Can Grammatical Gender Override Gender Stereotypes?

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Abstract

Empirical evidence shows that gendered languages influence speaker's perception of the gender of animate and inanimate nouns. In this framework, we aimed to explore whether grammatical gender can override gender stereotypes. One hundred fourteen native Greek speakers whose second language was English were asked to match stereotypically male- and female-associated nouns presented in Greek or in their English translation with a male or female face. The nouns denoted agency and communality. Participants were presented with nouns both congruent and incongruent in terms of conceptual and grammatical gender. Responses for both Greek and English nouns were provided consistently with gender stereotypes. Critically, although responses were not dominated by grammatical gender, for female-associated nouns, the presence of grammatically masculine gender reduced female responses. Moreover, participants assigned a male face faster for male-associated nouns than for female associated nouns irrespective of grammatical gender.

Keywords: linguistic relativity; grammatical gender; gender stereotypes

Introduction

Originating from the Sapir-Whorf hypothesis, the empirical question of whether cognition is penetrable by language has been addressed for cognitive domains such as color discrimination (Athanasopoulos, 2009; Roberson, Pak, & Hanley, 2008; Winawer, Witthoft, Frank, Wu, & Boroditsky, 2007), time (Boroditsky, 2001; Fuhrman & Boroditsky, 2010; Ouellet, Santiago, Israeli, & Gabay, 2010), and motion events (Athanasopoulos & Bylund, 2013; Fausey, Long, Inamori, Boroditsky, 2010).

Grammatical Gender and Thought

Grammatical gender is a feature of language that has been widely researched for its impact on thought processes. In *grammatical gender languages* or *gendered languages* (e.g., Slavic) nouns are classified as masculine, feminine, or neuter and their dependent forms (e.g., adjectives) are also marked by their respective gender. English and Scandinavian languages are *natural gender languages*, meaning that nouns are genderless, and the indication of gender comes through pronouns. *Genderless* languages (e.g., Finnish) demonstrate a complete absence of gender (Prewitt-Freilino, Caswell, & Laakso, 2012). Gendered languages assign and morphologically mark gender not only to animate nouns such as 'mother', which have biological sex, but also to inanimate nouns that can be objects (e.g., book) or allegories (e.g., death), in an arbitrary and illogical way. Even when the grammatical gender assignment is arbitrary, research has showed that grammatical gender is not simply a syntactic/grammatical feature but a lexical/semantic feature that is automatically activated (e.g., Sá-Leite, Haro, Comesaña, & Fraga, 2021) and may influence conceptual representations.

Systematic research on the effect of grammatical gender on the gender-related conceptualization of objects started around the year 2000. Boroditsky and Schmidt (2000) presented native English, Spanish, and German speakers with object-name pairs (e.g., chair-Mary) and asked them to memorize them. English speakers remembered better the pairs in which the name was congruent with the perceived object's gender. Spanish, and German speakers were more likely to remember object-name pairs that were gender- congruent in their native language.

The effect has been observed with the use of explicit measures, such as the voice choice task (Samuel, Cole & Eacott, 2019). Artificial (e.g., spoon) and natural (e.g., cloud) objects were more likely to be assigned to a male voice when the object's noun was grammatically masculine than feminine and vice versa (Almutrafi, 2015; Haertlé, 2017; Sera, Elieff, Forbes, Burch, Rodríguez & Dubois, 2002). The same results were obtained when grammatical gender was activated by speakers of a nongendered language who learned a gendered L2 (Athanasopoulos & Boutonnet, 2016; Kurinski & Sera, 2011). Moreover, animate and inanimate items were more likely to be assigned to a proper name that was gender congruent with the grammatical gender of the item than incongruent (Pavlidou & Alvanoudi, 2019).

