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GENDER: SOCIAL OR LINGUISTIC?

In order to explore whether gender perception of noun referents depends on stereotypes as social constructs or grammatical gender as a linguistic category, ten pairs of near-synonymous nouns of different grammatical genders were compared. Their gender scores were calculated on the basis of the adjectives that our participants used to reflect their immediate associations to the referents. The near-synonymous pairs were selected as a testing tool because we were able to measure the effect of two different factors on the gender perception of their referents at the same time: the effect of concepts and stereotypes that the participants associated with both near-synonyms, and the effect of their respective grammatical genders. Our analysis found that grammatical gender had no impact on gender assignment and that it was the underlying concept and the stereotype as a social construct that ultimately determined gender perception of the referents. Since our findings are contrary to earlier research, the article concludes with a number of suggestions for future research that would re-examine these opposing views.

Keywords: *grammatical gender, stereotypes, near-synonymy, collocations*

1. Introduction

A revived interest in relations between language and thought came in early 90's with works investigating whether perception and description of referents depended on the linguistic expressions employed to refer to those referents and their qualities (Konishi 1993; Sera, Berge and Castillo 1994). A lot of research happened in the decade that followed, particularly in relation

to gender and grammatical gender and their association with language, which will be presented in more detail in Section Two. We find that the results of previous research are somewhat conflicting. Some findings suggest that grammatical gender assigns the features of femininity and masculinity to objects of feminine and masculine grammatical gender respectively. The assumption is that speakers of gendered languages tend to focus more on feminine properties of referents whose names are of the feminine grammatical gender and vice versa. Other findings indicate that speakers of nongendered languages (such as English) also assign gender to objects. This implies that gender is a semantic feature of concepts and that it is independent of language.

1.1. Justification of the article

In this article we want to test these conflicting views of the relation between language and thought in an experiment involving participants who are speakers of Montenegrin, a gendered language. In the experiment, the participants will be asked to use adjectives to describe pairs of nouns that share the semantic relation of near-synonymy but have different grammatical genders. For example, *knjiga* 'book' and *udžbenik* 'textbook' are near-synonyms because they have almost identical conceptual meaning, but *knjiga* is of feminine, and *udžbenik* of masculine gender. In addition, their shared conceptual meaning is associated to a broader semantic field that includes a large number of related concepts, e.g. *book* and *textbook* are related to reading, bookstores, education, etc. Because their conceptual meaning and the semantic field that they belong to are closely linked, we will jointly refer to them as conceptual fields or underlying concepts. So, if gender is a semantic feature of conceptual fields, both near-synonyms should be of the same gender because their shared conceptual field triggers identical gender assignment to the referents of both near-synonyms. If, on the other hand, gender is assigned under the impact of the grammatical gender of linguistic expressions, the referents of the two near-synonyms will be assigned different genders. The question is which of the two effects is stronger? This will be explored by analysing the adjectives that our participants used to reflect their immediate associations to the referents.

1.2. Organization of the article

We address these issues in the following order: in Section Two, we give an overview of previous key research in this area; in Section Three, we present a number of hypotheses for our experiment; Section Four describes the expe-

riment, method, tools and procedures; Section Five discusses the results of the experiment, and Section Six presents a number of conclusions and ideas for future research.

2. Theoretical framework

2.1. Linguistic determinism

The idea of linguistic determinism is mainly associated with Humboldt, Sapir and Whorf. It proposes that language determines our thought and thought processes, which implies that people speaking different languages will view the world through the lens of their respective languages. For example, if a language has specific names for different shades of colour, then speakers of that language will find it easier to recognize these different shades (cf Berlin and Kay 1969). A softer version of linguistic determinism was later developed thanks in large part to Slobin's proposal that the words *language* and *thought* be replaced by *speaking* and *thinking*. Slobin (1996: 75) replaces two 'static' entities with two 'dynamic' ones in order to point to „a special kind of thinking that is intimately tied to language – namely, the thinking that is carried out, on-line, in the process of speaking". He focuses on the thinking process that precedes the utterance and suggests that this process „is not trivial or obvious, and deserves our attention" (1996: 76). The idea is that languages influence this process because languages impose their patterns on the way we perceive the entities that we speak about. This is in agreement with Boroditsky, Schmidt and Phillips (2003: 61) who use examples from different languages to argue that speakers of these different languages „end up thinking about the world differently simply because they speak different languages".

