 2011).

The results turned out to be strongly correlated as the tests were run under two separate variables - Italian and English. It was found that these findings strongly suggest that grammatical gender does affect semantic processing in tasks requiring categorical judgments of pictures (Kousta et al., 2008; S. Bowers et al., 1999; Vigliocco et al., 2005).

Countries which had a preference for their native language had gendered grammar and had lower levels of social gender equality than nations with natural gender languages or genderless languages as drawn from the Global Gender Gap Index (Hausmann et al., 2012).

This can render the fact that higher visibility of gender asymmetries and disparities is more often than not accompanied by societal gender inequalities (Misersky & Redl, 2020).

In most cases, it has been observed that the masculine form also acts as a viable way to address those whose gender is unknown or not yet expressed (Stahlberg & Sczesny, 2001). However, in feminine forms, it is solely used to address people who identify as women (Bussmann & Hellinger, 2001).

Furthermore, the visibility of women and the cognitive availability of female exemplars in the field are limited by the employment of *gender-inconsistent language*, particularly using masculine generics in daily life (Dasgupta & Stout, 2011).

Earlier, the focus of Gender-fair language (GFL) was on the masculine bias associated with masculine generics; although these results raise the possibility of more significant effects of linguistic asymmetries, little research has been done until recently. The most recent research is more thorough and shows how linguistic asymmetries might enable (unintentional) social prejudice (Sczesny et al., 2016).

According to the data drawn from Kotek and associates, there was a clear disparity found in the number of *male (n = 12,117) and female (n = 5,571)* arguments; male-gendered arguments are more likely to be subjects, whereas female-gendered arguments are more likely to be non-subjects. Men were found to be a lot more aggressive as compared to their female counterparts (Kotek et al., 2021).

In one of the studies, researchers demonstrated that the spontaneous use of gender-inclusive personal nouns is influenced by both explicit positive intentions and habitual processes involving previous usage of such language in two experiments involving German-speaking individuals. Additionally, demonstrating the combined impact of intentional and automatic processes, Study 2 showed that explicit sexist views are ingrained in language-use intentions. The consequences of sexist ideas on language developed through intentional mechanisms involving attitudes and intentions (Sczesny et al., 2015).

Drawn from a study conducted by Osterhout, Bersick and McLaughlin examined participants using sentences in which a reflexive pronoun(himself/herself) is followed by a noun(doctor/nurse). The pronouns either matched or didn't. Osterhout et al found that the

P600 effect (based on ERP or event-related brain potential) when it came to both genders didn't match. Therefore, both types of gendered nouns led participants to expect a specific reflexive pronoun when they read the sentences - their schema had already made the base image of associating "*doctor"* (noun) with (reflexive pronoun) "*himself"*. The sentence read "*The doctor prepared herself for the operation*", which the participants expected to be *"The doctor prepared himself for the operation"* (Osterhout et al., 1997).

Multiple investigations have indicated that the quality of voice might generate stereotypes about the speakers; particularly in terms of gender and masculine/feminine sounding voices and words, auditory cues (male or female voices) served as an overall between-category basis for gender stereotyping, with female disguises rated higher for warmth and compassion and male guises rated higher for competence and aggression (Ko et al., 2006; Macrae et al., 1994).

DISCUSSION

Overview of Key Findings

The reviewed research examines a complex, multifaceted relationship between grammatical gender systems and cognitive processes underlying gender stereotyping. Across numerous studies spanning different linguistic systems—from three-gender languages like German and Spanish to two-gender systems like Norwegian dialects and natural gender languages like English—a consistent pattern emerges: Grammatical gender appears to affect how speakers categorize, perceive, and attribute qualities to both animate and inanimate phenomena.

Evidence indicates that speakers of gendered languages exhibit distinct patterns of semantic association and stereotype activation when compared to speakers of natural gender languages. Studies using a diverse form of methodologies, from implicit association tests to ERP measurements, voice attribution tasks to categorization judgments, all converge on the conclusion that grammatical gender markers activate gender-related schemas that extend beyond linguistic processing into broader cognitive domains. For example, the hierarchical taxonomy of relativity accounts makes it difficult to evaluate favorable results from voice choice and sex assignment on the objects.

Integration of Patterns Across Studies

One of the most intriguing patterns emerging from this review is the apparent intuitiveness of grammatical gender effects. The P600 effect, as documented by Osterhout and colleagues, demonstrated that when it came to both genders, it didn't align with what they expected or, rather, prepared themselves when they read the sentences given to them. The sentence "the doctor prepared herself for the operation" did not align with the schema they had in mind. This suggests that grammatical gender activates stereotypical associations at a subconscious level, as participants had already formed expectations about the doctor's gender before consciously processing the reflexive pronouns.

In a study by Belacchi and Cubelli, on how preschoolers and the pre-existing base of *"implicit knowledge of grammatical gender"*, it was found that a stronger correlation exists between both adults and children in terms of categorization of grammatical gender, as both groups classified animals according to the grammatical gender of their name. From age four onwards, preschoolers showed an excellent command of understanding gender in its basic sense and applying the same based on grammatical gender. The fact that young children could assign gendered traits to animals based merely on the grammatical gender of the

animal's name—even when biological sex was unknown or irrelevant—indicates a profound entrenchment of these linguistic patterns in mental organization.