A grammatical gender effect has also been demonstrated through adjective generation tasks. For example, Spanish speakers described a key as 'shiny' or 'tiny', consistently with the feminine grammatical gender of the noun in Spanish, while German speakers – for whom 'key' is a grammatically masculine noun - characterized it as 'hard' or 'heavy' (Boroditsky Scmidt, & Phillips, 2003; but see Mickan, Schiefke, & Stefanowitsch, 2014). Similarly, Romanian, French, and German native speakers generated more female-associated adjectives for grammatically feminine than for masculine nouns, independently of the presence or absence of personification instructions, with the effect being significant from the second adjective (Semenuks, Phillips, Dalca, Kim, & Boroditsky, 2017). However, other studies

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using the same methodology have not obtained similar results. Landor (2014) found that grammatically masculine stimuli were conceptualized as slightly more feminine, while grammatically feminine stimuli as slightly more masculine, across five languages, while another study showed that the effect is evident only when gender-marking articles are present (Imai, Schalk, Saalbach & Okada, 2014).

Supporting evidence has also been provided by similarity judgement tasks. For example, Spanish and German speakers rated as more similar the object/animal-face pairs in which the biological gender of the face was congruent to the grammatical gender of the object/animal than incongruent. The effect persisted even when a verbal shadowing task was incorporated (Phillips and Boroditsky, 2003; but also see Elpers, Jensen & Holmes, 2022). Similarly, Cubelli, Paolieri, Lotto and Job (2011, Exp. 1, 3) administered Italian and English monolinguals a category decision task in which they had to decide whether depicted objects belonged to the same semantic category. Italian speakers reacted faster to gender congruent than incongruent pairs, independently of semantic relatedness, showing an unconscious activation of grammatical gender. Contrary to Philips and Boroditsky (2003), the grammatical gender effect disappeared with the addition of an articulatory suppression task. Boutonnet, Athanasopoulos and Thierry (2012) used the same paradigm but found no supportive evidence. However, using ERPS and a semantic categorization task they observed implicit activation of grammatical gender information.

Other studies have investigated the effect of grammatical gender on conceptualization of entities that already hold gender connotations. For instance, Sato and Athanasopoulos (2018) primed French-English bilinguals and English monolinguals with two object images (e.g., necklace, hammer) manipulated for conceptual and grammatical gender. They were then asked to select a trait word for a genderless face. English monolinguals relied on prior conceptual gender associations, whereas French-English bilinguals relied on grammatical gender, and did not activate conceptual gender. Similarly, Bender, Beller and Klauer (2015) explored the gender congruency effect utilizing gender-associated allegories (e.g., Liberty, Death). The effect was evident with explicit but not with implicit measures, suggesting that personifications drove conceptualization rather than grammatical gender. Also, White, Cunningham and Zampini (2022) utilizing gender-associated odorants (e.g., onion, rose) suggested that English and French-English speakers experiencing odorants with incongruent semantic and grammatical gender attributed gender based on the semantic connotations of the words and not based on grammatical gender. For female-associated odorants, though, masculine gender resulted in lower femininity scores.

Although a number of studies have illustrated the gender-related conceptualization of animate and inanimate targets as a function of grammatical gender, Samuel et al. (2019) in their systematic review emphasize that the effect seems to be highly task- and context- dependent. For example, evidence in favor of the grammatical gender effect comes mostly from tasks high in gender salience, such as voice and sex assignment tasks. Therefore, grammatical gender may be consciously (or not) strategically recruited in order to perform the task and has not truly formulated the representation of concepts. In addition, higher support rates are found for animate rather inanimate targets, and for two- rather than three-gendered languages. However, 'thinking for speaking' account is not supported, since there is no conclusive evidence yet that performing the task in one's gendered language yields greater stronger results (Samuel et al., 2019).