2.2. Research on gender

The category of gender lent itself nicely to the above considerations because of the interplay of a number of factors that have an impact on our perception. Cross-linguistic comparisons among gendered languages show gender is arbitrary, i.e. words from different languages that denote the same object are assigned different grammatical genders. There has been a lot of research indicating that speakers of gendered languages assign feminine or masculine properties to objects in accordance with their grammatical genders. For example, as far back as in 1966, Jakobson (1966) reported on a study where Russian speakers personified days of the week as males and females in line with their grammatical gender. This tendency was later proven by Phillips

and Boroditsky (2003) in an experiment involving Spanish-English and German-English bilinguals and 22 pictures of objects, animals, and people. The results showed that the participants found a greater similarity between people and objects of matching gender. In another experiment, the participants were shown pictures of objects whose names had opposite grammatical genders in Spanish and German. The results showed that the participants used more feminine adjectives to describe feminine nouns, and more masculine adjectives to describe masculine nouns. For example, when describing *Die Brucke* 'bridge', which is of feminine grammatical gender in German, German speakers used adjectives like *awesome, beautiful, desirable*, and *elegant*, among others, while Spanish speakers used adjectives like *big, dangerous, enormous*, and *expensive*, among others, to describe *El puente* 'bridge', which is of masculine grammatical gender in Spanish. Boroditsky et al. (2003: 65) offer insightful comments on this tendency that was observed among speakers of gendered languages. They explain it is wrong to assume that these speakers see feminine object names only as feminine and masculine object names only as masculine. Instead, the grammatical gender of object names induces speakers of gendered languages to focus more on the features that match the grammatical gender more. They explain, for example, that in languages in which the noun *sun* is masculine, speakers will focus more on the features of power and threat, and in languages in which the same noun is feminine, speakers will bring out the features of warmth, nourishment, etc. It is explained that the form of linguistic expressions, such as the form of articles (*la* for feminine in Spanish, for example) and nouns (ending in *-a* in Montenegrin for nouns of feminine grammatical gender), and often their phonological properties (see: Atagi, Sethurman and Smith 2009: 1804), may lead speakers of these languages to associate those specific concepts with femininity. Speakers establish such associations because humans show a tendency to categorize things that are similar. In Montenegrin, for example, *žena* 'woman' is feminine both semantically and grammatically, while *korpa* 'basket' is feminine, but only grammatically. According to these views, *korpa* falls into the same category as *woman* and therefore acquires some of the feminine features (see: Boroditsky et al 2003: 73–74 for details on categorization).

However, the findings by Sera et al. (1994) raised the issue of whether gender is a semantic feature that is independent of the language of the expression. They conducted cross-linguistic experiments with gendered and non-gendered languages and found a match in gender assignment by the speakers of languages from the two categories. Namely, speakers of Spanish, a gendered language, categorized objects as feminine and masculine largely in line with the grammatical gender of object names. What was surprising,

however, was that speakers of English, a non-gendered language, assigned the same genders as Spanish participants in that the names of natural entities were feminine, and the names of artificial entities were masculine. This is in contrast to Boroditsky et al. (2003: 63) who claim that „conclusive information about the gender of objects is only available in language (and only in those languages that have grammatical gender)". Ideas that speakers of non-gendered languages also assign gender have later been supported by Atagi et al. (2009) who report on four studies in which speakers of English were tested for gender attribution to adjectives and nouns. Their findings suggest that native English speakers consistently attribute gender to nouns, „with some associations being stronger than others" (Atagi et al. 2009: 1807). This means that gender assignment is independent of language. Because English does not have grammatical gender, Atagi et al. (2009) used stereotypically gendered adjectives they had collected from the participants, but also from children's picture books, fairytales, poetry, television shows, and movies. According to them, *pretty, clean, nice, careful, good, sweet,* and *smart,* for example, are stereotypically feminine, while *messy, naughty, strong, careless, handsome, brave,* and *wild* are stereotypically masculine. In the selected adjectives there is a noticeable contrast between the feminine adjectives, all of whom are positive, and the masculine ones, where out of seven adjectives, four are negative. Also, some of the clipart stimuli they used were stereotypically positive or negative. For example, one task involved a picture of a dolphin and the statements *„A dolphin is good." / „A dolphin is careless."* (Atagi et al. 2009: 1806). Their results show, for example, that English speakers see *apple, toothbrush,* and *mitten* as strongly feminine, and *towel, volcano,* and *tooth* as strongly masculine. These results confirm the effect of stereotypes on gender perception, but seem to point to the effect of personal associations. For example, if *toothbrush* is feminine because of a stereotypical representation of women as cleaners and carers, and *tooth* is masculine because it is associated with strength, fight, and aggression, it is not clear why *apple* is feminine and *towel* masculine.

