

Gendered Instructions and Economic Behavior*

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Abstract

Natural language is essential for human decision making and interaction. It is used to convey the consequences of choices, the rules of interaction, and to exchange information. In languages with grammatical gender, entity nouns (e.g., “the student” or “the worker”) can be written in a male, a female or, more recently, to promote gender equality and to include people identifying as non-binary, in gender-inclusive forms. There is an ongoing debate if the usage of male, female, or gender inclusive forms triggers gender stereotypes and leads to potential biases in decision making. We conducted a controlled experiment and systematically varied the framing of the instructions either using the male, the female, or the gender-inclusive form. Participants made economic decisions measuring their degree of altruism, reciprocity, and honesty in simple economic games. We study if participants behaved differently when their self-reported gender matched the grammatical gender used in the instructions. We observe a gender gap in altruism if instructions used the (common) male form. In contrast, this gender gap was not present if the gender-inclusive frame was used. This line of research is important for experimental methodology on how to write instructions in languages with grammatical gender and for practitioners in law and organizations.

Keywords: gender, gender inequality, gender stereotypes, grammatical gender, language, experimental methodology

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Extended Abstract

The old languages – at least the ones I know – don’t have gender. They don’t have gendered pronouns. There’s no “he” and “she”. A human being is a human being.
– Gloria Steinem

While this might well be true for old languages, it does not hold for many modern languages. For example in German, “the participant” can be *male* (“der Teilnehmer”) or *female* (“die Teilnehmerin”), i.e., German has *grammatical gender* (Hellinger and Motschenbacher, 2015). The male form is typically used as generic and supposed to refer to both, men and women. But does this generic male form really address all humans equally or does the common usage of the male form lead to stereotypes and biased decision making? There is evidence that the generic male form makes gender stereotypes more salient (Vervecken and Hannover, 2015; Sczesny et al., 2016) and for a *male bias* in readers’ associations and their recall of people in texts (Crawford and English, 1984; Stahlberg and Sczesny, 2001; Gabriel and Mellenberger, 2004). As a result, *gender-inclusive* forms emerged that are neither male nor female (“der*die Teilnehmer*in”). Critics of this approach argue that gender-inclusive language harms intelligibility of texts (Payr, 2021). The evidence for this claim is mixed (Redl et al., 2018; Friedrich and Heise, 2019).

For practitioners in organizations and administrations, this creates the need for a thorough understanding of how language affects individual choices and decision making. For economics, and especially for experimental economists, it is crucial to understand if and how the gender frame used in experimental instructions impacts behavior. We address this question, using a set of prominent simple economic games to study altruism, reciprocity, and, honesty, while varying the gender frame in instructions.

We ran three treatments in an online-experiment with a lab subject pool consisting of German-speaking participants (see Table 1 for an overview). In each treatment the participants played a dictator game, a prisoners dilemma (see e.g., Camerer, 2011, for the previous two), and a deception game (Gneezy et al., 2013), each in groups of two participants and as one-shot games. For each game we used the strategy method and participants were matched according to a perfect stranger matching protocol across the games. Across treatments, we varied whether instructions were entirely written in the male form (M), the female form (F) or the gender-inclusive form (GI). As a result, in two of the three treatments, the self-reported gender of a participant could match with that of the instructions (GM) or not (NM). We test whether a gender-(mis)match between the entity in the formulation of instructions and the gender of the participant affected behavior in the games in a systematic way.

In the gender-inclusive treatment we cannot define an objective measure of match between

		Entities in Instructions		
		Male (M)	Female (F)	Gender-Inclusive (GI)
Self-reported gender	Female	NM-M	GM-F	GI
	Male	GM-M	NM-F	

Table 1: Treatments

instructions and self-reported gender. Thus, we test differences between the treatments, also for the female and male sub-samples.

We find evidence that a match between the self-reported gender and the gender frame used in the instructions affects females and males differently. For example, in the dictator game, there is a substantial and significant gender gap between dictator game offers made by male and female participants if male framed instructions were displayed, consistent with the previous literature (Eckel and Grossman, 1998; Andreoni and Vesterlund, 2001; Engel, 2011). In this treatment, male participants have a match with the gender frame in the instructions, whereas females do not. When this (mis)match is not given in the treatment using gender-inclusive instructions, the gap attenuates and becomes insignificant.

Our findings suggests that a change in the grammatical gender is a potential tool to attenuate gender gaps in decision making, where such are present. Experimental economists should be careful when adapting the grammatical gender in their instructions, depending on the context of games participants are playing. A deeper understanding of these effects is essential to understand the implications for the formulation of organizational and administrative texts as well as for experimental practitioners writing their instructions in a language with grammatical gender.

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