The Present Study

The purpose of the present study was to extend the literature on gender congruency effect (i.e., assignment of biological sex congruent with the noun's grammatical gender) in Greek, a three-gendered language, which has only been scarcely studied (Pavlidou & Alvanoudi 2014; Pavlidou & Alvanoudi, 2019). Specifically, we were interested in exploring whether grammatical gender can override conceptual gender, and thus offer an answer to the ongoing 'language versus culture' debate. For this reason, we selected Greek nouns that denote agency and communality, traits stereotypically associated with men and women respectively. This study is, to our knowledge, the first attempt to investigate the gender congruency effect on nouns denoting agency (i.e., "a person's striving to be independent, to control one's environment, and to assert, protect and expand one's self") and communality (i.e., "a person's striving to be part of a community, to establish close relationships with others, and to subordinate individual needs to the common good") (Abele, Uchronski, Suitner, & Wojciszke, 2008). We focused on these gender stereotypes for two reasons. Firstly, agency and communality are considered the two fundamental dimensions of social cognition, often referred to as the 'Big Two', which are highly associated with gender perception (Abele, 2003; Fiske, Cuddy & Glick, 2007; Martin & Slepian, 2021). Studies have conspicuously shown the association between the two constructs and gender stereotypes. For example, research on prescriptive stereotyping shows that women are expected to be communal and avoid dominance, whereas men are expected to look masculine, independent, and not appear weak, shy and, sentimental (Koenig, 2018). Moreover, men are more likely to be perceived as successful scientists (Carli, Alawa & Kim, 2016) and suitable for managerial positions (Berkery, Morley & Tiernan, 2013) than women, due to their agentic nature. Secondly, Hentschel, Heilman, and Peus (2019) have studied the two constructs as multidimensional and found gender stereotypical associations only for some dimensions, which may explain the divergent findings in the literature (e.g., Duehr & Bono, 2006; Haines, Deaux & Lofaro, 2016). Their findings allowed us to select nouns that truly denote gender stereotypes and are equally stereotypical.

The specific questions we aimed to answer are the following: If a stereotypically male-associated trait is expressed in a grammatically feminine noun, will participants perceive it as a trait of a female person? (RQ1); If a

stereotypically female-associated trait is expressed in a grammatically masculine noun, will participants perceive it as a trait of a male person? (RQ2).

Since previous studies have tested speakers of gendered languages using English words as a stronger test of the grammatical gender effects, we were also interested in comparing responses between Greek and English nouns. As emphasized in Samuel et al. (2019), when the grammatical gender effect is evident in gendered-language speakers using a nongendered language, it could be interpreted as triggered by the activation of gender information not only at the grammatical but also at the semantic level.

Hence, the third inquiry is whether grammatical gender can dominate over stereotypes in male- and female-associated Greek nouns translated in English? (RQ3).

Method

Participants

A total of 110 Greek undergraduate students were recruited through convenience sampling from campus, while 10 Greek individuals participated online (N=120). Six individuals whose native language was other than Greek and their second language other than English were excluded from the analysis. Subject's age ranged between 18-34 years (M = 22.08) and 56.1 % of the final sample (N = 114) were females. G*Power v3.1.9.6 was used a-priori to calculate the sample size (α = 0.05, β = 0.8, Cohen's f = 0.22—0.23), which determined that the total sample size should be around 114–124 participants.

Materials

For the selection of words, we relied on Hentschel et al. (2019) study which suggests that all dimensions (concern for others, sociability, and emotional sensitivity) of communality are stereotypically female-associated, whereas only the 'assertiveness' dimension of agency is male-associated. Hence, we selected the facets of each dimension for which stereotyping was significant and adapted them into grammatically masculine and feminine Greek nouns, and their English translations. For example, for each adjective (facet) under the assertiveness dimension in the Hentschel et al. paper (i.e., dominant, bold, assertive, competitive), we generated grammatically feminine (assertiveness, dominance) and masculine (boldness, competition) nouns, either by directly translating the facets or by adding synonyms. Synonyms were added to create a sufficient pool of items.

In the Greek task, participants (N = 59) saw 7 stereotypically male-associated and grammatically masculine (e.g., competition, MM), 7 stereotypically male-associated but grammatically feminine (e.g., assertiveness, MF), 7 stereotypically female-associated and grammatically feminine (e.g., sensitivity, FF) and 7 stereotypically female-associated but grammatically masculine (e.g., altruism, FM) nouns. In the English task, participants (N = 55) were presented with the exact same words used in the Greek task translated in English.

Twenty-six face images (13 male, 13 female) were selected from set 'b' of the Faces Database by Ebner, Riediger, and Lindenberger (2010). Depicted individuals were all young (19-31 years old) and Caucasian, with neutral expressions. Each word was presented twice. For each presentation, we created two sets of four faces (two female, two male) that were matched for attractiveness (for norming data, Ebner, Luedicke, Voelkle, Riediger, Lin, & Lindenberger, 2018). We included four rather than two faces so as the sex of the face was not strategically employed as a criterion for selection. The same sets were used for the English translations of the words. Within each set of four faces, we controlled the attractiveness of the two female and two male faces.