In our experiment we want to test the impact of both the concept underlying a set of near-synonyms, and the grammatical gender of near-synonymous pairs of nouns of different grammatical genders. For the sake of readers with non-gendered native languages, it must be emphasized that in gendered languages adjectives are also marked for gender. This means that some English adjectives that, according to Attagi et al. (2009), are stereotypically masculine, such as *naughty, strong,* and *careless,* among others, have three different forms for the three genders in Montenegrin: *naughty : nevaljao[M1], nevaljala[F], nevaljalo[N], strong : jak[M], jaka[F], jako[N]* and *careless : bezobziran[M], bezobzirna[F], bezobzirno[N]*. If grammatical gender has an impact on our perception, that im-

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pact will probably combine with the impact of the underlying concept. The question is whether the stereotypical 'masculinity' of the concept of *strong : jak^M, jaka^F, jako^N* is weakened in Montenegrin in cases where the feminine form of collocate *jaka^F* is required. This dissonance between stereotypically gendered adjectives and their grammatical gender in gendered languages may be compared at least to an extent to xenonymic English collocations where one collocate is a stereotypically gendered adjective, and the other collocate is a noun whose referent is of the opposite gender, e.g. *a handsome woman, a pretty man,* or *a naughty girl.* To say the least, *handsome, pretty,* and *naughty* in the above collocations would have additional connotative meanings that are absent in the phylonymic collocations they form with *man, woman,* and *boy,* respectively. Our experiment with pairs of near-synonyms of different genders will hopefully enable us to compare the effects of grammatical gender and conceptual field at the same time. Before we give details on this in §3 – §5, we present some basic information on gender in Montenegrin and Montenegro, and on near-synonymy.

2.3. Gender in Montenegrin and Montenegro

Montenegrin has natural and grammatical gender. The latter distinguishes between masculine, feminine, and neuter and is marked by word endings. There is a correspondence between natural and grammatical genders in the majority of cases, with some interesting exceptions. There is a group of nouns that is grammatically feminine, but dominantly masculine semantically. It includes nouns describing (predominantly) male persons with extremely negative forms of behaviour, all grammatically feminine, such as *pijanica^F* 'drunkard', *propalica^F* 'punk', *izdajica^F* 'traitor', *kavgadžija^F* 'troublemaker'[2]. However, some of them may agree with demonstratives of both genders, e.g. *taj^M pijanica^F* and *ta^F pijanica^F* 'this drunkard'. Some titles, such as *vojvoda* 'duke' and *vladika* 'bishop', agree with masculine demonstratives and adjectives although their form is grammatically feminine. There are also grammatically masculine nouns that are semantically feminine, e.g. *djevojčurak* 'young girl'.

As for gender in the Montenegrin society, gender stereotypes are deeply rooted. Montenegro is still considered a traditional society with pretty stereotypical representations of femininity and masculinity. In the past, such views may have been mainly linked to more isolated parts of the country, such as rural areas, particularly in the north. More recently, the country has become more homogenous in that respect since the entire population is now concentrated in the capital and the coastal tourist centres, mainly for work. As a result, the opposition between urban and rural is insignificant at this

moment, i.e. the largest communities are populated by a mixture of urban and rural. The assumption is that the same has happened with the perception of gender[3]. However, a survey conducted ten years ago speaks of the processes of retraditionalisation and repatriarchalisation of the country (Blagojević 2007: 178). To the knowledge of the author of this article, there has been no survey on these processes and gender issues ever since.

2.4. Near-synonymy

Two words are said to be real (absolute) synonyms only if they are interchangeable in all contexts. Such cases are extremely rare[4], so we normally speak of near-synonyms, i.e. words[5] that share most of their semantic features and are interchangeable in some but not all contexts. For example, *profound* and *deep* are interchangeable as collocates that combine with *sympathy,* but not both of them are collocates to *water* (examples from: Hurford et al. 2007: 106). In the context of our study, near-synonyms are relevant because previous research shows that contiguity may motivate gender assignment. This means that it is expected that near-synonyms should be assigned identical genders because they are expected to trigger similar conceptual representations. For example, *automobile, motor vehicle, vehicle, car, auto, wheels,* etc. are close in their conceptual meaning, but have different connotative, social, and collocative meanings. If gender is a social and not a linguistic construct, then all of the above nouns should be viewed the same, i.e. they all should be of the same concept gender.

3. Hypothesis

3.1. Key questions

Previous studies have shown that gender is assigned under the impact of grammatical gender and stereotypical representations of concepts.The question addressed in this article is which one of the two effects is stronger. While the grammatical gender is clearly established on the basis of the word form and agreement with demonstratives, numbers, adjectives, etc, the gender of the underlying concepts is more complex. It is shaped by the stereotypes of a given community, i.e. it depends on the kinds of activities or features that persons living in that community[6] associate with a particular concept, but also by personal associations. Our hypothesis was defined partly as a result of a pilot experiment that we conducted, the conclusions of which are presented in §3.2.