The Bidirectional Relationship Between Language and Culture

One of the main questions addressed in this literature is whether language shapes or reflects culture. The evidence points to a more complicated, bidirectional interaction. Countries with fewer gendered grammar systems score lower on the Global Gender Gap Index, indicating a link between linguistic gender prominence and societal gender equity. However, correlation does not imply causality in either direction.

Furthermore, having research conducted on the feminisation of language to make it more gender-neutral/-equal had a different outcome, such as feminine job titles also influencing the evaluation of female applications, job positions and employability.

According to one study, women who were referred to as Professorin/Professoressa were perceived as less persuasive or as a demeaning way of addressing women than their masculine counterparts.

Beller and colleagues' study of the Norwegian dialect is very useful in this regard. Despite speaking dialects with different gender systems (Bokmål with three genders and Nynorsk with two), individuals from the same cultural region showed gender-congruent ratings that did not differ between dialect groups for some categories. This suggests that shared cultural context may outweigh some grammatical gender effects. However, the gender-incongruent items had inverted evaluations based on grammatical category, demonstrating that language structure has an independent influence beyond simply cultural conditioning.

The Personification and Attribution Phenomenon

One of the most striking discoveries from various studies is that grammatical gender tends to lead to the personification of inanimate objects. Italian and Spanish speakers assign masculine or feminine voices to objects based on grammatical gender, or assess non-words with gender markers (*gico* vs. *gica*) as having gendered qualities, as well as Hindi speakers *(Sūryadeva/Chāndra deva),* or when assigning conceptual genders to inanimate objects or entities – demonstrating how far grammatical categories can enter semantic representation.

This extends to Vygotsky's argument that language shapes thoughts. When a speaker consistently encounters gendered markers or conceptual gender in language, they unconsciously seem to imbue these objects (whether animate or inanimate) with gender-associated characteristics. Italian and Spanish speakers assign masculine or feminine voices to objects depending on grammatical gender, or classify non-words with gender markers (*gico vs. gica*) as having gendered qualities, demonstrating the extent to which grammatical categories can enter semantic representation.

As a rule of thumb, any psycholinguist or linguist should establish whether masculine or feminine concepts of these nouns or objects, or their grammatical concepts are important or are they arbitrary.

The Feminization Paradox

The research on feminization of languages presents another form of unresolved dilemma i.e., usage of gender-fair language or language feminization aims to increase female visibility and male-default bias, yet there are researches that demonstrates how feminine forms of

professional titles (*professorin/professora* and so on) creates a biased and devaluation of women in the said roles. Therein creating a paradox: Should languages acquire feminine forms to achieve fair representation, or does this risk reinforcing the preconceptions that feminist language reform aims to dismantle?

The Role of Cognitive Automaticity

The ERP studies demonstrating P600 effects for gender-incongruent pairings suggest that grammatical gender processing involves automatic expectation generation. This automaticity is critical for comprehending the real-world implications of gendered language. If gender associations are engaged automatically and unconsciously every time a gendered noun is processed, the cumulative exposure over a lifetime may be significant.

However, automaticity does not mean inevitability. Studies show that we can rewire ourselves to think differently – as in, studies on gender fair languages showed that these automatic/hetero-normative patterns can be disrupted through conscious intervention. This encapsulates a dual processing model, meaning both automatic and controlled processing influence these patterns; where the balance between the models may be modifiable through conscious and intentional practice.

CONCLUSION

We can conclude that *it depends* on how normalized it is in the selected population. Secondly, in one of the studies it was found to be true that nations using gendered language tend to be more socially conservative and also in terms of women empowerment than those who do not (Sczesny et al., 2016).

Furthermore, extensive empirical research on "structural relativity"(Lucy, 1996) has shown that the grammatical organization of languages influences speakers' thinking and cognition (Pavlidou & Alvanoudi, 2014). Gender-neutral/less or Gender-fair language systems may benefit women positively, i.e., can help avoid gender stereotyping and sexism (Martín, 2011), as compared to the gendered ones, which can produce unwanted side effects (Sczesny et al., 2016).

Notably, some bi-gendered languages, such as Dutch, Swedish, and some Norwegian dialects, divide nouns into "gendered" and "neuter" categories, rather than masculine and feminine. As for what we have gathered in this study, our review (Martín, 2011; Qiao et al., 2021) included people who spoke these languages as well as Spanish, German and Italian. A stronger correlation was found between those whose native language had two-/three-genders and the stereotype-congruent attributes that had associations with gendered concepts.

Furthermore, gender stereotypes do tend to overlap with political beliefs, as those who fall on the conservative end of the spectrum, they tend to be more inclined to hold socially conservative beliefs. Arguably, it has been demonstrated that grammatical gender is a psychological concept which is deeply entrenched and influenced by socio-cultural ideologies before any influence can be reasonably assigned to the linguistic processes (Reid et al., 2003).

Despite its depth, this review has yet to address several important facets: the historical origins of grammatical gender, the relationship between grammatical gender and universal grammar framework, and its direct influence on our stereotype/preconceived notion about a group or persons.

By comparing the effects of grammatically gendered languages and their effects on how one perceives intrinsic stereotypes or socially enforced stereotypes/prejudice it can be concluded that these grammatical structures get deeply embedded in speakers' psychological frameworks, shaping implicit associations and explicit gender stereotypes. This evidence suggests that language is not just a vessel for expressing cultural beliefs but an active force in constructing and maintaining gender-based schemas.

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