In the lower part of a computer screen, participants saw one word and were instructed to match the word with one of the four faces presented in the upper level of the screen, without deliberating on their judgment. No time limit for providing response was incorporated. Words were presented in a random order within the groups. In each trial, faces were pseudorandomized in terms of order of appearance. Stimuli were presented and controlled by personal computers through the Gorilla software.

Procedure

Initially, subjects were informed about the general purpose of the study, risks and benefits, and were educated that participation is anonymous and voluntary. After agreeing to participate, they read instructions and performed the matching task. In each trial, subjects provided a response by clicking on one of the four depicted faces presented on the computer screen. At the end of the testing session of the English task, participants selected among optional translations or provide their own to check that they were thinking the intended Greek word and associated grammatical gender. Later, subjects were asked demographic questions related to their gender, age, Greek and English proficiency, age, and manner of acquisition of second and third language. At the end, a debriefing statement was provided which informed them of the true purpose of the study. In total, each participant matched 28 words, which were presented twice to offer more data points for analysis (56 trials). The experiment lasted approximately 10 minutes. The study was approved by the ad-hoc ethics committee and was pre-registered at AsPredicted (https://aspredicted.org/SSH_L56).

A mixed-subjects 2 (stereotype: male, female) x 2 (grammatical gender: masculine, feminine) x 2 (language: Greek, English) factorial design was used for measuring the number or male and female responses, with stereotype and grammatical gender treated as a within-subjects factor and language as a between-subjects factor.

Results

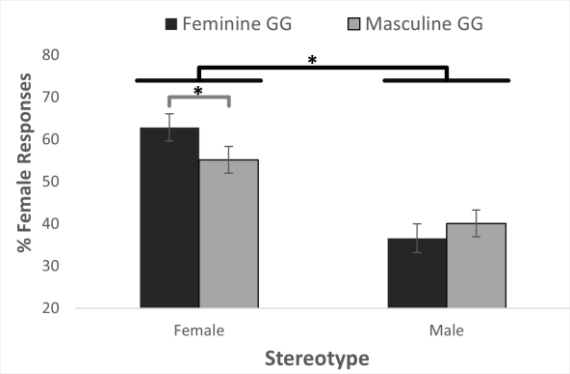
Number of Female Responses

To evaluate whether a feminine Greek noun denoting a male stereotype would increase the number of female responses

and vice versa (RQ1, RQ2), a two-way Analysis of Variance (ANOVA) within groups was employed. A significant main effect of stereotype was found; $F(1, 58) = 62.63$, $p < .001$, $\eta_p^2 = .519$, with female responses scoring higher for female stereotypes ($M = 59.69$) than for male stereotypes ($M = 38.02$). No main effect of grammatical gender was found. Moreover, a significant interaction was found between stereotype and grammatical gender; $F(1, 58) = 10.5$, $p = .002$, $\eta_p^2 = .153$. A simple effect analysis was conducted using paired- samples t-test analysis to determine for which level of stereotype, grammatical gender affects female responses**.** Results indicated that the significant difference on female responses occurs for female stereotypes, namely female responses for female stereotypes are less for grammatically masculine ($M = 55.69$) than for feminine nouns ($M = 63.68$); $t(58) = 3.24$, $p = .002$ (see Figure 1).