3.2. Pilot experiment

Before the large-scale experiment reported on in this article, a pilot experiment[7] was conducted with only nineteen participants. They were asked to select five adjectives for each of the nouns in the list, which included five pairs of near-synonymous concrete nouns and five pairs of near-synonymous abstract nouns. In both pairs, one noun was masculine, the other was feminine. The list also included a number of distractors. The adjectives were assigned masculine, feminine, and neuter gender by three naive assessors. The results showed a very small grammatical gender bias. The following conclusions were drawn from the pilot: the experiment should be repeated with a much larger number of participants to get statistically significant results; the participants should assess only one member of the near-synonymous pairs to avoid bias towards the other member of the pair; the participants should be asked to attach only three instead of five adjectives to make sure they rely on their immediate associations but also to avoid fatigue, and the assessors should mark adjectives as feminine and masculine only. The reason for the last conclusion was that we felt this discouraged our assessors from grasping the immediate associations, so that whenever they were not sure, they assigned neuter gender to an adjective. Another very important conclusion was that stereotypes seem to play a very important role in gender assignment. For example, the pairs related to automobiles, devices, problems, and attitudes were strongly marked as masculine, while those related to design, talking and dates were marked as feminine. Also, out of 376 adjectives used, all three assessors assigned the same gender to 136 adjectives, most of which were stereotypically feminine or masculine. However, the pilot did not give us any statistically significant results, which is why we decided to repeat the experiment with a much larger group of participants and modified stimuli.

3.3. Hypotheses

For our study, we have identified the following hypotheses:

I. gender of stereotypically gendered conceptual fields will override grammatical gender, which means that referents of both near-synonyms will be assigned gender that matches the gender of the underlying conceptual field.

II. neutral conceptual fields will be primarily shaped by their grammatical gender, which means that referents of feminine near-synonyms will be mainly described by feminine adjectives, and vice versa, that referents of masculine near-synonyms will be mainly described by masculine adjectives.

Both hypotheses rest on the assumption that the gender of a conceptual field is stronger and that it is primarily determined by stereotypes. As residents of Montenegro and speakers of Montenegrin, we will try to predict the gender of some underlying concepts. However, the participants' selection of adjectives will tell us a lot about the stereotypes among Montenegrin youth. It must be noted that the near-synonymous pairs were selected randomly, i.e. not because we felt they were associated with certain stereotypes in the Montenegrin society.

4. Experiment

4.1. Method

The experiment was conducted with 196 undergraduate students of the state University of Montenegro between the ages of 19 and 22. This is the largest university of the country, located in the nation's capital. It has a merits based enrollment system, which means that students come from across the country, from all social strata. The students were not aware of the purpose of our experiment.

The participants were asked to write as quickly as possible the three adjectives that first came to their mind upon seeing the ten words in the form. Half the students were offered five concrete and five abstract masculine nouns, the other half the same groups of feminine nouns. Maximum 5880 adjectives were expected. However, after eliminating the number of blanks, repeated adjectives, and nouns that some students had erroneously inserted instead of adjectives, the final list had 756 adjectives.

The adjectives were then examined by three naive assessors for gender (masculine or feminine only). To avoid gender bias in this process, all the adjectives were listed in neuter form. The assessors were asked the following question: *„Something is (neuter adjective). Do you associate it with femininity or masculinity?"*. The majority gender assigned by the assessors was the gender assigned to each individual adjective.

4.2. Tools

Two different tools were used in the study. One was a set of ten near-synonymous concrete and abstract nouns, divided into two questionnaires, one with masculine, and the other with feminine nouns. Four out of ten pairs from the pilot were repeated in the new experiment. The two noun classes were equally represented to test whether in addition to grammatical gender and conceptual field, the type of concept (i.e. noun class) also had an impact on gender assignment.

We used a dictionary of synonyms (Ćosić 2008) and extracted pairs for our questionnaires from sets of near-synonyms. For example, before our final selection of *ulica* 'street' and *put* 'road', we examined a whole set of near-synonyms (*drum^M, staza^F, kolovoz^M, džada^F, cesta^F, putanja^F, puteljak^M, prolaz^M, putina^F, prtina^F, trasa^F, linija^F, ruta^F, maršruta^F, saobraćajna veza^F*) that have additional social, collocative, affective and other meanings. The pair *ulica^F* 'street' and *put^M* 'road' was selected from the set because although they are not interchangeable in all contexts, they have very similar conceptual meaning and are without strong connotative and affective meanings. The same logic was used in the selection of other pairs to the extent possible. For example, *skandal^M* 'scandal' has a very strong affective meaning when compared with *događaj* 'event' because it conveys the speaker's judgment of an event as morally or legally wrong. That is why we paired *skandal^M* with *afera^F* 'affair', which has similar semantic features, and not with *događaj* 'event', their hyperonym.

The following pairs of near-synonyms were selected for the experiment: *put^M : ulica^F* 'road' : 'street', *uređaj^M : naprava^F* 'device' : 'mechanism', *materijal^M : tkanina^F8* 'material' : 'fabric', *trosjed^M : sofa^F* 'three-seater' : 'sofa', *udžbenik^M : knjiga^F* 'textbook' : 'book', *doživljaj^M : anegdota^F* 'experience' : 'anecdote', *spektakl^M : atrakcija^F* 'spectacle' : 'spectacular performance', *izvještaj^M : ocjena^F9* 'report' : 'assessment', *mit^M : legenda^F* 'myth' : 'legend', and *skandal^M : afera^F* 'scandal' : 'affair'.

As for the gender of underlying concepts, our prediction was that *uređaj^M : naprava^F* 'device' : 'mechanism' would be clearly associated with masculinity and *materijal^M : tkanina^F* 'material' : 'fabric' with femininity. The reason is that men are still predominantly associated with technical sciences, machines, and structures, while sewing, clothes and design are associated with women, in spite of a growing number of top female scientists and probably dominantly male fashion designers. The authors could not agree on the gender of other concepts.

The second tool was a list of 756 adjectives in neuter form, which resulted in the list of adjectives marked for gender following the procedure described in § 4.1.

A gender score was calculated[10] for each near-synonym by calculating the mean difference in the use of feminine and masculine adjectives. The difference was measured on a scale 0–3, where 0 means all the adjectives used are feminine, and 3 that all the adjectives are masculine. A score around 1.5 means that adjectives are not biased for grammatical gender, i.e. the participants used feminine and masculine adjectives equally.

5. Results and discussion

Our statistical analysis showed no difference in gender assignment to concrete and abstract nouns. As shown in Table 1, their average gender scores are close to 1.5, which means that both feminine and masculine adjectives were equally used with both feminine and masculine concrete and abstract nouns, with no major differences.

Table 1. Average gender score for concrete and abstract nouns

	concrete nouns	abstract nouns
feminine member	1.615	1.617
masculine member	1.653	1.589

The results reported in Table 1 may suggest that collocates are randomly picked and that conceptual fields and grammatical genders had no effect on gender perception among our participants. We then looked into the gender assignment to individual pairs of near-synonyms, irrespective of the noun class that they belong to. Of the ten pairs, the following six were statistically significant: $put^M : ulica^F$ 'road' : 'street'; $materijal^M : tkanina^F$ 'material' : 'fabric'; $udžbenik^M : knjiga^F$ 'textbook' : 'book'; $doživljaj^M : anegdota^F$ 'experience' : 'anecdote'; $mit^M : legenda^F$ 'myth' : 'legend', and $skandal^M : afera^F$ 'scandal' : 'affair'. They can be divided in two groups according to the gender assignment patterns.

The scores for the first group are presented in Figures 1, 2, and 3. All three suggest that our participants see the concepts underlying the three pairs as clearly feminine or clearly masculine, and that grammatical gender has not effect on gender assignment.
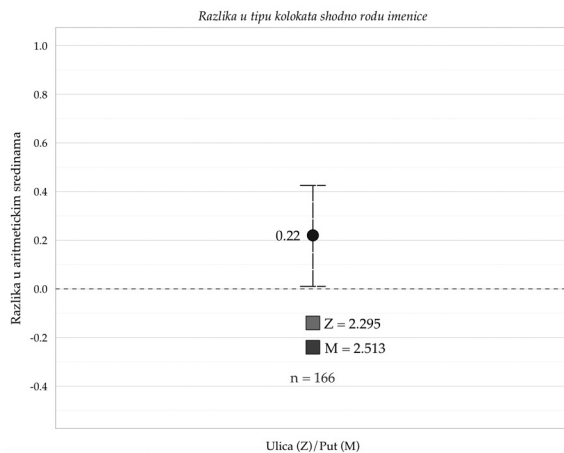

Gender scores for $put^M :$ $ulica^F$ 'road' : 'street''

Both members of the pair $put^M : ulica^F$ 'road' : 'street' were predominantly described with masculine adjectives, with average scores of 2.295 and 2.513 on a scale of 0–3 for both nouns. In other words, not just the masculine noun, but also the feminine noun, was described with masculine adjectives in a large majority of cases. In concrete terms, the masculine noun put^M 'road' has a score of 2.513, which is strongly marked for masculinity, and it could be ascribed both to its grammatical gender and the underlying concept. However, the fact that $ulica^F$ 'street' is also strongly marked for masculinity (gender score of 2.295) means that the grammatical gender has no impact on gender assignment to these referents and that the gender of the underlying concept prevails. This suggests our participants strongly associate *road* and *street* with the conceptual field of cars, transport, driving, speed, and that these, in their view, are stereotypically linked to men.

The same patterns were found in the next two pairs of near-synonyms.
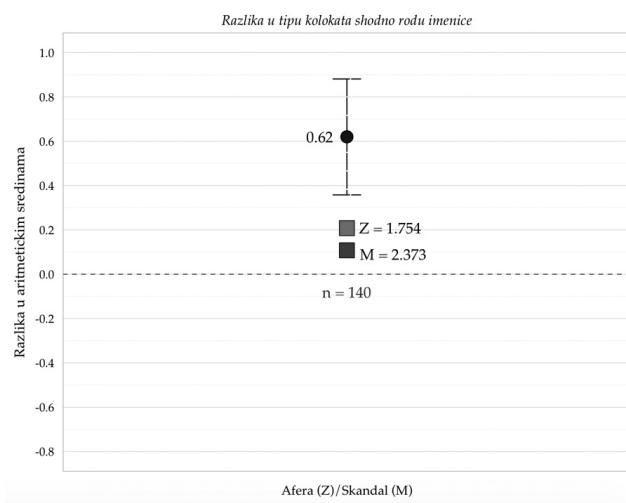
Gender scores for $skandal^M : afera^F$ 'scandal' : 'affair'"

Fig. 2 shows that both nouns were described mainly with masculine adjectives irrespective of their grammatical genders. This suggests the concepts underlying $skandal^M : afera^F$ 'scandal' : 'affair' are perceived as masculine by our participants.