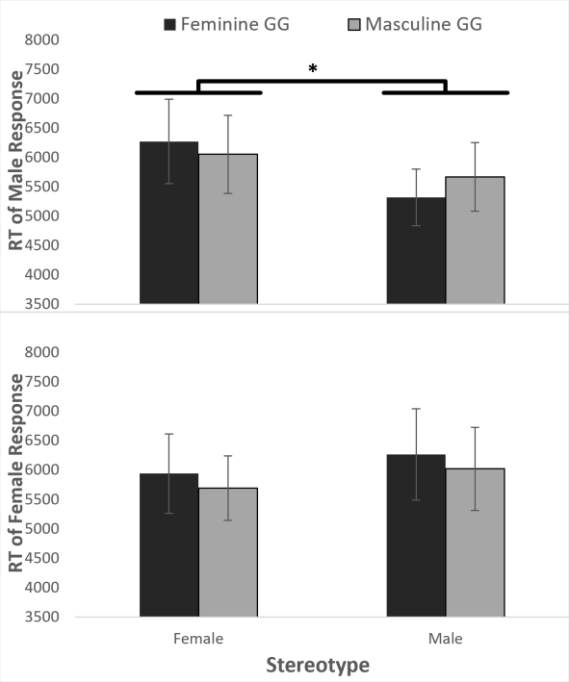
Prior to the analysis of the English nouns, we examined whether the Greek translations were consistent in terms of grammatical gender with the Greek nouns. Overall, participants provided more grammatically feminine translations for feminine nouns (97% of the time; $M = 6.82$; $SD = 0.39$) than masculine translations for masculine nouns (84% of the time; $M = 5.89$; $SD = 0.79$), $t(54) = 7.47$, $p < .001$, *Cohen's d* = 0.94. Given the high percentage and that the results were the same in the two languages, we have no reason to believe that this difference affected how participants performed the task with masculine nouns in English. To evaluate whether the feminine Greek translation of an English noun denoting a male stereotype would increase the number of female responses and vice versa (RQ3), a two-way ANOVA within groups statistical analysis was employed. A significant main effect of stereotype was found; $F(1, 54) = 33.70$, $p < .001$, $\eta_p^2 = .384$, whereas there was no main effect of grammatical gender. Moreover, a significant interaction was found between stereotype and grammatical gender; $F(1, 54) = 10.46$, $p = .002$, $\eta_p^2 = .162$. A simple effects analysis indicated that the significant difference occurs for female stereotypes, namely female responses for female stereotypes drop when the grammatical gender is masculine; $t(54) = 3.09$, $p = .003$ (see Figure 1). We repeated the analysis, treating participants' English proficiency level as a covariate, but no main effect of English skills, no interaction effect neither between stereotype and English skills, nor between grammatical gender and English skills, nor between the three variables was found.

To confirm the observed similarity between the performance of participants in the Greek and English task, we performed a three-way ANOVA mixed group, with language of task being treated as a between-subjects factor. Results indicated that there was no significant interaction between stereotype, grammatical gender, and language, confirming that the two tasks provided exact same findings. Hence, for the following analyses we incorporated the female-associated feminine Greek nouns (e.g., συμπόνοια) in the same group with their English translations (e.g., compassion). The same rationale was applied for grouping the remaining three groups of nouns.



*Note. * represents significance at p < .05*

Figure 1: Percentage of female responses for Greek and English nouns (combined analysis)



*Note. * represents significance at p < .05*

Figure 2: Reaction Time of Male and Female Responses for Greek and English nouns (combined analysis)

Reaction Time

A two-way ANOVA was conducted to explore whether a significant difference exists in terms of reaction time for male responses between male (MF, MM) and female stereotype (FF, FM), for both congruent and incongruent grammatical gender. A significant main effect of stereotype was found; $F(1, 111) = 16.18$, $p < .001$, $\eta_p^2 = .127$. Male responses for male stereotypes ($M = 5497.12$) were faster than male responses for female stereotypes ($M = 6165.34$). No main effect of congruency was found, nor an interaction. Participants provided a male response faster for male

stereotypes, independently of the grammatical gender of the noun (see Figure 2). Similarly, a two-way ANOVA was conducted to explore whether a significant difference exists in terms of reaction time for female responses between male (MF, MM) and female stereotype (FF, FM), for both congruent and incongruent grammatical gender. No main effect of stereotype and congruency was found, nor a significant interaction effect. Participants provided a female response with approximately the same speed for congruent and incongruent conditions, for both stereotypes (see Figure 2).

Discussion

The purpose of this study was to inquire into the influence of grammatical gender on the assignment of biological sex for Greek nouns holding both conceptual and grammatical gender. Although our results did not provide evidence for a gender congruency effect neither for Greek nor for English nouns, some interesting findings were revealed.

Firstly, participants selected more frequently the face of a female when presented with a noun denoting a female stereotype and the face of a male when the noun denoted a male stereotype, independently of the grammatical gender. This finding suggests that gender stereotyping persists, in line with Koenig (2018), even for young, middle-class, higher education students and citizens of a European capital city. Remarkably, female responses for female stereotypes dropped when the grammatical gender was masculine (e.g., altruism). Our findings are congruent with those of White et. al. (2022) who used odorants (e.g., rose, onion), stimuli that hold both conceptual and grammatical gender for English and French speakers respectively. Similarly with the present study, they found that gender classifications were based on the conceptual rather the grammatical gender, but for female-associated odorants with masculine grammatical gender in French, femininity scores were lower than when the female-associated odorant had a feminine grammatical gender, for both French and English participants. Hence, for female-associated nouns with feminine grammatical gender, stereotyping was more robust than for female-associated noun with masculine grammatical gender. Therefore, we could argue that grammatical gender affects the robustness of female stereotyping, with masculine gender enhancing ambivalence. Consistently with contemporary gender stereotype literature, findings suggest that female stereotypes are more malleable and potentially more susceptible to change than male (Bhatia & Bhatia, 2021; Gustafsson-Senden, Klysing, Lindqvist, & Renström, 2019).

Although a gender congruency effect was not observed, our findings offer an instance of language affecting cognition. Since Pavlidou and Alvanoudi (2019) did find a gender congruency effect for Greek and German participants on depicted objects and animals, we could argue that the lack of gender congruency effect in the present study is not due to the three-gendered language, but due to the rich conceptual nature of the abstract nouns we used. We suggest that grammatical gender influences thought for non-stereotypical nouns, but in a culture and language battle, culture wins. Possibly, stereotypes are so deeply embedded in our cognition that cannot be overridden by grammatical gender. As Beller, Brattebø, Lavik, Reigstad and Bender (2015) comment, the mere fact that stereotypically associated objects and allegories can have incongruent grammatical gender demonstrates that the linguistic factor is irrelevant and dominated by the culture of the speakers. The robustness of conceptual associations has also been emphasized by Bender, (2015) who found that personified allegories such as 'liberty' were assigned biological sex congruently to their grammatical gender, but when there was an incongruency between conceptual and grammatical gender, sex was assigned based on conceptual gender.

The exact same findings were observed for English nouns. Female-associated English nouns attracted more female faces responses, whereas male-associated nous more male faces, confirming gender stereotyping. The masculine grammatical gender of female-associated nouns, though, reduced the frequency of selecting a female face response. The almost identical findings cross-linguistically highlight the existence of gender stereotyping. However, the fact that for female-associated nouns, masculine grammatical gender- inherent or via translation- reduces implicit gender associations is an indication of the centrality of grammatical gender, as a feature of one's native language. Although participants performed the matching task in English, they exhibited the exact same associations with the participants of the Greek task. The grammatical gender inherent in their native language penetrated the English nouns and guided participants perceptions. This is in agreement with Boroditsky and Schmidt (2000) and Philips and Boroditsky (2003) who found a grammatical gender effect for Spanish and German speakers performing the tasks in English. As, Bassetti and Nicoladis (2016) emphasize, the prevalence of grammatical gender effect, while performing a task in English, offers evidence against the 'thinking for speaking' hypothesis. The influence of grammatical gender is not limited to the lexical level. It is rather deeply rooted in one's cognition.

Moreover, we supplemented our analysis with the measurement of reaction time, which based on previous studies, could possibly serve as an implicit measure of gender congruency effect (Cubelli et al., 2011; Maciuszek, Polak, & Świątkowska, 2019). Reaction time would be faster for gender congruent and slower for gender incongruent nouns, meaning that participants would implicitly have implicitly processed grammatical gender. In language comprehension research, the Gender Stereotype Effect refers to the automatic disruption of language comprehension when participants encounter linguistic information that is incongruent with their understanding of gender stereotypes (Hammond-Thrasher & Järvikivi, 2023). In the present study, the grammatical gender of the incongruent stimuli can be considered as the incongruous linguistic information. Again, no overall gender congruency effect was found. What was of particular interest though, was the finding that for female-associated nouns, female responses were not faster for grammatically feminine

nouns than for grammatically masculine nouns. Participants assigned a female face and a male face with approximately the same speed for female-associated nouns. This was not the case for male faces. Male faces were assigned faster for male-associated nouns than for female-associated nouns. Considering these findings along with the finding that masculine grammatical gender reduced female responses for female stereotypes, we could argue that female stereotypes are less rigid, allowing an ambivalence on cognitive processing. Even though eventually participants assigned mostly a female face to stereotypically female nouns, they spent the same time to decide their matching whether being presented with feminine or masculine items.