Razlika u tipu kolokata shodno rodu imenice
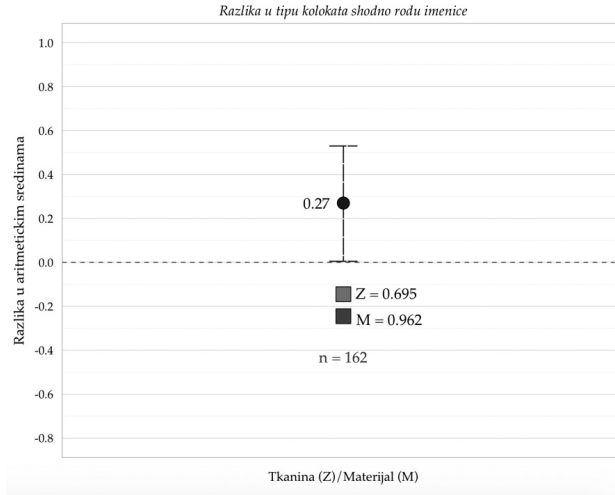
Gender scores for *materijal^M : tkanina^F* 'material' : 'fabric''

The pair in Fig. 3 matches our prediction mentioned in §4.2. The gender scores for the two near-synonyms show our participants associate both nouns with femininity. The feminine grammatical gender of the noun *tkanina* 'fabric' is probably enhanced by its phonological similarity to words like *tanan* 'subtle', *mekan* 'soft', *ninati* 'dandle (a baby)', among others, that are associated with femininity. As for polysemous *materijal^M* 'material', the adjectives used are less feminine than those for *tkanina^F* 'fabric'. Our instructions may have contributed to gender assignment here. Namely, we specified the sense of *materijal^M* 'material' by explaining that it refers to textiles used for making clothes, such as suits, for example. However, as our participants chose collocates for just one member of the pair, the feminine sound pattern of the feminine counterpart could have no influence on the feminine gender assigned to the grammatically masculine *materijal^M* 'material'.

The scores for the second group are presented in Figures 4, 5, and 6. The difference in gender assignment in this group is also statistically significant but two out of three pairs show some unexpected patterns (presented in Fig. 5 and Fig. 6). Overall, their gender scores are pretty close to 1.5, which means that roughly the same number of feminine and masculine adjectives were used as collocates.
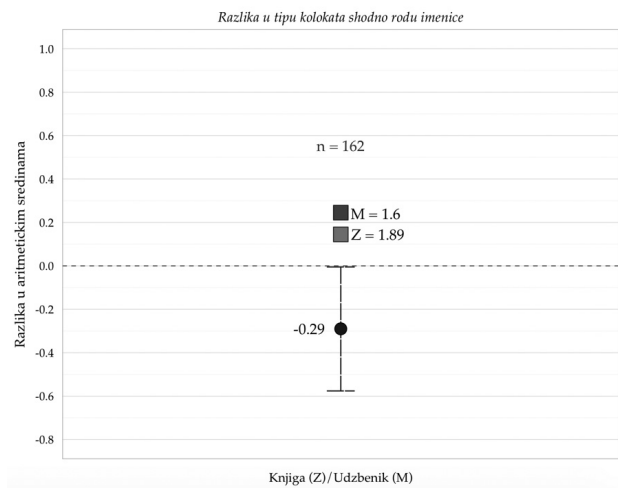
Gender scores for *udžbenik^M : knjiga^F* 'textbook' : 'book''

This pair is closest to the first group in that both scores are above 1.5, which suggests that our participants' associations lean slightly towards masculinity.