Interestingly, in studies using the gender-priming paradigm, the gender-congruency effect (longer RTs to decide the gender of a target pronoun when it is incongruent with the stereotypical or grammatical gender of the prime) is eliminated for feminine pronouns targets (e.g., Pesciarelli, Scorolli, & Cacciari, 2019). Thus, a female pronoun following a stereotypically masculine role name is considered more acceptable than a male pronoun following a stereotypically female role (Casado, Sá-Leite, Pesciarelli, & Paolieri, 2023). Adding to that, the Gender Stereotype Effect is also asymmetrical. That is, a sentence describing a man associated with a stereotypically feminine role (florist) is rated lower than a sentence describing a woman in a stereotypically masculine role (butcher) (Hammond-Thrasher & Järvikivi, 2023). Together these findings are consistent with the idea that male stereotypes are overall more stable over time (Haines et. al., 2016) and are less malleable than female stereotypes.

Limitations & Future Directions

Although we controlled faces for race, age, valence, and attractiveness, we believe that faces interfered with participants judgments. Relying on our own observations and feedback from participants, subjects spent time judging facial characteristics, despite specific instructions not to deliberate on their judgments. Also, participants may have relied on the biological gender of the face to decide, despite the inclusion of four faces specifically to avoid this strategy.

A second limitation of the study is the salience of the linguistic factor, which was inevitable due to the abstract nature of the nouns that did not allow for visual demonstration (Sato & Athanasopoulos, 2018), or experience (White et al., 2022). We believe, though, that obtaining the same results with English nouns is an indicator that grammatical gender indeed affected processing and that the present results were not due to the grammatical gender salience. As pointed by Samuel et al., (2019) in their systematic review, studies performed in gendered languages do not demonstrate the effect more than studies performed in nongendered languages. In addition, 98% of the studies on grammatical gender are high on language content.

An inherent limitation of the study is the small language sample. It was impossible, though, due to the limitations of the Greek language, to generate more nouns that would conceptually fit the category and equally distribute them in each grammatical group. For this reason, we doubled the trails. We speculate that this limitation was also present in other studies measuring items with gendered connotations, in which the stimulus set was small as well (e.g., Beller et al., 2015; White et al., 2022). Moreover, more than half of the sample (51.8 %) were speakers of a third language, most frequently of a gendered one (e.g. French, German), which could either boost the effect in case of cross-linguistic congruency or reduce it in incongruency, dependently also on the proficiency level of the third grammatically gendered language (Bassetti & Nicoladis, 2016; Bordag & Pechmann, 2008).

Future research on nouns denoting gender stereotypes should also include nouns that do not hold gender connotations. In this way, if a gender congruency effect is present for non-stereotypically associated but absent for stereotypically associated nouns, the superiority of the conceptual over the grammatical gender could be suggested. Another suggestion is that both explicit (e.g., voice assignment task) and implicit measures (e.g., Implicit association test) are used, since as pointed out by previous literature, results rely heavily on the measurements. Lastly, although we relied on rigorous previous research for selecting our stimuli, future research should incorporate a measurement of the level of gender stereotypicality through a pilot study.

Conclusion

In the present study, we aimed to investigate whether grammatical gender could dominate over gender stereotypes. Despite the undeniable change in gender roles the past decades, agency and communality persists to be stereotypically assigned to men and women, respectively. Men are seen confident, and ambitious, whereas women are perceived to be warm, and agreeable. Our findings suggest that grammatical gender can influence female but not male stereotypes. However, it is not robust enough to override stereotypes. Our contribution regarding the culture versus language debate leans towards the dominance of the former.

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