The genders of pairs in Fig. 5 and Fig. 6 are close to 1.5, i.e. not marked for gender. What is strange in *mit^M : legenda^F* 'myth' : 'legend', is that the masculine noun is described by more feminine adjectives, while the feminine noun is described by more masculine adjectives. The results for *doživljaj^M : anegdota^F* 'experience' : 'anecdote' show that the feminine noun has a neutral gender, and that the masculine noun is described by more feminine adjectives.
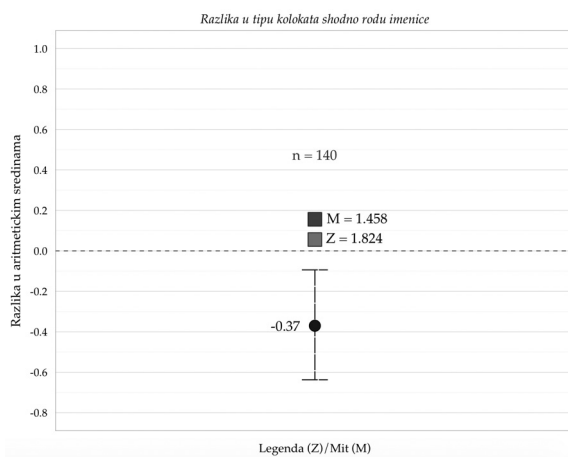
Gender scores for *mit^M : legenda^F* 'myth' : 'legend''
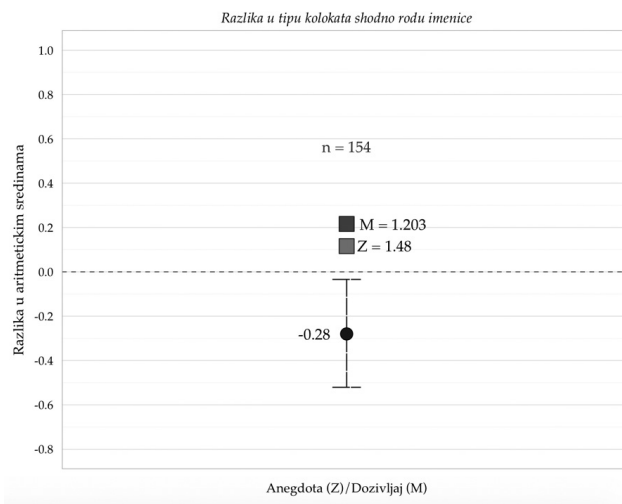
Gender scores for *doživljaj[M] : anegdota[F]* 'experience' : 'anecdote''

On the whole, the second group seems to suggest that grammatical gender of linguistic expressions has no impact on the gender of their referents, but also that the concepts underlying the pairs from this group are perceived as neutral by our participants and so had no impact on gender assignment either. This is contrary to our second hypothesis. We expected that neutral, non-stereotypical concepts, will clear space for a stronger impact of grammatical gender on the perception of referents of these nouns.

The remaining group includes the following four pairs: *izvještaj[M] : ocjena[F]* 'report' : 'assessment'; *trosjed[M] : sofa[F]* 'three-seater' : 'sofa'; *spektakl[M] : atrakcija[F]* 'spectacle' : 'spectacular performance', and *uređaj[M] : naprava[F]* 'device' : 'mechanism'. In all four, the gender difference was not statistically significant. However, gender of both *uređaj[M]* 'device' and *naprava[F]* 'mechanism' is masculine, with the feminine member being even more masculine than the masculine one. Although the difference is statistically insignificant, their overall gender seems to confirm our prediction that *uređaj[M] : naprava[F]* 'device' : 'mechanism' are stereotypically associated with masculinity.

Our first hypothesis was confirmed in that gender of stereotypically gendered conceptual fields will have the strongest effect on gender assignment to the referents of our near-synonyms. This is confirmed fully for the two pairs that we predicted would be fully associated with one gender (*materijal[M] : tkanina[F]* 'material' : 'fabric' and *uređaj[M] : naprava[F]* 'device' : 'mechanism'). Since we made predictions for these two pairs only, we can only conclude that the gender of conceptual fields underlying other pairs is signified by the gender of

the adjectives. One way to obtain more reliable answers in the future is to assign gender also to underlying concepts. The same naive assessors who assign gender to adjectives should be asked to assign feminine, masculine and neuter genders to the conceptual fields. Another option would be to search examples of usage of our pairs in electronic corpora to see whether there is significant difference in the sex of animate referents that they are associated with.

Our second hypothesis was not confirmed. Most gender scores were around 1.5, which means that roughly the same number of feminine and masculine adjectives were used as collocates to the individual near-synonyms. This contradicts earlier research discussed in §2.1. and §2.2. which suggests that linguistic expressions shape our mental representation, i.e. that grammatical gender has an impact on gender assignment to referents.

Our results indicate that gender assignment is guided by stereotypes. Namely, four out of ten pairs were described as dominantly feminine or masculine (*road/street; scandal/affair; material/fabric*, and *device/mechanism*), and another pair was assigned gender in line with the gender of the conceptual field although not as strongly as the first four (*textbook/book*). In the other five there was no evidence of any impact coming from either the underlying concept or the linguistic category of grammatical gender. This suggests that our participants viewed *izvještaj*^{M} *: ocjena*^{F} 'report' : 'assessment'; *trosjed*^{M} *: sofa*^{F} 'three-seater' : 'sofa'; *spektakl*^{M} *: atrakcija*^{F} 'spectacle' : 'spectacular performance', *doživljaj*^{M} *: anegdota*^{F} 'experience' : 'anecdote', and *mit*^{M} *: legenda*^{F} 'myth' : 'legend' as neutral concepts, and that this underlying neutrality was not modified by the grammatical gender of the nouns.

6. Conclusion and ideas for future research

In the experiment reported above, we examined the impact of Montenegrin grammatical gender on gender assignment to referents of near-synonymous concrete and abstract nouns. The referents of all concrete nouns were inanimate, so there were no associations between sex and grammatical gender that could affect gender perception and gender assignment. Gender effects were explored using written words that the participants added collocates to based on their immediate associations.

We found that grammatical gender had no impact on gender assignment to referents of concrete and abstract noun classes. The analysis of gender assignment to individual pairs of words, however, showed effects of stereotypes in five out of ten pairs. The results matched our prediction we had made in respect of two pairs. As for the other three, our participants' gender perception of their referents pointed to additional stereotypes that the authors were not aware of or could not

agree about. Since these stereotypically biased five pairs showed absolute gender congruence (nouns of both genders matched the gender of the underlying stereotype), it can be concluded that grammatical gender has no effect on our mental representation of referents. In other words, grammatical gender only confirms the stereotypical view of referents, in cases where such stereotypes exist.

These findings are contrary to previous research reported in §2.1. and §2.2. It is difficult to say why earlier research has found a correlation between grammatical gender and mental representation. One reason could be that the selected items were stereotypically biased or that the sample was too small and so could not yield statistically significant results. On the other hand, our findings could be tested in several ways. For example, the same assessors that assessed the adjectives collected could be asked to also assign genders to the underlying concepts to establish whether there is a match between that gender and the gender that the participants assigned to the referents of our near-synonyms. Another way could be to examine electronic corpora to see what animate referents our ten pairs are most often associated with. It is hoped that future research will re-examine these opposing views and put more light on the relation between language and thought.

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Notes

1   Superscript letters M, F, and N, are used as abbreviations for masculine, feminine, and neuter grammatical genders.

2   Whether feminine labels are used as punishment for socially unacceptable and unmanly behaviour of referents of   these nouns is an issue that will not be addressed here but could be an interesting subject of future research.

3   The views expressed here are the views of the authors of the article based on their experience of having lived and   worked in the country for most of their lives.

4   Mainly vocabulary found in restricted contexts, e.g. *mercury* and *quicksilver*.

5   We speak of words here, but it is understood that synonymy can be established between linguistic expressions at different levels of linguistic analysis.

6   Communities, of course, are not absolutely homogeneous in any respect.

7   The findings of the pilot experiment were presented at *Languages and cultures in time and space 7*, a conference   held in Novi Sad, Serbia, 18–19 Nov 2017.

8 Because *materijal* 'material' is polysemous in Montenegrin, we specified its sense by providing the following context: '*na primjer, tekstilni materijal za šivenje odijela*' : 'textile used to make suits, for example'.

9 Because *ocjena* is polysemous in Montenegrin, we specified its sense by providing the following context '*izvještaj/ocjena o sprovođenju nekog projekta*' : 'a project implementation report/assessment'.

10 We would like to extend our heartfelt gratitude to Prof. Dr. Olivera Komar and Dr. Nemanja Batrićević of the Faculty of Political Science, University of Montenegro, for their impeccable statistical analysis of our data and all the understanding and patience throughout the process.

Vesna BULATOVIC & Dragana ČARAPIĆ

ROD: DRUŠTVENA ILI JEZIČKA KATEGORIJA?

U radu se izvještava o istraživanju sprovedenom kako bi se ustanovilo da li rodna percepcija referenata imenica zavisi od rodnog stereotipa kao društvenog konstrukta, ili od gramatičkog roda kao jezičke kategorije. Rodna percepcija ocjenjivana je na osnovu pridjeva koje su ispitanici dodavali uz imenice na osnovu neposrednih asocijacija koje vezuju za referente tih imenica. Odabrano je deset parova konkretnih i apstraktnih imenica čiji su članovi približni sinonimi različitog gramatičkog roda (npr. imenica materijal je gramatičkog muškog roda, a imenica tkanina je gramatičkog ženskog roda). Budući da se oba približna sinonima vezuju za isti konceptualni domen (npr. približni sinonimi materijal i tkanina mogu se vezivati za konceptualne domene krojenja, šivenja, mode, odjevnih predmeta i sl.), bilo je moguće istovremeno mjeriti uticaj dva faktora: faktor rodnog stereotipa i faktor gramatičkog roda. Rezultati našeg istraživanja pokazuju da gramatički rod nema uticaja na rodnu percepciju referenta, već da percepcija zavisi od rodnih stereotipa koji se u određenoj jezičkoj zajednici vezuju za referente imenica. Ovi rezultati su u suprotnosti sa rezultatima sličnih istraživanja sprovedenim na materijalu drugih jezika (među kojima su jezici sa i bez gramatičkog roda), te rad stoga završava sugestijama za buduća istraživanja kojima bi se preispitala suprotstavljena mišljenja o uticaju gramatičkog roda i stereotipa na rodnu percepciju referenta.

Ključne riječi: *gramatički rod; stereotipi; približna sinonimija; kolokacije*